REQUEST FOR PROPOSALS
DESIGN-BUILD SERVICES

South Capitol Street Corridor Phase I Project

VOLUME I
Instructions to Proposers

DISTRICT OF COLUMBIA
DISTRICT DEPARTMENT OF TRANSPORTATION

ADDENDUM #4 – AUGUST 23, 2016

Contents

Introduction and General Provisions 1-1
1.1 Introduction 1-1
1.2 Project Goals 1-1
1.3 Documents in the Request for Proposals 1-1
1.4 General Phase I Description 1-2
1.4.1 General Description 1-2
1.4.2 Scope of Design-Build Contractor's Obligations 1-3
1.4.3 Project Environmental Status 1-3
1.4.4 Permits and Approvals 1-4
1.4.5 Status of Required Right-of-Way Acquisition 1-4
1.4.6 Required Utility Work 1-4
1.5 Definitions and Acronyms 1-4
1.6 Procurement Schedule 1-4
1.7 General Provisions Regarding Proposals 1-6
1.7.1 Proposal Contents 1-6
1.7.2 Inclusion of Proposal in Contract Documents 1-6
1.7.3 Project Labor Agreement 1-6
1.8 Project Costs, Funding, and Financing 1-6

Procurement Process 2-1
2.1 Procurement Method 2-1
2.2 Receipt of the Request for Proposal Documents, Communications, and Other Information 2-1
2.2.1 Contracting Officer 2-1
2.2.2 Contract Administrator 2-1
2.2.3 Identification of Proposer Authorized Representative 2-1
2.2.4 Rules of Contact 2-1
2.3 Questions and Response Process, and Addenda 2-2
2.3.1 Questions and Responses Regarding the RFP 2-2
2.3.2 Addenda 2-3
2.4 Pre-Proposal Submittals 2-3
2.4.1 Changes in Proposer's Team 2-3
2.4.2 Alternative Technical Concepts (ATCs) 2-3
2.4.3 Visual Quality Concepts (VQCs) 2-3
2.5 Pre-Proposal Meetings 2-3
2.5.1 Informational Meetings 2-3
2.5.2 One-on-One Meetings 2-4
2.5.3 Questions and Responses During One-on-One Meetings 2-4
2.5.4 Statements at Meetings 2-4
2.6 Ownership of Proposal, Confidentiality and FOIA 2-5
2.6.1 Ownership of Proposal and Applicability of FOIA 2-5
2.6.2 Disclosure Waiver 2-5
2.6.3 Disclosure Process for Requests under FOIA 2-5
2.7 DDOT Studies and Investigations 2-5
2.8 Examination of RFP 2-5
2.9 Errors 2-6
2.10 Improper Conduct 2-6
2.10.1 Non-Collusion 2-6
2.10.2 Organizational Conflicts of Interest 2-6

2.11 Changes in Proposer's Team 2-6

Alternative Technical Concepts and Visual Quality Concepts 3-1
3.1 Alternative Technical Concepts 3-1
3.1.1 Submission of ATCs 3-1
3.1.2 DDOT Review of Pre-Proposal Submission of ATCs 3-3
3.1.3 Incorporation of ATCs in the Contract Documents 3-3
3.1.4 Confidentiality 3-3
3.2 Visual Quality Concepts 3-3
3.2.1 Submission of VQCs 3-4
3.2.2 VQC One-on-One Meetings 3-6
3.2.3 DDOT Review of VQCs 3-6
3.2.4 Confidentiality 3-7

Requirements for Submittal of Proposals and Acceptance of Delivery by DDOT 4-1
4.1 General Submittal Requirements 4-1
4.1.1 Technical and Price Proposal Due Date 4-1
4.1.2 Signatures Required 4-1
4.1.3 Consequences of Failure to Follow Requirements 4-1
4.1.4 Requirements to Submit Compliant Proposal 4-1
4.1.5 Format 4-1
4.1.6 Additional Requirements for Proposal Delivery 4-2
4.1.7 Proposal Validity Period 4-2
4.2 Technical Proposal 4-2
4.2.1 General 4-2
4.3 Price Proposal 4-2
4.3.1 General 4-2
4.4 Proposal Security 4-3
4.4.1 General 4-3
4.4.2 Forfeiture of Proposal Security 4-3
4.4.3 Return of Proposal Security 4-3
4.5 Acceptance of Delivery by DDOT 4-3
4.6 Costs Not Reimbursable 4-3

Evaluation and Post-Selection Process 5-1
5.1 Evaluation Process 5-1
5.1.1 Evaluation Process Overview 5-1
5.1.2 Determination of Total Proposal Score 5-2
5.2 Evaluation of Technical Proposal by EC 5-2
5.2.1 Technical Proposal Evaluation Factors – Minimum Requirements 5-2
5.2.2 Technical Proposal Evaluation – Scored Evaluation Factors 5-3
5.2.3 Evaluation Guidelines 5-6
5.3 CO's Evaluation of Technical Proposals 5-8
5.4 CO's Evaluation of Price Proposals 5-8
5.4.1 Price Proposal – Minimum Requirements 5-8
5.4.2 Price Proposal Score 5-8
5.5 CO Right to Exclude Proposals from Consideration 5-8
5.6 Requests for Clarification 5-9
5.7 Post-Selection Process to finalize the Contract Documents 5-9
5.8 Post-Selection Deliverables 5-9
5.8.1 Documents to be Submitted Following Notice of Intent to Award 5-9

Final Award and Execution; Post-Execution Actions 6-1
6.1 Final Award of DBA 6-1
6.1.1 Documents to be Delivered by Proposer with the Signed DBA 6-1
6.2 Debriefings 6-1
6.3 Stipend 6-1

Protests 7-1
7.1 Protests 7-1

DDOT Disclaimers 8-1
8.1 DDOT Disclaimers 8-1

Exhibit A Definitions and Acronyms 3

Exhibit B Technical Proposal Instructions 5

Exhibit C Price Proposal Instructions 1

Exhibit D Required Forms 3

Exhibit E Summary and Order of Proposal Contents 7

Exhibit F Stipend Agreement 5

Required Forms

Form A-1	Technical Proposal Letter, Certifications and Representations
Form A-2	Price Proposal Letter, Certifications and Representations
Form B-1	Information about Proposer Organization
Form B-2	Information about Major Participants, Major Professional Services Firms and Key Subcontractors
Form C	Responsible Proposer Questionnaire
Form D	Industrial Safety Record for Team Members Performing Installation or Construction Work
Form E	Personnel Work Assignment Form
Form F	Non-Collusion Affidavit
Form G	Buy America Certification
Form H	Reserved
Form I	Reserved
Form J	Conflict of Interest Disclosure Statement
Form K	Proposal Bond
Form L	Opinion of Counsel
Form M-1	Contract Price
Form M-1.1	Contract Price Breakdown
Form M-2	DB Contractor Draws / Cash Flow Table
Form N	Reserved
Form O	Completion Schedule
Form P	Equal Employment Opportunity and Non-Segregation Certification
Form Q	Certification Regarding Use of Contract Funds for Lobbying
Form R	Certification Regarding Ineligible Contractors
Form S	Clarification Requests and Questions

1 Introduction and General Provisions

1.1 Introduction

This Request for Proposals (RFP) is issued by the Office of Contracting and Procurement (OCP) on behalf of the District Department of Transportation (DDOT), an agency of the District of Columbia (the District or DC), to seek competitive proposals (individually, a Proposal and collectively, Proposals) to design and construct the South Capitol Street Corridor Segments 1 & 2 Project (the Project), as further described in the following paragraphs, and to be evidenced by a Design-Build Agreement (DBA). The DBA is included in Volume II, Book I of the RFP. DDOT is issuing the RFP only to Proposers that were shortlisted based on DDOT's evaluation of Statements of Qualifications (SOQs) delivered to DDOT on August 1, 2013, in response to the Request for Qualifications (RFQ) for the Project issued on June 13, 2013. No un-solicited proposals will be accepted. Proposers must comply with these Instructions to Proposers (ITP) during the procurement and in their responses to the RFP. Proposers shall take the Project goals identified in Section 1.2 into consideration when drafting their Proposals as they will be used as a guide during the evaluation process.

The Proposer that is selected by DDOT in accordance with this ITP will be referred to as the Successful Proposer, and will become the design-build contractor (the DB Contractor) upon execution of the DBA.

All forms identified in this ITP are found in Exhibit D unless otherwise noted. All times in this ITP are Eastern Standard Time (EST) or Eastern Daylight Time (EDT), as applicable. All references to days or Days in this ITP refer to calendar days unless otherwise specified.

1.2 Project Goals

The following goals have been developed for the Project:

1. Design and construct improvements within the corridor which transforms South Capitol Street into a grand urban boulevard consistent with the Anacostia Waterfront Initiative.
    a. Replace the existing Frederick Douglass Memorial Bridge with a new iconic structure that reflects the traditions of great civic design in the District.
    b. Develop public spaces within the ovals which provide opportunities for future commemorative works integrated with a network of urban open spaces throughout the project.
2. Improve connectivity, traffic mobility, safety and operational characteristics in the Project corridor.
    a. Maintain worker and public safety while minimizing impacts to local residents, businesses and the traveling public during construction.
3. Incorporate aesthetically pleasing and sustainable materials and elements throughout the corridor reflecting the natural and historic resources of the area.
    a. Ensure compliance with all environmental requirements related to the protection of all natural and historic resources in the area.
4. Achieve Project Final Completion on, or prior to, December 31, 2020.

1.3 Documents in the Request for Proposals

The RFP consists of the following volumes, and any other documents that may be issued by Addendum, and such documents that may be amended and supplemented:

1. Volume I—this ITP (including Exhibits and Forms)
2. Volume II, Book I — DBA
3. Volume II, Book II — Technical Provisions

4. Volume II, Book III – Contract Data and Reports (CDRs)
5. Volume III, Book I — Reference Information Documents (RIDs)
6. Volume III, Book II — Conceptual Design Plans

Refer to Volume II, Book I – DBA, for a list of the Contract Documents and their respective orders of precedence. Additional information may subsequently become available and will be distributed to Proposers through the secure file transfer and sharing site (Secure Site): secure.anacostiawaterfront.org

The RIDs, and the Conceptual Design Plans, are included in the RFP for the purpose of providing information in DDOT's possession to Proposers. DDOT has not determined whether all the RIDs are accurate or complete. Proposers should not rely solely on the RIDs in preparing their proposals and should independently verify information critical to the development of their Proposals.

1.4 General Phase I Description

1.4.1 General Description

Encompassing one of the most important corridors and widely-used bridges in Washington, DC, the South Capitol Street Corridor Project will transform the existing corridor into an urban gateway to the District's monumental core and the U.S. Capitol.

The potential Project components include the roadways shown on the following map, designated as Segments 1 and 2, and as described below.

1. Segment 1:
    a. Removal and replacement of the Frederick Douglass Memorial Bridge.
    b. Construction of the bridge approach ovals, connection to adjacent streets and reconstruction of adjacent streets.
    c. Realignment of South Capitol Street within the limits of the Project.
2. Segment 2:
    a. Replacement of the Interstate 295 bridges over Howard Road, Suitland Parkway and Firth Sterling.
    b. Reconstruction of the Interstate 295/Suitland Parkway Interchange.

Project Segment Map

1.4.2 Scope of Design-Build Contractor's Obligations

The DB Contractor's obligations will include all efforts required to develop, design, and construct the Project in accordance with the requirements of the Contract Documents.

1.4.3 Project Environmental Status

The Project's NEPA compliance included preparation of a Draft Environmental Impact Statement / Section 4(f) Evaluation (DEIS), which was approved in February 2008; a Final Environmental Impact Statement / Section 4(f) Evaluation (FEIS), which was approved in March 2011; a Supplemental Draft Environmental

Impact Statement / Section 4(f) Evaluation (Supplemental DEIS), which was approved in December 2014; and a combined FHWA Record of Decision and Supplemental Final Environmental Impact Statement / Section 4(f) Evaluation (ROD/Supplemental FEIS), which was approved in August 2015. The FEIS and Supplemental DEIS are included as RIDs. The ROD/Supplemental FEIS are included in Volume II, Book III, Contract Data and Reports.

The National Park Service (NPS) ROD is under preparation by NPS and is expected to be approved by March 2016.

1.4.4 Permits and Approvals

The table in Section 8 of the Technical Provisions lists the permits required for this Project and the party responsible for initial permit acquisition.

The scope for Segment 1 is based on constructing a replacement of the Frederick Douglass Memorial Bridge with a navigational opening 42 feet high by 150 feet wide. A final determination regarding navigational clearance requirements will result after the US Coast Guard issues a Bridge Permit (Section 9 Rivers and Harbors Act Permit). Following receipt of the permit, DDOT will make any adjustments to this RFP deemed necessary, in its sole discretion, via an Addendum.

1.4.5 Status of Required Right-of-Way Acquisition

DDOT will acquire right-of-way (ROW) as shown in the ROW Plan Sheet Exhibit included in the CDRs in the time frame reflected in Section 24 of the Technical Provisions.

1.4.6 Required Utility Work

DDOT has initiated coordination with Utilities identified in the Potential Utility Conflict Matrix, which is included as a RID. The DB Contractor is responsible for relocation or coordinating relocation of the Utilities in accordance with the Technical Provisions.

1.5 Definitions and Acronyms

Refer to Exhibit A of this ITP for the meaning of various capitalized terms and acronyms used herein. Refer to Exhibit A of the DBA, as applicable, for the meaning of capitalized terms and acronyms used but not defined herein or in Exhibit A of this ITP. Additional capitalized terms and acronyms are included, and defined, in the Technical Provisions.

1.6 Procurement Schedule

The following represents the anticipated schedule for the procurement. Additional dates for one-on-one and ATC meetings will be added in accordance with Section 2.5.

Event	Date and Time
Draft RFP Release Date	November 14, 2015
Deadline for submission of questions / comments on Draft RFP	December 13, 2015
Revised Draft RFP Release Date	March 4, 2016
Issue date for Final RFP	March 25, 2016
Optional one on one meeting	April 6, 2016
Optional one on one meeting	April 20, 2016
Deadline for mandatory submission of first Visual Quality Concept documentation	April 25, 2016
Optional one on one meeting	May 4, 2016
First mandatory Visual Quality Concept one on one meetings	May 9 – 10, 2016

Event	Date and Time
Optional one on one meeting	May 18, 2016
Issue date for RFP Addendum #1	May 24, 2016
Optional one on one meeting	June 2, 2016
Optional one on one meeting	June 15, 2016
Optional one on one meeting	June 29, 2016
Deadline for mandatory submission of second Visual Quality Concept documentation	July 8, 2016
Optional one on one meeting	July 13, 2016
Second Visual Quality Concept one on one meeting	July 25-26, 2016
Optional one on one meeting	August 3, 2016
Last date for submittal of the following: (1) Changes in Proposer's Organization (2) Changes in Key Personnel	August 5, 2016
Optional one on one meeting	August 17, 2016
Optional one on one meeting	August 31, 2016
Last date for submittal of ATCs	September 2, 2016
Deadline for optional submission of third Visual Quality Concept documentation	September 6, 2016
Third Visual Quality Concept one on one meetings	September 16, 2016
Optional one on one meeting	September 22, 2016
Last date for Proposer submittal of questions / comments regarding the RFP	September 30, 2016
Optional one on one meeting	October 6, 2016
Release of Final RFP Addendum	October 21, 2016
Technical Proposal Due Date	November 14, 2016 by 2:00 PM
Price Proposal Due Date	November 21, 2016 by 2:00 PM
Anticipated Notice of Intent to Award	January 27, 2017
Anticipated date for Execution of Design Build Agreement (DBA)	February 10, 2017

All dates and times set forth above and elsewhere in the RFP are subject to change, at DDOT's sole discretion.

Volume II, Book I, Exhibit C - Davis Bacon wage rates will be updated 10 days prior to the Price Proposal Due Date.

1.7 General Provisions Regarding Proposals

1.7.1 Proposal Contents

As used in this ITP, the term Proposal means a Proposer's complete response to the RFP, including the Technical Proposal and the Price Proposal, and including any Best and Final Offers (BAFOs) requested in accordance with Section 5.1. The instructions and requirements for the Technical Proposal and the Price Proposal are set forth in Exhibits B and C, respectively; and a checklist showing the required contents of the entire Proposal is found in Exhibit E. The Proposal shall be organized in the order listed in Exhibit E and shall be clearly indexed. Each Proposal component shall be clearly titled and identified. Any failure to provide all the information and all completed forms (Exhibit D) in the format specified or submittal of a Proposal subject to any reservations, qualifications, conditions, or assumptions may result in DDOT's rejection of the Proposal.

All blank spaces in the Proposal forms must be filled in as appropriate. No changes may be made in the Proposal forms.

1.7.2 Inclusion of Proposal in Contract Documents

The successful Proposal will become part of the Contract Documents as stated in Section 3.3 (Order of Precedence) of the DBA.

1.7.3 Project Labor Agreement

The District will enter into a Project Labor Agreement (PLA) with Community Hub for Opportunities in Construction Employment (CHOICE) and signatory unions for this Project. The DB Contractor will be required to become a signatory to the PLA to deliver the Project. The PLA will be provided as a CDR.

1.8 Project Costs, Funding, and Financing

DDOT's plan of finance contemplates that DDOT, using District and federal funds allocated to the District, will fund the design and construction of the Project. Payments will be made in accordance with the Contract Documents.

2 Procurement Process

2.1 Procurement Method

This RFP is issued pursuant to the Procurement Practices Reform Act of 2010 (PPRA); DC Official Code section 2-351.01 *et seq*. as amended; 27 DCMR section 1600, *et seq*. as amended; and other applicable federal and District provisions.

If an award will be made, the District will award the DBA in accordance with the process set forth in this ITP.

DDOT will accept Proposals for the Project only from Proposers that DDOT has shortlisted for the procurement based on their responses to the RFQ. DDOT will not review or consider unsolicited proposals.

2.2 Receipt of the Request for Proposal Documents, Communications, and Other Information

The RFP documents will be available on the Secure Site. The Secure Site is distinct from the Procurement Web site viewable by the public. Access to the Secure Site will be granted only to shortlisted Proposers.

DDOT will maintain the Secure Site. The Secure Site address, username, and password have been provided by DDOT separately to each shortlisted Proposer. Each shortlisted Proposer will be required to treat the username and password as confidential information and it is the responsibility of the Proposer to check the site regularly for Addenda to this ITP and for other procurement-related information.

2.2.1 Contracting Officer

DDOT has designated the following individual to be the Contracting Officer for the procurement:

Steven Wishod
Contracting Officer (CO)
ddot.ocp@dc.gov

From time to time during the procurement process or during the term of the DBA, DDOT may designate another CO or representative to carry out some or all of DDOT's obligations pertaining to the Project.

2.2.2 Contract Administrator

The Contract Administrator (CA) will be the person designated in the DBA.

2.2.3 Identification of Proposer Authorized Representative

The Proposer's Authorized Representative shall initially be the person identified in the SOQ as the single point of contact for the Proposer. If a Proposer changes its designated representative to receive documents, communications, or notices in connection with the procurement at any time, including subsequent to its submission of its Proposal, the Proposer shall provide the CO with the name and address of the newly designated representative. Failure to identify a designated representative in writing may result in the Proposer failing to receive important communications from DDOT. DDOT is not responsible for any such failure.

2.2.4 Rules of Contact

Starting on June 13, 2013, the date the RFQ was issued, and ending on the earliest of the following: execution and delivery of the DBA; rejection of all Proposals by DDOT; or cancellation of the RFP, the rules of contact set forth below shall continue to apply. The rules are designed to promote a fair and impartial procurement process. Contact includes face-to-face, telephone, facsimile, electronic mail (e-mail), social media, instant messages, text messages, or formal written communication. Contact also includes third-party communications on behalf of the Proposer.

The specific rules of contact are as follows:

1. No Proposer or any of its team members may communicate with another Proposer or its team members with regard to the RFP or either team's Proposal, with the exception that the prohibition does not apply to public discussions regarding the RFP at any DDOT-sponsored informational meetings.
2. Each Proposer shall designate one representative responsible for all communications between the Proposer and DDOT, and such designated representative shall correspond with DDOT regarding the RFP only through DDOT's CO.
3. No Proposer or representative thereof shall have any ex-parte communications regarding the RFP or the procurement described herein with any DDOT staff, advisors, contractors, consultants or subconsultants involved with the procurement or the Project, except for the following:
   a. Communications with DDOT consultants who have completed their services for the Project and have been released by DDOT.
   b. Communications expressly permitted by the RFP or except as approved in advance by DDOT in its sole discretion.

   The list of consultants and subconsultants who have assisted DDOT in the development of the Project has been provided by the CO to the Proposers.
4. The foregoing restriction shall not, however, preclude or restrict communications with regard to matters unrelated to the RFP or participation in public meetings of the DC Council or any public or Proposer workshop related to the RFP. Any Proposer engaging in such prohibited communications may be disqualified at the sole discretion of DDOT. Any communications judged by DDOT, in its sole discretion, to be improper may result in disqualification.
5. Any official information regarding the Project will be disseminated from DDOT's CO or, on the Secure Site or Procurement Web site.
6. DDOT will not be responsible for any oral exchange or any other information or exchange that occurs outside the official process specified herein.

The Proposer shall note that no correspondence or information from DDOT or anyone representing DDOT regarding this RFP or the Proposal process shall have any effect unless it is in compliance with this Section 2.2.4.

2.3 Questions and Response Process, and Addenda

2.3.1 Questions and Responses Regarding the RFP

Proposers shall be responsible for reviewing the RFP and any Addenda issued by DDOT before the Technical Proposal Due Date and for requesting written clarification or interpretation of any perceived mistake, discrepancy, deficiency, ambiguity, error, or omission contained therein, or of any provision that the Proposer fails to understand. Failure of the Proposer to so examine and inform itself shall be at its sole risk, and no relief for error or omission will be provided by the CO.

Proposers shall submit, and DDOT may respond to, requests for written clarification in accordance with this Section 2.3.1. DDOT will only consider comments or questions regarding the RFP, including requests for clarification and requests to correct errors, if submitted by a Proposer to the CO.

Such comments or questions may be submitted at any time prior to the applicable last date specified in Section 1.6 or such later date as may be specified in any Addendum and shall: (i) be sequentially numbered; (ii) identify the document (for example, the DBA, the Technical Provisions); (iii) identify the relevant section number and page number (for example, DBA Section D.2, pages 20-21) or, if it is a general question, indicate so; (iv) not identify the Proposer's identity in the body of the question; and (v) not contain proprietary or confidential information. Clarification requests and questions must be submitted using Form S.

Except during one-on-one meetings, no oral requests will be considered. Proposers are responsible for ensuring that any written communications clearly indicate on the first page or in the subject line, as applicable, that the material relates to the Project. No requests for additional information or clarification submitted to any person other than the CO will be considered. Questions may be submitted only by the Proposer's Authorized Representative and must include the requestor's name, address, telephone and facsimile numbers, e-mail address, and the Proposer he/she represents.

The questions and DDOT's responses will be in writing and will be delivered to all Proposers, except that DDOT intends to respond individually to questions identified by a Proposer or deemed by DDOT as containing confidential or proprietary information relating to Proposer's VQCs or ATCs. DDOT anticipates issuing multiple sets of written responses at different times during the procurement process. Except for written responses to questions relating to the final Addenda, the last set of responses will be issued no later than the date specified in Section 1.6.

Responses provided in writing that are not part of an Addendum do not amend the RFP and will not be considered part of the RFP. If DDOT concludes, in its sole discretion, that its interpretation or clarification requires a change in the RFP, DDOT will prepare and issue an Addendum.

2.3.2 Addenda

DDOT reserves the right, in its sole discretion, to revise, modify, or change the RFP (including this ITP) and/or the procurement process at any time. Any revisions will be implemented through issuance of Addenda to the RFP. Addenda will be posted on the Secure Site. If any Addendum significantly affects the RFP, as determined at DDOT's sole discretion, DDOT may change the Technical and / or Price Proposal Due Date. The announcement of the new date will be included in the Addendum. In addition, if the last date for Proposers to submit questions regarding the RFP has occurred or has changed, the Addendum will indicate the latest date for submittal of any clarification requests permitted concerning the Addendum.

The Proposer shall acknowledge in its Proposal Letter (see Form A in Exhibit D) receipt of all Addenda and question responses. Failure to acknowledge such receipt may cause the Proposal to be rejected. DDOT reserves the right to hold group meetings with Proposers and/or one-on-one meetings with each Proposer to discuss any Addenda or responses to requests for clarifications. DDOT does not anticipate issuing any Addenda relating to the Technical Proposal later than 21 days before the Technical Proposal Due Date. However, if the need arises, DDOT reserves the right to issue Addenda after such date. If DDOT finds it necessary to issue an Addendum after such date, any relevant processes or response times necessitated by the Addendum will be set forth in a cover letter to that specific Addendum.

2.4 Pre-Proposal Submittals

2.4.1 Changes in Proposer's Team

Any Proposer that wishes to request a change in its team must make a pre-proposal submittal as provided in Section 2.11. DDOT is under no obligation to approve such changes.

2.4.2 Alternative Technical Concepts (ATCs)

Any Proposer that wishes to submit an ATC pursuant to Section 3.1 must make a pre-proposal submittal as described therein.

2.4.3 Visual Quality Concepts (VQCs)

Proposers are required to submit pre-proposal VQC submittals pursuant to Section 3.2.

2.5 Pre-Proposal Meetings

2.5.1 Informational Meetings

DDOT may hold non-confidential joint informational meetings with all Proposers at any time before the Price Proposal Due Date. Informational meetings may be held either in person, by telephone, or virtually. If held by

telephone or virtually, the meeting may permit interactive communication between all Proposers and DDOT. Written notice of any informational meetings will be sent to all Proposers. The notice will inform Proposers of the manner of the meeting.

Each Proposer shall attend informational meetings with appropriate members of its proposed key management personnel, and if required, senior representatives of proposed team members identified by DDOT.

2.5.2 One-on-One Meetings

DDOT intends to conduct: (i) mandatory one-on-one VQC meetings with each Proposer to discuss the Proposer's VQCs; and (ii) optional one-on-one meetings to discuss Proposer's ATCs; and (iii) optional one-one meetings to discuss other issues and clarifications regarding the RFP. Such meetings will be conducted on the dates set forth in Section 1.6, and on other dates designated by DDOT in writing to the Proposers. DDOT will disclose to all Proposers any responses to issues raised during the one-on-one meetings, except to the extent that DDOT determines, in its sole discretion, such disclosure would impair the confidentiality of a technical concept, VQC or ATC.

The one-on-one meetings are subject to the following:

1. The meetings are intended to provide Proposers with clarifications of the RFP which will be disclosed to all Proposers via Addendum.
2. DDOT will not discuss with any Proposer any Proposal, technical concept, VQC, or ATC other than its own.
3. Proposers shall not seek to obtain commitments from DDOT in the meetings or otherwise seek to obtain an unfair competitive advantage over any other Proposer.
4. No aspect of the meetings is intended to provide any Proposer with access to information that is not similarly available to other Proposers, and no part of the evaluation of Proposals will be based on the conduct or discussions that occur during the meetings.

Persons attending the one-on-one meetings will be required to sign an acknowledgment of the rules.

2.5.3 Questions and Responses During One-on-One Meetings

Proposers shall submit requests for clarifications ten (10) days in advance of the meeting and a meeting agenda to the CO seven (7) days in advance of the meeting, along with a list of meeting attendees. During one-on-one meetings, Proposers may ask questions, and DDOT may provide immediate verbal responses. However, any written or verbal responses provided by DDOT during one-on-one meetings may not be relied upon.

Due to the proprietary nature of these meetings, the agenda will not be subject to disclosure until after the award of the DBA.

Although the discussions in these one-on-one meetings are intended to be confidential, nothing shall preclude DDOT from exercising any rights that it may have under this RFP, including the right to issue a clarification of the RFP, or an Addendum, as a result of what is discussed in such meetings.

2.5.4 Statements at Meetings

Nothing stated at any pre-Proposal meeting or included in a written record or summary of a meeting will modify this ITP or any other part of the RFP unless it is incorporated in an Addendum issued pursuant to Section 2.3.2.

2.6 Ownership of Proposal, Confidentiality and FOIA

2.6.1 Ownership of Proposal and Applicability of FOIA

The District of Columbia Freedom of Information Act (FOIA), District of Columbia Code (DC Code) § 2-531-539, provides that any person has the right to request access to records. All public bodies of the District government are required to disclose public records, except for those records, or portions of records, that are protected from disclosure by the exemptions found at DC Code § 2-534.

Subject to the exceptions specified in this Section and in the FOIA, all written and electronic correspondence, exhibits, photographs, reports, printed material, tapes, disks, designs, and other graphic and visual aids submitted to DDOT during the procurement process, whether included in the Proposal or otherwise submitted will not be returned to the submitting parties. Proposers should familiarize themselves with the provisions of the FOIA requiring disclosure of public information and exceptions thereto. In no event shall the District of Columbia, DDOT, or any of their agents, representatives, consultants, directors, officers, or employees be liable to a Proposer or Proposer team member for the disclosure of any materials or information submitted in response to the RFP.

2.6.2 Disclosure Waiver

Each Proposer, by submitting a Proposal to DDOT in response to the RFP, consents to the disclosures described in this ITP, including the disclosures in this Section and all other disclosures required by law, and expressly waives any right to contest, impede, prevent, or delay such disclosure, or to initiate any proceeding that may have the effect of impeding, preventing, or delaying such disclosure, under FOIA or any other law relating to the confidentiality or disclosure of information. Under no circumstances will DDOT be responsible for or liable to a Proposer or any other party as a result of disclosing any such materials. The Proposer further agrees to assist DDOT in complying with the disclosure requirements if it is the selected Successful Proposer.

2.6.3 Disclosure Process for Requests under FOIA

All requests under FOIA for disclosure of the Proposals or information contained therein, shall be processed in accordance with the FOIA.

2.7 DDOT Studies and Investigations

To the extent DDOT undertakes any investigative activity before the Technical Proposal Due Date, the information obtained by DDOT from such activities may be made available to Proposers in the CDRs or RIDs, or supplements to the CDRs or RIDs. Specifically, DDOT makes no representation or warranty as to the accuracy, completeness, or suitability of the additional information. Proposers should independently verify any additional information.

2.8 Examination of RFP

Each Proposer shall be solely responsible for examining, with appropriate care and diligence, the RFP, including CDRs, RIDs and any Addenda and material posted on the Procurement Web site or Secure Site, and for informing itself about any and all conditions that may in any way affect the amount or nature of its Proposal, or the performance of the DB Contractor's obligations under the DBA with the District. Each Proposer is also responsible for monitoring the Procurement Web site and Secure Site for information concerning this RFP and the procurement. The Proposal Letter (Form A) includes an acknowledgment that the Proposer has received and reviewed all materials posted thereon. Failure of the Proposer to so examine and inform itself shall be at its sole risk, and DDOT will provide no relief for any error or omission.

The submission of a Proposal shall be considered prima facie evidence that the Proposer has made the above-described examination and is satisfied with the conditions to be encountered in performing the Work and with the requirements of the Contract Documents.

2.9 Errors

If any Error is identified by a Proposer at any time during the procurement process in any of the documents supplied by DDOT, the Proposer shall notify DDOT of the recommended correction or request for clarification in writing in accordance with Section 2.3.1.

2.10 Improper Conduct

2.10.1 Non-Collusion

Neither the Proposer nor any of its team members shall undertake any of the prohibited activities identified in the Non-Collusion Affidavit (Form F).

2.10.2 Organizational Conflicts of Interest

The provisions of Title 27 of the District of Columbia Municipal Regulations (DCMR) § 2220 and § 2221 (1987, as amended), and the federal provisions of 23 CFR § 636, regarding organizational conflicts of interest apply to this Project. Proposers are advised that the provisions may preclude certain firms and their subsidiaries and affiliates from participating on a Proposer team.

By submitting its Proposal, each Proposer agrees that, if an organizational conflict of interest (as defined in the rules) is thereafter discovered, the Proposer must make an immediate and full written disclosure to DDOT that includes a description of the action that the Proposer has taken or proposes to take to avoid or mitigate such conflicts. If an organizational conflict of interest is deemed to exist, DDOT may, at its sole discretion, cancel the procurement, disqualify the Proposer with a conflict, or take other action as necessary to mitigate the conflict. If Proposer was aware of an organizational conflict of interest before the award of the DBA and did not disclose the conflict to DDOT, DDOT may pursue remedies under the DBA, including termination of the DBA, if applicable, for default.

The list of consultants and subconsultants who have assisted DDOT in the development of the Project has been provided by the CO to the Proposers.

2.11 Changes in Proposer's Team

The Proposer's team, as identified in its SOQ, must remain intact for the duration of the procurement process in order for a Proposer to remain qualified to submit a Proposal, unless otherwise approved in writing by DDOT. If a Proposer wishes to make changes in the team members identified in its SOQ, including, without limitation, additions, deletions, reorganizations, and/or role changes, the Proposer shall submit to DDOT a written request for approval of the change from DDOT as soon as the Proposer is aware of the need to do so, but in no event later than the applicable last date set forth in Section 1.6. Any such request shall be addressed to DDOT at the address set forth in Section 2.2.1, accompanied by the information specified for such entities in the RFQ. If a request is made to allow deletion or role change of any Major Participant, Key Subcontractor or Key Personnel identified in its SOQ, the Proposer shall submit such information as may be required by DDOT to demonstrate that the changed team meets the applicable RFQ criteria and will provide the same or better levels of qualifications and experience as demonstrated in the Proposer's SOQ, as determined in DDOT's sole discretion. The Proposer shall submit an original and five copies of each request package. DDOT is under no obligation to approve such requests and may approve or disapprove, in writing, a portion of the request or the entire request at its sole discretion, within 14 days of receipt of such request.

If DDOT, in its sole discretion, disapproves any request for changes in Proposer's team, the Proposer shall resubmit the information required above for the proposed substitute for review and approval by DDOT in accordance with the foregoing process at least ten (10) days before the Technical Proposal Due Date.
The Proposal may not include any Major Participant, Key Subcontractor or Key Personnel previously disapproved for said position by DDOT in writing.

3 Alternative Technical Concepts and Visual Quality Concepts

3.1 Alternative Technical Concepts

Alternative Technical Concepts (ATCs) are concepts that may conflict with the requirements for design and construction of the Project or otherwise require a modification of the Technical Provisions but that may nevertheless be proposed in accordance with the terms and conditions set forth in this ITP. This Section 3.1 presents a process for pre-Proposal review of ATCs. The process is intended to allow Proposers to incorporate innovation and creativity into the Proposals.

Except as noted in this Section, ATCs eligible for consideration hereunder shall be limited to deviations from the requirements of the RFP that result in performance and quality of the end product that is equal to or better than the performance and quality of the end product absent the deviation, as determined by DDOT in its sole discretion. A concept is not eligible for consideration as an ATC if, in DDOTs sole judgment, it is premised upon or would require or materially result in the following:

1. A reduction in Project scope, performance or reliability (e.g. reducing the construction cost of the Work in a way that would increase the lifecycle costs of the Work);
2. The addition of a separate DDOT Project to the RFP;
3. An increase in the amount of time required for Substantial Completion of the Work under the DBA; or
4. Any other requirements that the CO does not deem necessary for the Project.

A proposed ATC will not be eligible if it would conflict with criteria agreed upon in the environmental decision-making process, as incorporated in the RFP. ATCs that, if implemented, would require further environmental evaluation of the Project or the concept has not been reviewed or approved for use on the NHS by FHWA, may be allowed, provided that the DB Contractor will bear the schedule and cost risk associated with such additional environmental evaluation or approvals. If the DB Contractor is not able to obtain the approvals necessary to implement the ATC, the DB Contractor will be obligated to develop the Project in accordance with existing approvals without additional cost or extension of time.

Components of the Work not traditionally used by DDOT may be allowed if they have been proven successful by other Transportation Authorities located within similar weather and traffic environments in the United States. The DB Contractor shall demonstrate that the components will meet or exceed the Project's technical requirements.

Any ATC that has been pre-approved during the Proposal preparation phase may be included in the Proposal, subject to the conditions set forth herein.

If a Proposer is unsure whether a concept is consistent with the requirements of the RFP or if that concept would be considered an ATC by DDOT, DDOT recommends that Proposer submit such concept for review as a potential ATC.

Proposers may submit questions relating to potential ATCs through the Questions and Response process outlined in Section 2.3.1, however any potential ATCs that the Proposer wishes to submit for DDOT's pre-approval must be submitted in accordance with Section 3.1.1.

3.1.1 Submission of ATCs

The Proposer may submit ATCs for review to DDOT's POC specified in Section 2.2.1 until the applicable last date and time for submittal of ATCs identified in Section 1.6. All ATCs shall be submitted in writing, with a cover sheet identifying the Proposer and stating "South Capitol Street Corridor Phase I Project – Confidential ATCs." The Proposer shall clearly identify the submittal as a request for review of an ATC under this ITP. If the

Proposer does not clearly designate its submittal as an ATC, the submission will not be treated as an ATC by DDOT. The Proposer shall submit one electronic copy (.pdf format) on a write-protected USB flash drive and ten paper copies of the ATCs to the address listed in Section 4.1.6. ATC submittals shall include a narrative description of the ATC and technical information, including drawings, as described below:

1. A sequential ATC number identifying the Proposer and the ATC number (multi-part, multi-option ATCs, or re-submissions of previously submitted ATCs shall be submitted as separate individual ATCs with unique sequential numbers).
2. A detailed description and schematic drawings of the configuration of the ATC or other appropriate descriptive information, including necessary design exceptions or a traffic operational analysis, if appropriate.
3. The locations where, and an explanation of how, the ATC will be used on the Project.
4. References to requirements of the RFP that are inconsistent with the proposed ATC, an explanation of the nature of the deviations from said requirements, and a request for approval of such deviations.
5. The analysis justifying use of the ATC and why the deviation(s), if any, from the requirements of the RFP should be allowed.
6. A preliminary analysis and quantitative discussion of potential impacts on vehicular traffic (both during and after construction), environmental permitting, community impact, safety, and life-cycle Project and infrastructure costs, including impacts on the cost of repair, maintenance, and operation.
7. If additional ROW will be required to implement the ATC, Proposers are advised that:
    a. Proposer shall be solely responsible for:
        i. the cost of additional ROW; and
        ii. obtaining any necessary Environmental Approvals.
    b. Proposer shall not be entitled to any Change Order for time or money as a result of:
        i. Site conditions (that is, Hazardous Substances, Differing Site Conditions, geotechnical issues and Utilities) on such additional ROW; or
        ii. any delay, inability, or cost associated with the acquisition of such ROW.
8. A description of other projects where the ATC has been used, the degree of success or failure of such use, names, and contact information, including phone numbers and e-mail addresses for project owner representatives who can confirm such statements.
9. A description of added risks to DDOT or third parties associated with implementing the ATC.
10. An estimate of any additional DDOT, DB Contractor, and third-party costs associated with implementation of the ATC, including life-cycle costs.
11. An estimate of the value added should the ATC be approved and implemented.
12. An analysis of how the ATC is equal to or better in visual quality, quality and performance than the requirements of the RFP and Contract Documents, as applicable.

The Proposer shall not make any public announcement or disclosure to third parties (for example, governmental authorities) concerning any ATC until the DBA has been awarded and the procurement process is completed.

If implementation of an ATC will require approval by a third party, the Proposer shall have full responsibility for, and bear the full risk of, obtaining any such approvals after award of the DBA and submission of data; provided, however, that DDOT shall retain its role as liaison with any governmental authorities, including FHWA, as more particularly described in the Contract Documents. If any required third-party approval is not

subsequently granted with the result that the Proposer must comply with the requirements of the original RFP, the Proposer will not be entitled to a Change Order for additional compensation or time under the DBA.

If DDOT concludes, based on a proposed ATC or otherwise, that the RFP contains an error, ambiguity, or mistake, DDOT reserves the right to modify the RFP to correct the error, ambiguity, or mistake, regardless of any impact on a proposed ATC.

3.1.2 DDOT Review of Pre-Proposal Submission of ATCs

DDOT may request additional information regarding proposed ATCs at any time and will, in each case, return responses to each Proposer regarding its ATC on or before the applicable last date set forth in Section 1.6, provided that DDOT has received all required and requested information regarding such ATC.

DDOT's responses will be limited to one of the following statements:

1. The proposed ATC is acceptable for inclusion in the Proposal.
2. The proposed ATC is not acceptable for inclusion in the Proposal.
3. The proposed ATC is not acceptable in its present form, but may be acceptable upon the satisfaction, in DDOT's sole discretion, if certain identified conditions are met or clarifications or modifications that must be made are provided.
4. The submittal does not qualify as an ATC but may be included in the Proposer's Proposal because it appears to be within the requirements of the RFP (provided however, that should it turn out that the concept as incorporated into the Proposal is not within the requirements of the RFP, DDOT reserves the right to require compliance with the requirements of the RFP, in which event the Proposer will not be entitled to modify its Proposal or obtain a Change Order for additional compensation or a time extension under the DB Contract).

3.1.3 Incorporation of ATCs in the Contract Documents

Following Notice of Intent to Award, the ATCs that were pre-approved by DDOT and incorporated in the Proposal by the Successful Proposer shall be included in the Contract Documents, as applicable. If DDOT responded to any ATC by stating that it would be acceptable if certain conditions were met, those conditions will become part of the Contract Documents, as applicable. Notwithstanding anything to the contrary herein, if the DB Contractor does not comply with one or more DDOT conditions of pre-approval for an ATC, the DB Contractor will be required to comply with the original requirements of the RFP without additional cost or extension of time as set forth in the DBA.

Following execution of the DBA, ATCs from unsuccessful Proposers that signed the Stipend Agreement may, in DDOT's sole discretion, be presented to the selected DB Contractor as a DDOT Change Order in accordance with the DBA, as applicable.

3.1.4 Confidentiality

ATCs and all communications regarding ATCs will remain confidential in accordance with District Law and regulations.

3.2 Visual Quality Concepts[1]

VQCs shall represent the Proposer's approach to meeting the Project Design Appearance Goals. This Section 3.2 describes the process for pre-Proposal review of VQCs, the intent of which is to:

[1] Visual Quality Concepts process pending final rule making.

1. Allow Proposers to have flexibility in developing their proposed designs, while not compromising DDOT's Project Design Appearance Goals, Technical Provisions, or other goals related to the appearance of the Project.
2. Allow DDOT and the Proposer to review, on a confidential basis, the Proposers' VQCs through one-on-one meetings, to provide clarification feedback on such VQCs and clarify, by addendum, any misinterpretations or ambiguities in the RFP relating to Project Design Appearance Goals before the Proposers' submission of their Technical Proposals.

Each Proposer shall submit VQCs for review to DDOT's CO specified in Section 2.2.1 two weeks before the scheduled VQC one-on-one meeting set forth in Section 1.6. Each VQC submission shall be in the format described in Section 3.2.1.

If a Proposer is unsure whether a concept is consistent with the requirements of the RFP, DDOT recommends that Proposer submit such concept for review as a VQC in accordance with the requirements of this section.

From time to time during this procurement process, DDOT will solicit independent, confidential review of VQCs by the specially formed independent Aesthetic Review Group and may solicit confidential review by other independent technical advisors, who will be required to sign a non-disclosure agreement, as DDOT deems necessary.

Proposers may submit questions relating to potential VQCs through the Questions and Response process outlined in Section 2.3.1, however any potential VQCs that the Proposer wishes to submit for DDOT's review and comment must be submitted in accordance with Section 3.2.1.

3.2.1 Submission of VQCs

VQCs shall be submitted in writing, with a cover sheet identifying the Proposer, the VQC number, and stating "South Capitol Street Corridor Phase I Project – Confidential VQCs." The Proposer shall clearly identify the submittal as a request for review of a VQC under this ITP. If the Proposer does not clearly designate its submittal as a VQC, the submission will not be treated as a VQC by DDOT. Other than the cover sheet, the submittal shall not include any information that discloses the Proposer's identity. VQC submittals shall consist of 10 hard copies and 2 electronic copies, as viewable portable document format (pdf) file on CD or thumb drive, of the submittal information described below.

All VQC text shall be in English in a standard font, a minimum of 12 points in height. Pages shall be 8½-inch x 11-inch white paper printed double-sided, with simple lettered/numbered dividers for each section/subsection. The Proposer shall number each page consecutively.

Drawings, charts, and visualizations shall be submitted in horizontal format on 11-inch x 17-inch white paper. The Proposer's drawings shall be presented in English units and shall be at a scale consistent with DDOT standards.

Preparation of video fly-through presentations will be accepted and shall not exceed three minutes in length. Submission of physical massing models will be accepted but shall not exceed 36 inches in any dimension, and each model shall be accompanied by and fully enclosed by a sturdy, fully opaque storage box.

3.2.1.1 First VQC Submittal Requirements

The purpose of the first VQC submittal and subsequent presentation is to give each Proposer the opportunity to confidentially present their proposed aesthetic design concepts and explain how these concepts accomplish the objectives of the Project Design Appearance Goals. The first VQC submission shall include the following:

1. A narrative description of the VQC including how it meets or exceeds each of the Project Design Appearance Goals, not to exceed 20 pages in length.
2. Preliminary layout drawings showing how the Proposer's VQC complies with the Technical Provisions. The drawings shall include a minimum of:

a. The proposed Project horizontal alignment within the present-day conditions and future anticipated urban context

b. The proposed Frederick Douglass Memorial Bridge deck plan, structure elevation, superstructure cross section, pier elevations, and pier sections

c. Detailed section of the proposed bridge railing with pedestrian and bicycle facilities

d. Detailed section of the bridge underpass with pedestrian and bicycle facilities at the waterfront (east and west)

3. Three-dimensional images that illustrate the VQC, including:

a. Aerial perspectives of bridge and ovals from the east and west orientation

b. Perspective view of the south elevation of the bridge taken from a viewpoint at the elevation of the water

c. Perspective views of the approach to the bridge from the viewpoint of an automobile driver (east and west)

d. Perspective view of the north elevation of the bridge taken from a viewpoint at Yards Park

e. Perspective details of bridge piers

4. Illustrations or sketches of key components for consideration by DDOT.

3.2.1.2 Second VQC Submittal Requirements; Third Optional VQC Submittal Requirements

The purpose of the second and third VQC submittals and related presentations are to give Proposers an opportunity to explain how they have modified and further developed the VCQs to address DDOT's response to the prior VQC submittals. The submittals shall include the following:

1. A narrative description of the VQC not to exceed 20 pages in length, including:

a. A description of modifications to the VQC following the first VQC submission; and

b. How the VQC meets or exceeds each of the Project Design Appearance Goals.

2. Revised preliminary layout drawings showing how the Proposer's VQC complies with the Technical Provisions. The drawings shall include a minimum of:

a. The proposed Project horizontal alignment within the present-day conditions and future anticipated urban context

b. The proposed Frederick Douglass Memorial Bridge deck plan, structure elevation, superstructure cross section, pier elevations and pier sections

c. Detailed section of the proposed bridge railing with pedestrian and bicycle facilities

d. Detailed section of the bridge underpass with pedestrian and bicycle facilities at the waterfront (east and west)

3. Three-dimensional images that illustrate the VQC, including:

a. Aerial perspectives of bridge and ovals from the east and west orientation;

b. Perspective view of the south elevation of the bridge taken from a viewpoint at the elevation of the water;

c. Perspective views of the approach to the bridge from the viewpoint of an automobile driver (east and west);

d. Perspective view of the north elevation of the bridge taken from a viewpoint at Yards Park;

e. Perspective details of bridge piers; and

f. Photographic representations of the VQC, using base photographs to be provided by DDOT.

4. Illustrations or sketches of key components, including representative visual design approach to:

   a. Bridge elements;
   b. Landscape elements;
   c. Streetscape elements;
   d. Bicycle and pedestrian elements;
   e. Waterfront access and edge elements; and
   f. Cultural interpretation elements related to the Frederick Douglass legacy.

5. Illustration of any other visual components for consideration by DDOT which help illustrate Project Design Appearance Goals

3.2.2 VQC One-on-One Meetings

Proposers will be required to attend a minimum of one confidential VQC one-on-one meeting. The meetings will be scheduled on mutually agreeable dates around the periods set forth in Section 1.6 and on such other dates designated by DDOT in writing to Proposers. VQC one-on-one meetings will be conducted according to the requirements of Section 2.5.2. Questions and responses during VQC one-on-one meetings will be conducted according to Section 2.5.3. Proposers shall prepare a draft meeting agenda for DDOT's review one week in advance of the meeting and identify all meeting participants.

The CO may invite other attendees that the CO deems useful to the VQC one-on-one meetings.

3.2.2.1 Second VQC One-on-One Meeting

In the event that the Proposer submits a revised VQC in response to the results of the initial VQC meeting or written comments issued after the meeting, the CO shall hold a second VQC meeting with the Proposer and may seek confidential review of the revised VQC. Following the second VQC meeting and any confidential review, the CO shall provide written comments to the Proposer regarding whether the Proposer's revised VQC meets the Project Design Appearance Goals set forth in the RFP.

3.2.2.2 Third VQC One-on-One Meeting

The CO may allow the submission of a third revised VQC in response to the results of the second VQC meeting or written comments issued after the second VQC meeting. In the event that the Proposer is allowed to submit a third revised VQC, the CO may hold a third VQC meeting with the Proposer and may seek confidential review of the third revised VQC. Following any third VQC meeting and any confidential review, the CO shall provide written comments to the Proposer regarding whether the Proposer's additional revised VQC meets the Project Design Appearance Goals set forth in the RFP.

3.2.3 DDOT Review of VQCs

In reviewing the VQCs, DDOT will consider the Project Design Appearance Goals, objectives and minimum requirements, and will not assign quantitative or adjectival ratings. DDOT will provide verbal clarification and feedback at the one-on-one VQC meetings. Following the one-on-one meeting, the CO shall provide written comments regarding whether the VQCs meet the Project Design Appearance Goals set forth in this RFP. Any verbal or written comments issued by the CO at the one-on-one meeting, or following the one-on-one meeting, may not be relied upon to indicate the approval or rejection, in whole or in part, of the VQCs.

DDOT'S review of the VQC shall not constitute the CO's acceptance or evaluation of the VQC. The evaluation process is set forth in Section 5 herein. Nothing communicated by DDOT during the DDOT review of the VQC in accordance with Section 3.2 shall compel the evaluation committee's recommendation to the CO, or the CO's independent evaluation of the VQC.

DDOT's feedback on a pre-Proposal submission of a VQC will not entitle Proposer to an extension of the Technical Proposal Due Date or the date that the VQCs are due, provided, however, that the foregoing shall not limit DDOT's absolute and sole right to modify the Technical Proposal Due Date or any other date in connection with this procurement.

If a Proposer wishes additional clarifications with respect to visual quality or with respect to other changes, the Proposer shall provide a written request for clarifications under Section 2.3.1.

3.2.4 Confidentiality

Subject to the provisions of the PPRA and DCMR (as amended), VQCs and all communications regarding VQCs will remain confidential until a decision is made to select a Proposer or cancel the procurement, at which time all confidentiality rights, if any, shall be of no further force and effect, except as otherwise allowed under the FOIA and Section 2.6 of this ITP. The foregoing shall not preclude DDOT from modifying the documents as necessary to comply with applicable law or to account for information obtained by DDOT outside of the VQC process.

4 Requirements for Submittal of Proposals and Acceptance of Delivery by DDOT

4.1 General Submittal Requirements

Each Proposal shall include a Technical Proposal and a Price Proposal meeting the requirements set forth in Exhibits B and C, respectively. The Proposal shall be submitted in sealed containers or boxes in the format and manner set forth in Sections 4.1.5, 4.2 and 4.3.

4.1.1 Technical and Price Proposal Due Date

The completed Technical and Price Proposals shall be delivered no later than the due date and time specified in Section 1.6.

4.1.2 Signatures Required

The Proposal Letter (Form A) shall be signed and shall be accompanied by evidence of signatory authorization as specified in Form A.

4.1.3 Consequences of Failure to Follow Requirements

Failure to use sealed containers or boxes or to properly identify the Proposal may result in unintended disclosure of information contained in the Proposal and/or disqualification of the Proposal. The Proposer shall be entirely responsible for any consequences, including disqualification of the Proposal, which result from DDOT concluding that the Proposer did not follow the foregoing instructions. It is Proposer's sole responsibility to see that its Proposal is received as required.

4.1.4 Requirements to Submit Compliant Proposal

If the Proposal does not fully comply with the instructions and rules contained in these ITP, including the ITP Exhibits, it may be disqualified.

If a Proposal is deemed unacceptable, DDOT may disqualify the Proposal from further consideration, in its sole discretion. Such disqualification will not result in the forfeiture of Proposer's Proposal Security.

Each Proposal must be submitted in the format that is specified by DDOT in this ITP. The Proposer shall sign the original copy of the Proposal submitted to DDOT. Multiple or alternate proposals shall not be submitted.

4.1.5 Format

The Proposal shall contain concise written material and drawings enabling a clear understanding and evaluation of the capabilities of the Proposer and the characteristics and benefits of the Proposal. Legibility, clarity, and completeness of the Technical Proposal and Price Proposal are essential. The Technical Proposal shall not exceed the page limitation set forth in Exhibit B, Section 2.0. No page limit applies to appendices and exhibits or the Price Proposal; however, DDOT will not review any information in appendices and exhibits other than those required to be provided, and the Proposal evaluation process will focus on the body of the Proposal and any required appendices and exhibits.

An 8 ½-by-11-inch format is required for typed submissions and an 11-by-17-inch format is required for drawings, except that any support letters provided from parties outside the United States may be submitted in International Organization for Standards (ISO) A4 format. Preliminary schedule submissions shall include both a hard copy and the electronic files necessary to view and manipulate the schedule in Primavera P6, Version 8, or latest at time of release of final RFP.

Submittals must be bound, with all pages in a binder sequentially numbered. Printed lines may be single-spaced, with the type font size being no smaller than 12 point, other than in tables and figures, which may be prepared using 10-point font size type. The use of 11-by-17-inch foldouts for tables, graphics, and maps is

acceptable in the main body of the Proposal. Each 11-by-17-inch foldout will be considered 1 page. Appendices may be bound separately in a second binder (11x17).

4.1.6 Additional Requirements for Proposal Delivery

The Technical Proposal and Price Proposal are to be delivered no later than the date and time specified in Section 1.6 to DDOT at the following address:

Mr. Stephen Wishod
Contracting Officer
Office of Contracting and Procurement
District Department of Transportation
55 M Street SE
4th Floor – Bid Room
Washington D.C. 20003

Each binder of the Proposal shall be labeled to indicate its contents and the Proposer. The original Technical and Price Proposals shall be clearly identified as “original”; copies of the Proposals shall be sequentially numbered, labeled, and bound.

4.1.7 Proposal Validity Period

Each Proposal shall initially be valid for acceptance by DDOT for a period of 120 days after the Price Proposal Due Date (the “Proposal Validity Period”). If a Proposer is notified of failure to conclude an award to a higher ranked Proposer during the 120-day period in accordance with Section 5.7, the notified Proposer’s Proposal shall be valid for acceptance for a period of 180 days after the Price Proposal Due Date without unilaterally varying or amending its terms and without any member or partner withdrawing or any other change being made in the composition of the partnership/joint venture/limited liability company/consortium on whose behalf the Proposal is submitted, without first obtaining the prior written consent of DDOT, in DDOT’s sole discretion.

4.2 Technical Proposal

4.2.1 General

All of the binders composing the Technical Proposal, together with the electronic copies, shall be labeled “[Proposer Name]: Technical Proposal for South Capitol Street Corridor Phase I Project.” The Proposer shall provide one signed original with 10 numbered copies of the Technical Proposal. Two electronic copies of the Technical Proposal shall be provided in pdf format on write-protected USB flash drive with the following exceptions: (a) corporate, partnership, JV, and limited liability company documents (for example, articles of incorporation, bylaws, partnership agreements, JV agreements, and limited liability company operating agreements) may be submitted in hard copy and need not be submitted electronically.

4.3 Price Proposal

4.3.1 General

All of the binders comprising the Price Proposal, together with the electronic copies, shall be labeled “[Proposer Name]: Price Proposal for South Capitol Street Corridor Phase I Project.” The Proposer shall provide one signed original with 3 numbered copies of the Price Proposal. The original Proposal Security shall be provided in a separately sealed envelope. The Contract Price Details (including electronic copies) shall be provided in a separately sealed envelope. Two electronic copies of the Price Proposal shall be provided in pdf format on write-protected USB flash drive, with the following exceptions: (a) Forms are to be provided in Microsoft Excel format. All required pricing, financial, and cost information shall be provided in U.S. (US$) currency only, rounded to the nearest whole dollar.

4.4 Proposal Security

4.4.1 General

As a guaranty of its commitment to enter into the DBA in accordance with its commitments under its Proposal if it becomes the Successful Proposer, each Proposer shall submit with the Price Proposal a proposal bond as described in Exhibit C, Section 4.0 (Proposal Security).

4.4.2 Forfeiture of Proposal Security

By submitting its Proposal, each Proposer understands and agrees to the conditions for forfeiture of the Proposal Security as described in Form K.

4.4.3 Return of Proposal Security

Each Proposal Security will be retained until the earlier of: (i) the end of the Proposal Validity Period, or such date as extended in accordance with Section 4.1.7 as applicable; and (ii) the date the Contract is awarded; after which the Proposal Security for each unsuccessful Proposer, except such Proposal Security that has been forfeited, will be returned to the respective Proposers. The Proposal Security for the Successful Proposer shall be returned at such time as the Proposer has satisfied all conditions of execution and award set forth in ITP Section 6.1. ”). If a Proposer is notified of failure to conclude an award to a higher ranked Proposer during the initial 120-day period, the notified Proposer shall obtain an extension of the Proposal Security for the period until 180 days after the Price Proposal Due Date.

4.5 Acceptance of Delivery by DDOT

DDOT will provide a time and date stamped receipt for Proposals delivered to DDOT as specified herein.

4.6 Costs Not Reimbursable

The cost of preparing the Proposal and any costs incurred at any time before final award and execution of the DBA, including costs incurred for any meetings, ATCs, and VQCs, shall be borne by the Proposer, except for any stipend paid by DDOT in accordance with Section 6.3.

5 Evaluation and Post-Selection Process

5.1 Evaluation Process

5.1.1 Evaluation Process Overview

The District intends to award a single contract resulting from this solicitation, based on the evaluation criteria specified herein.

The CO will determine the basis of award in accordance with 27 DCMR §1632, after evaluation of the proposals, using only the criteria and weightings stated in the RFP. The CO may elect to proceed with any method of negotiations, discussion or award of the contract without negotiations, which is set forth in subsections (a), (b), (c), or (d) of section 1632.1.

Point scores shall be determinative of the award.

The CO will administer the following process in accordance with 27 DCMR §1600, 23 CFR §636 and the PPRA as follows:

1. Proposals will be logged in at the date and time they are received per Section 4.1.6.
2. The Evaluation Committee (EC) will evaluate the Technical Proposals and assign Technical Proposal scores based on the criteria set forth in Section 5.2.1 and Section 5.2.2. The EC will provide its recommendation to the CO.
3. The CO will review the recommendations of the EC and complete his own independent review of the Technical Proposals. The CO will assign Technical Proposal scores to each proposal.
4. Following Technical Proposal scoring, the CO will open the Price Proposals and evaluate the Price Proposals based on the criteria set forth in Section 5.4.1 and assign Price Proposal scores based on the criteria set forth in Section 5.4.2. Determination of the total proposal score is outlined in Section 5.1.2.
5. As noted above, the CO will then determine the basis of award:
    a. Subject to 27 DCMR §1633.1 and §1633.2, the CO may award a contract on the basis of the initial proposals without discussions/negotiations. Each initial offer should, therefore, contain the Proposer's best terms from a standpoint of cost or price, technical and other factors.
    b. The CO may, alternatively, determine to:
        i. Establish a competitive range among those proposers with a reasonable chance of being awarded a contract,
        ii. Negotiate with all proposers in the competitive range, and
        iii. Request Best and Final Offers (BAFOs), to address noted deficiencies and/or weaknesses.
        iv. The CO will receive revisions to the proposals, if any, in response to the CO's requests, and distribute the revised technical proposals to the EC.
        v. The EC will evaluate the BAFOs, confirm prior scores or assign revised technical scores reflecting the BAFOs, and provide its recommendations to the CO.
        vi. The CO will review the recommendations of the EC and complete his own independent review of the BAFOs. The CO will assign technical and price scores for each BAFO.
    c. Next, the CO will complete any remaining negotiations with the Proposer whose Proposal is the highest ranked Proposer based on the total point scores, in accordance with 27 DCMR §1634.

6. The CO will provide Notice of Intent to Award to the apparent Successful Proposer. The CO's decision regarding award of the DBA shall be final.

5.1.2 Determination of Total Proposal Score

The total proposal score will be based on the following formula:

Total Proposal Score (max. 1000 points) = Technical Proposal score (max. 400 points) + Price Proposal score (max. 600 points)

The Technical Proposal score will be calculated based on the evaluation of the Technical Proposal as described in Section 5.2.2.

The Price Proposal score will be based on the formula set forth in Section 5.4.2.

The proposals and scores, including any Best and Final Offer process (if used), will remain confidential until an award is made.

5.2 Evaluation of Technical Proposal by EC

The Technical Proposals will be evaluated by the EC based on the Technical Proposal evaluation factors described in this Section. The Technical Proposals will initially be reviewed to ensure the minimum requirements, as described in Section 5.2.1, have been met. Technical Proposals meeting the minimum requirements will then be reviewed against the scored evaluation factors, outlined in Section 5.2.2.

The Proposer shall respond to each factor in a way that will allow DDOT to evaluate the Proposer's response. The Proposer shall submit information in a clear, concise, factual and logical manner providing a comprehensive description of its approach to Design and Construction and to Visual Quality. The Technical Proposal must contain sufficient detail to provide a clear and concise response fully reflecting the manner in which the Proposer would fully meet the Project requirements.

In evaluating the Technical Proposal against the evaluation factors, the EC also will consider the extent to which the Proposal meets the objectives stated below and whether it includes any improvements over the requirements of the Contract Documents, such as additional benefits and/or value to DDOT and the public.

During the evaluation, each sub-factor as described in Section 5.2.2 will be assigned points by the EC using the sub-factors identified in Table 5.2 through Table 5.5 and applying the technical rating scale set forth in Section 5.2.3. The points for each sub-factor will be added to calculate the Proposer's score for each of the corresponding Technical Proposal factors.

Value-added concepts as described in Exhibit B, Section 4.1 shall be reviewed and evaluated based on the Proposer's creativity and innovation in creating a quality facility that meets or exceeds DDOT's requirements and objectives.

5.2.1 Technical Proposal Evaluation Factors – Minimum Requirements

The Technical Proposals shall meet the following minimum requirements:

1. The Major Participants and Key Personnel listed in the Proposal shall not have changed since submission of its SOQ, or Proposer shall have previously advised DDOT of a change and received the CO's prior written approval thereto.
2. The Proposer has submitted the Draft DBE Performance Plan described in Section 4.1.4(d)(1) of Exhibit B, and as required by Exhibit D, Section 6.a. of the DBA. The Draft DBE Performance Plan shall indicate the Proposer's commitment and plan to achieve the DBE goals as detailed in Section 9.2.1 of the DBA.
3. The Proposer has submitted a Completion Schedule using Form O that indicates a Project Final Completion on, or prior to, December 31, 2020.
4. The Proposer has submitted completed PLA Letters of Assent for each Contractor and Subcontractor, as defined in the PLA.

5.2.2 Technical Proposal Evaluation – Scored Evaluation Factors

The maximum possible points for each of the Technical Proposal evaluation factors, weighting factors, and Technical Proposal Score are shown in Table 5-1.

TABLE 5-1
Technical Proposal Scoring Table

Technical Proposal Evaluation Factor	Technical Proposal Score (Maximum)
Design and Construction Plan	160
Visual Quality	160
Schedule	40
Preliminary Project Plans	40
TOTAL:	**400**

Refer to Exhibit B for the submittal requirements.

The Technical Proposal evaluation factors will be evaluated and rated using the rating guidelines specified in Sections 5.2.2.1 through 5.2.2.4, with special attention given to the objectives described within each section, which describe the expectations of DDOT with regard to the Work to be performed and the related information to be submitted in the Project Proposal. Along with the Project goals identified in Section 1.2, the objectives will guide DDOT's assessment of the evaluation factors and sub-factors.

5.2.2.1 Design and Construction Plan (160 points max.)

Objectives: Innovative design and construction solutions that effectively respond to and address the Project Goals and meet or exceed the Project requirements.

TABLE 5-2
Design and Construction Plan

Subfactor	Description	Points Range Available per Subfactor
Structure Design	Use of innovative construction/demolition techniques that minimize impacts to traffic.	0 – 12
	Effectiveness of approach to meeting the required service life for structures and minimizing maintenance costs.	0 – 12
	Ease of re-decking, inspection, and maintenance including minimizing future impacts to traffic.	0 – 20
Construction Staging, Sequencing and Traffic Management	The extent to which the construction staging and sequencing plan clearly shows key stages and demonstrates a logical sequencing and approach to the work.	0 – 14
	Effectiveness of traffic management plans to provide continuous pedestrian and vehicle access throughout the corridor, maintaining access to businesses, limiting or eliminating construction traffic impacts to local residents, and a clear approach to managing pedestrians, bikes and vehicles during special events including those at the Nationals Ballpark and the proposed DC United Stadium.	0 – 18
Drainage, Environmental Permitting, Mitigation	Approach to maximizing stormwater retention volumes and quantity control including use of Best Management Practices, reduction or conversion of existing impervious surfaces, and design features that lead to the increased infiltration of stormwater runoff.	0 – 6

TABLE 5-2
Design and Construction Plan

Subfactor	Description	Points Range Available per Subfactor
and Impacts	Providing for drainage solutions that will minimize life cycle costs.	0 – 6
	Overall approach to complying with the Project Environmental Commitments as described in Section 8.2.2 of the Technical Provisions and demonstration of an understanding of the environmental risks associated with the Project and provide effective approach to mitigating and managing those risks.	0 – 6
	Approach to ensuring compliance with environmental permits.	0 – 6
Bike and Pedestrian	The extent to which the Proposer's design provides bike and pedestrian improvements/components throughout the Project corridor and provides connectivity to the existing/proposed regional trail network including effective waymarking.	0 – 10
	Effectiveness of providing solutions that allow for the movement of large volumes of pedestrians within the project limits associated with events at the Nationals Stadium or proposed DC United Stadium, including access across South Capitol Street and the West Oval.	0 – 10
Utilities	The extent to which the Proposal provides an understanding of the Utility Work associated with the Project, including critical path relocations, and provides for an effective approach for coordinating with Utility Companies.	16
Geotechnical Design	The extent to which the Proposer demonstrates an understanding of the geotechnical risks associated with the Project and provides effective means to mitigate and/or manage those risks.	12
Stakeholder Outreach	The extent to which the approach to stakeholder outreach provides for effective partnering with DDOT's overall communication efforts to achieve effective stakeholder outreach and communications with key stakeholders, the public, surrounding projects, businesses and communities.	0 – 6
	The extent to which the proposal demonstrates an effective approach for communicating with and protecting stakeholder facilities.	0 – 6
Total:		0 – 160

5.2.2.2 Visual Quality (160 points max.)

Objectives: Design and construct a new South Capitol Street and Frederick Douglass Memorial Bridge that support the revitalization of local neighborhoods and the rebirth of the Anacostia waterfront by functioning as a grand urban boulevard, a civic gateway to the nation's capital, and an iconic symbol of the aspirations of Washington, DC, in the 21st century; meet or exceed the Project Design Appearance Goals.

TABLE 5-3
Visual Quality Plan

Subfactor	Description	Points Range Available per Subfactor
Bridge Visual Quality	Extent to which the design demonstrates an elegant and iconic new Frederick Douglass Memorial Bridge that reflects the traditions of great civic design in the District.	0 – 35
	Extent to which the design demonstrates and reflects the historical and cultural significance of Frederick Douglass and Washington.	0 – 30
	Extent to which the design harmonizes the proposed scale and height of the new Frederick Douglass bridge with the long-term projected growth of surrounding neighborhoods.	0 – 35
Design Visual Quality	Extent to which the design transforms South Capitol Street into a grand urban boulevard consistent with the Anacostia Waterfront Initiative.	0 – 20
	Extent to which the design incorporates aesthetically pleasing and sustainable materials and elements throughout the corridor; that reflect the natural and historic resources of the area; and are exceptionally durable.	0 – 20
	Extent to which the design integrates a network of urban open spaces, and establishes an interim use program and design for the ovals that integrates opportunities for future commemorative works.	0 – 20
Total:		0 – 160

5.2.2.3 Schedule (40 points max.)

Objectives: To provide a project schedule that effectively responds to and addresses the Project's requirements, and to provide a project schedule that meets or exceeds DDOT's target Final Completion Deadline.

TABLE 5-4
Schedule

Subfactor	Description	Points Range Available per Subfactor
Preliminary Project Baseline Schedule and Narrative	The extent to which the Preliminary Project Baseline Schedule indicates a Final Completion Deadline that is earlier than the target Final Completion Deadline, as outlined in Section 4.1.3 of Exhibit B.	0 – 8
	The extent to which the Preliminary Project Baseline Schedule and narrative accommodates construction and completion of adjacent projects, including the DC United soccer stadium, and anticipates upcoming events such as the 2018 Major League Baseball All-stars game.	0 – 12
	The extent to which the Preliminary Project Baseline Schedule and narrative demonstrate a comprehensive understanding of the activities necessary to achieve Final Completion and is consistent with the content of all other parts of the Proposer's Technical Proposal.	0 – 8
	A Preliminary Project Baseline Schedule narrative that discusses the Proposers approach to meeting key milestone dates, identifies significant permitting and design review submittals by DDOT and identifies significant schedule risks and mitigations.	0 – 12

TABLE 5-4
Schedule

Subfactor	Description	Points Range Available per Subfactor
Total:		0 – 40

5.2.2.4 Preliminary Project Plans (40 points max.)

Objective: To provide Preliminary Project Plans that effectively respond to and address the Project's requirements.

Note that the plans submitted as part of the Technical Proposal are preliminary.

TABLE 5-5
Preliminary Project Plans

Subfactor	Description	Points Range Available per Subfactor
Preliminary Project Plans	A Project Management Plan that is designed with clear lines of responsibility and well-defined roles that respond to the Project and DDOT needs and addresses risk management.	0 – 10
	A Quality Management Plan that is ISO compliant; that integrates DDOT into the quality management system, and enables DDOT to monitor, audit, and measure DB Contractor's performance in the management of design and construction of the Project.	0 – 15
	A Safety Plan that provides for the protection of the traveling public, the DB Contractor and subcontractors, Project staff, DDOT's staff, and DDOT's consulting staff during construction.	0 – 15
Total:		0 – 40

5.2.3 Evaluation Guidelines

The EC will review the Technical Proposal with reference to the evaluation factors specified in Section 5.2.2, in accordance with the technical rating scale provided in this Section, and will assign a quantitative rating for each of the evaluation sub-factors.

5.2.3.1 Technical Rating Scale

Numeric Rating	Adjective	Description
0	Unacceptable	Fails to meet minimum requirements; e.g., no demonstrated capacity, major deficiencies which are not correctable; Proposer did not address the factor.
1	Poor	Marginally meets the minimum requirements; major deficiencies which may be correctable.
2	Minimally Acceptable	Marginally meets minimum requirements; minor deficiencies which may be correctable.
3	Acceptable	Meets requirements; no deficiencies.

4	Good	Meets requirements and exceeds some requirements; no deficiencies.
5	Excellent	Exceeds most, if not all requirements; no deficiencies.

5.2.3.2 Application of Technical Rating Scale

The technical rating is a weighting mechanism that will be applied to the point value for each evaluation factor to determine the Proposer's score for each factor. The Proposer's total technical score will be determined by adding the Proposer's score in each evaluation factor. For example, if an evaluation factor has a point value range of zero (0) to fifty (50) points, using the Technical Rating Scale above, if the District evaluates the Proposer's response as "Good," then the score for that evaluation factor is 4/5 of 50, or 40 points.

If subfactors are applied, the Proposer's total technical score will be determined by adding the Proposer's score for each subfactor. For example, if an evaluation factor has a point value range of zero (0) to forty (40) points, with two subfactors of twenty (20) points each, using the Technical Rating Scale above, if the District evaluates the Proposer's response as "Good" for the first subfactor and "Poor" for the second subfactor, then the total score for that evaluation factor is 4/5 of 20 or 16 for the first subfactor plus 1/5 of 20 or 4 for the second subfactor, for a total of 20 for the entire factor.

5.3 CO's Evaluation of Technical Proposals

The CO will complete an independent evaluation of the Technical Proposals and consider the recommendations, and supporting information provided by the EC.

5.4 CO's Evaluation of Price Proposals

Following the CO's evaluation of Technical Proposals, the Price Proposals will be evaluated by the CO based on the Price Proposal evaluation factors described in this Section and for price reasonableness, but the CO will not evaluate the Price Proposal for price realism. The Price Proposals will initially be reviewed to ensure the minimum requirements, as described in Section 5.4.1, have been met. Price Proposals meeting the minimum requirements will then be assigned a score, as outlined in Section 5.4.2.

5.4.1 Price Proposal – Minimum Requirements

The Price Proposal must meet the following minimum requirements:

1. Proposer has provided a letter(s) from an Eligible Surety, meeting the requirements outlined in Exhibit C, Section 3.0.
2. Proposer has delivered Proposal Security in the form of a complete, properly executed proposal bond, meeting the requirements of Exhibit C, Section 5.0.

5.4.2 Price Proposal Score

The Proposer with the lowest Contract Price will receive the maximum price score of 600. All other proposals will receive a proportionally lower price score.

The Price Proposal score will be based on the following formula:

$$Price\ Proposal\ Score = \frac{LCP}{PCP} \times 600$$

Where:
LCP = Lowest Contract Price submitted by any Proposer, as indicated on Form M-1

PCP = Proposer's Contract Price, as indicated on Proposer's Form M-1

5.5 CO Right to Exclude Proposals from Consideration

Proposals that are deemed to be not acceptable may be excluded from further consideration, and the Proposer will be so advised. The CO may also exclude from consideration any Proposer whose Proposal contains a material misrepresentation.

Proposers should note that DDOT retains the right to disqualify a Proposer at any time during the RFP process, if a VQC submittal omitted, withheld, or misrepresented critical information regarding the visual quality of a Proposer's evolving Proposal, and DDOT was prevented, by the absence of this information, from clarifying any misinterpretations or ambiguities in this RFP which it would otherwise have been able to communicate.

5.6 Requests for Clarification

Limited exchanges to clarify or resolve ambiguities, apparent minor mistakes or irregularities shall only be for clarification and not discussion or negotiations.

Proposers shall respond to any such requests within 2 Business Days (or such other time as specified by the CO) from receipt of the request to the person and address listed in Section 4.1.6. The scope, length, and topics to be addressed in clarifications shall be prescribed by, and subject to, the discretion of the CO.

5.7 Post-Selection Process to finalize the Contract Documents

The CO will provide the Successful Proposer with a Notice of Intent to Award and proceed to finalize the Contract Documents.

If a DBA satisfactory to DDOT cannot be finalized with the apparent Successful Proposer, the CO will, formally and in writing, end discussions with that Proposer and begin discussions with the next most highly ranked Proposer to attempt to finalize a DBA with that Proposer. The Proposer that submitted the next most highly ranked Proposal will then be considered the apparent Successful Proposer.

If DDOT elects to start discussions to finalize a DBA with a Proposer, and such Proposer is deemed to have failed to engage in good faith discussions with DDOT, said Proposer shall forfeit its Proposal Security if the Proposer fails to attend and actively participate in reasonably scheduled discussion meetings with DDOT or insists upon terms or conditions for any documents that are inconsistent with the Contract Documents.

5.8 Post-Selection Deliverables

5.8.1 Documents to be Submitted Following Notice of Intent to Award

As a condition precedent to award of the DBA, the Successful Proposer shall deliver the Performance Bonds, Payment Bonds, meeting the requirements set forth in Section 10 of the DBA, and insurance certificates meeting the requirements set forth in Section 11 of the DBA.

6 Final Award and Execution; Post-Execution Actions

6.1 Final Award of DBA

The following are conditions precedent to final award of the DBA: (a) receipt by DDOT of all of the documents required to be provided before execution of the DBA, as described in Section 5.8 of the ITP and (b) execution of the DBA by the CO.

Upon satisfaction of the conditions set forth above, the CO will deliver four sets of the Contract Documents to the selected Proposer for signature, along with a number of copies as reasonably requested by the Proposer. The selected Proposer shall obtain all required signatures and deliver all of the signed copies to the CO within 7 days of receipt, together with the required documents described in Section 6.1.1. If the DB Contractor is a JV or a partnership, the DBA must be signed by all JV members or general partners, as applicable. Within 15 Days of the CO's receipt of all required and compliant documents from the Proposer, the CO will sign the agreements, retain four sets of the agreements, and deliver the other signed copies to the selected Proposer. Final award shall be deemed to have occurred upon delivery of the signed copies to the selected Proposer.

6.1.1 Documents to be Delivered by Proposer with the Signed DBA

The Proposer shall deliver the documents listed below to the CO concurrently with the signed DBA as a condition to signature of the DBA by the CO. On or before the date that the CO delivers the copies of the DBA for signature to the Proposer, the CO shall notify the Proposer regarding the number of originals and copies required to be delivered.

1. Evidence of approval of the final form, and of due authorization, execution, delivery, and performance, of the DBA by DB Contractor and, if the DB Contractor is a JV, by its JV members. Such evidence shall be in a form and substance satisfactory to DDOT. If the DB Contractor is a corporation, such evidence shall be in the form of a resolution of its governing body certified by an appropriate officer of the corporation. If the DB Contractor is a partnership, such evidence shall be in the form of a resolution signed by the general partners and appropriate evidence of authorization for each of the general partners, in each case, certified by an appropriate officer of the general partner. If the DB Contractor is a limited liability company, such evidence shall be in the form of one of the following: (i) a resolution of the governing body of the limited liability company, certified by an appropriate officer of the company, (ii) a managing member(s) resolution, certified by an appropriate officer of the managing member(s), or (iii) if there is no managing member, a resolution from each member, certified by an appropriate officer of such member. If the DB Contractor is a JV, such evidence shall be in the form of a resolution of each JV member, certified by an appropriate officer of such JV member.
2. Any other requirements reasonably identified by the CO during pre-award period.

6.2 Debriefings

All Proposers submitting Proposals will be notified in writing of the identification of the Successful Proposer. Proposers not selected for award may request, in writing to the CO, a debriefing in accordance with Title 27 DCMR §§1647 and 1648.

6.3 Stipend

Subject to requirements set forth below, DDOT shall pay to each unsuccessful Proposer a stipend to compensate for a portion of the proposal development costs and for the use of ideas information, and work product contained in or used to develop the Proposals. DDOT shall pay a stipend only to the unsuccessful

Proposers which submitted an acceptable Proposal complying with the conditions of the RFP. The amount, conditions, and the process of distribution for stipends are described in the Stipend Agreement contained in Exhibit F.

7 Protests

7.1 Protests

Any Proposer who is aggrieved in connection with the solicitation or award of a contract, must file with the D.C. Contract Appeals Board (Board) a protest no later than 10 business days after the basis of protest is known or should have been known, whichever is earlier. A protest based on alleged improprieties in a solicitation which are apparent at the time set for receipt of initial Technical Proposals shall be filed with the Board prior to the time set for receipt of initial Technical Proposals. In procurements in which Technical Proposals are requested, alleged improprieties which do not exist in the initial solicitation, but which are subsequently incorporated into the solicitation, must be protested no later than the next closing time for receipt of Technical Proposals following the incorporation. The protest shall be filed in writing, with the Contract Appeals Board, 441 4th Street, N.W., Suite 350 N, Washington, D.C. 20001. The aggrieved person shall also mail a copy of the protest to the CO listed in this ITP.

8 DDOT Disclaimers

8.1 DDOT Disclaimers

The RFP does not commit the District to enter into any contract. Except as expressly set forth in Section 6.3, the District of Columbia assume no obligations, responsibilities, or liabilities, fiscal or otherwise, to reimburse all or part of the costs incurred or alleged to have been incurred by parties considering a response to and/or responding to the RFP. All of such costs shall be borne solely by each Proposer and Proposer team.

In no event shall the District be bound by, or liable for, any obligations with respect to the Project until such time (if at all) as the Contract Documents, in form and substance satisfactory to the District, have been authorized and signed by the District and, then, only to the extent set forth therein. In submitting a Proposal in response to the RFP, the Proposer is specifically acknowledging these disclaimers.

Exhibit A
Definitions and Acronyms

Addendum/Addenda	Supplemental additions, deletions, and modifications to the provisions of the Request for Proposal (RFP) after the release date of this RFP
Aesthetic Review Group	The Aesthetic Review Group is as described as the Aesthetic Review Committee in Section I, C of the Amended and Restated Memorandum of Agreement among the Federal Highway Administration, the District of Columbia State Historic Preservation Officer, the Advisory Council on Historic Preservation and the District Department of Transportation Regarding the South Capitol Street Project within the District of Columbia, dated June 2015.
ATC	Alternative Technical Concept—the concepts described in Instructions to Proposers (ITP) Section 3
Business Day	A day that DDOT is open for business, excluding holidays, Saturdays and Sundays
CA	Contract Administrator
CDRs	Contract Data and Reports—documents and information included in Volume II, Book III and described in ITP Section 1.3
CO	Contracting Officer as described in ITP Section 2.2.1
Contract Price	Shall be the price for the Work required under the DBA, as described in Section 3.1 of Exhibit C to this ITP
Day or day	Calendar Days, unless otherwise expressly specified
DBA	Design-Build Agreement—the agreement pertaining to the design and construction of the Project, as the further set forth in Volume II of this RFP
DB Contractor	Design-Build Contractor—has the meaning set forth in ITP Section 1.1
DBE	Disadvantaged Business Enterprise—has the meaning set forth in 49 *Code of Federal Regulations* Part 26
DC	District of Columbia
DC Code	District of Columbia Code
DC Council	Council of the District of Columbia
DCMR	District of Columbia Municipal Regulations—the Code of the District of Columbia Municipal Regulations (1987, as amended)
DCR	District of Columbia Register
DC Water	District of Columbia Water and Sewer Authority
DDOT	District Department of Transportation
EC	Evaluation Committee—the committee that will review and evaluate the Proposals and make a recommendation to the CO as set forth in ITP Section 5.1
EDT	Eastern Daylight Time
Eligible Surety	A surety company rated in the top two (2) categories by two (2) major rating agencies or at least A-/VIII or better according to A.M. Best's Financial Strength Rating and Financial Size, Licensed by the District of Columbia and listed on the US Treasury Circular 570

EPA	U.S. Environmental Protection Agency
EST	Eastern Standard Time
FOIA	District of Columbia Freedom of Information Act, DC Code §§ 2-531-539
ISO	International Organization for Standards
ITP	Instructions to Proposers—the documents, including exhibits and forms included in this RFP containing directions for the preparation and submittal of information by the Proposer in response to this RFP
JV	Joint Venture
Key Personnel	Individuals designated by a Proposer pursuant to Section 3.2.5 of Exhibit B to this ITP
Key Subcontractor	Any subcontractor that will (1) fill any of the following key Project roles: Project management, quality control management, and quality assurance management, or (2) serve as a key task leader for geotechnical, hydraulics and hydrology, structural, environmental, or utility issues, or (3) any subcontractor with a subcontract value greater than or equal to $10 million (excluding subcontracts with Suppliers) that is not a Major Participant.
Major Participant	Any of the following entities: (1) all joint venture members of the Proposer; (2) the lead engineering/design firm(s); (3) each subcontractor that will perform Work valued at 10 percent or more of the Work; and (4) each subconsultant that will perform 20 percent or more of the design Work.
Major Professional Services Firm	Has the meaning set forth in Section 3.2.2 of Exhibit B to This ITP
Notice of Intent to Award	Notification to the apparent Successful Proposer, as determined by the CO, to proceed to finalize the Contract Documents.
NTP; NTP1; NTP2	Notice to Proceed; First Notice to Proceed; Second Notice to Proceed
pdf	portable document format
PLA	Project Labor Agreement – has the meaning as set forth in Volume II, Book I
Project Management Plan	The portion of the Project Development Plan providing the information requested in Section 4.1.4 of Exhibit B to this ITP
Post-Selection Deliverables	Has the meaning set forth in ITP Section 5.8
PPRA	Procurement Practices Reform Act of 2010 (as amended)
Preliminary Project Baseline Schedule	Project schedule required to be submitted with the Proposal and meeting the requirements set forth in Section 4.1.3 of Exhibit B to this ITP
Pre-Proposal Submittal	Has the meaning set forth in the ITP Section 2.4
Price Proposal	Price information included in a Proposal submitted by a Proposer providing the information requested in Exhibit C of this ITP

Procurement Web site	Public web site containing documents and information relating to the Project, at the following web address: https://www.anacostiawaterfront.org/awi-transportation-projects/south-capitol-street-corridor/
Project	The South Capitol Street Corridor Phase I Project as described by the Contract Documents.
Project Development Plan	Plan submitted with the Technical Proposal, providing the information requested in Section 4.0 of Exhibit B to this ITP
Proposal	Original documents submitted by a Proposer in response to this RFP, as described in Section 1.7.1.
Proposal Due Date	Deadline (date and time) for submission of Technical and Price Proposals identified in the ITP Section 1.6.
Proposal Security	Proposal bond as described in Section 4 of Exhibit C and Form K of Exhibit D to this ITP
Proposer	Shortlisted entities submitting a Proposal for the Project in response to this RFP
Quality Management Plan	Portion of the Project Development Plan providing the information requested in Section 4.1.4 of Exhibit B to this ITP
Request for Proposals (RFP)	The Final Request for Proposals for the South Capitol Street Corridor Phase I Design-Build Project issued by DDOT, including all addenda thereto. The RFP includes the ITP, Contract Documents, Technical Provisions, CDRs and RIDs. The RFP is issued only to Proposers that have been shortlisted following SOQ review.
RFQ	Request for Qualifications—DDOT's Request for Qualifications issued on June 13, 2013, as amended
RIDs	Reference Information Documents—documents and information included in Volume III and described in ITP Section 1.3
ROW	Right-of-way
Secure Site	Secure file transfer and sharing site for project documents
SOQ	Statement of Qualifications—means the submission made by a Proposer in response to the RFQ, including all clarifications thereto submitted in response to requests by DDOT
Surety	Individual or entity committing to provide any of the bonds identified in this RFP
Technical Proposal	Technical proposal submitted by a Proposer providing the information requested in Exhibit B of this ITP
Technical Solutions	Portion of the Project Development Plan providing the information requested in Section 4.1 of Exhibit B of this ITP
Utility Work	Has the meaning set forth in Section 10.1 of Volume II, Book II (Technical Provisions)
VQC	Visual Quality Concepts as described in Section 3.2 of this ITP

Work	All duties and services to be furnished and provided by the DB Contractor as required by the Contract Documents, including but not limited to the administrative, design, engineering, quality control, quality assurance, Utility coordination, procurement, legal, professional, manufacturing, supply, installation, construction, demolition, supervision, management, testing, verification, labor, Materials, equipment, documentation and other efforts necessary or appropriate to achieve Final Acceptance except for those efforts which the Contract Documents specify will be performed by the District or other Persons. In certain cases, the term is also used to mean the products of the Work.

Exhibit B
Technical Proposal Instructions

1.0 General Instructions

This Exhibit B describes the submission format for Technical Proposals and outlines the required information that will comprise a Technical Proposal for the RFP.

Proposers shall submit the information required by Exhibit B in the organization and format specified herein. The Technical Proposal shall be organized in the order listed in Exhibit E and shall be clearly indexed. Each component of the Technical Proposal shall be clearly titled and identified.

All forms named herein are found in Exhibit D, unless otherwise noted. All blank spaces in the Proposal forms must be filled in as appropriate. No substantive change shall be made in the Proposal forms.

2.0 Format

The Technical Proposal shall be limited to an aggregate of 100 pages, plus required forms, resumes, and appendices containing graphs, matrices, schedules, drawings, visualizations and other pertinent data. Any pages submitted in excess of the 100-page limit will not be considered in the Technical Proposal evaluation.

3.0 Contents of the Technical Proposal

The required contents and organization of the Technical Proposal are presented in this Exhibit B and summarized in the Proposal checklist provided in Exhibit E. Proposers are to provide all the information set out in this Exhibit B. A copy of the checklist for the Technical Proposal shall be included in the Technical Proposal. The Proposer shall not amend the order or change the contents of the checklist, except to provide the required cross reference to its Proposal.

The Technical Proposal shall consist of the following major elements:

1. Executive Summary
2. Proposer Information, Certifications, and Documents (including required Forms A through J and P through U)
3. Project Development Plan
4. Appendices

3.1 Executive Summary

The Executive Summary shall be written in a non-technical style and shall contain sufficient information for reviewers with both technical and non-technical backgrounds to become familiar with the Proposer's Proposal and the Proposer’s ability to satisfy the technical requirements of the Project. The Executive Summary shall not exceed 6 pages. It shall, at a minimum, include the following:

1. An explanation of the organization and contents of the Proposal.
2. A summary of any changes to the Proposer’s SOQ, subject to approval by DDOT.
3. A summary of any changes in the Proposer’s organization, other Major Participants and Key Personnel since submission of the SOQ.
4. A summary of the proposed management, decision making, and day-to-day operating structure of the Proposer, and a statement that each Major Participant has committed to provide the specified people.
5. A summary of the Project Development Plan, including the following:
    a. A summary of the Technical Solution;
    b. A summary of the Proposer’s approach to visual quality;
    c. A summary of the Proposer’s approach to meeting and improving on schedule milestones; and

d. A summary of the Preliminary Project Plans.

6. A summary of the Proposer's approach to satisfying the DBE, local hiring and training provisions.

3.2 Proposer Information, Certifications and Documents

3.2.1 Technical Proposal Letter

The Technical Proposal shall include the Technical Proposal Letter (Form A-1). The Proposer shall attach to the Technical Proposal Letter the documents and information described in the section entitled "Additional Information To Be Provided With Technical Proposal Letter" of Form A-1, provided, however, that the Proposer may attach to the original Form A-1 an envelope containing four numbered copies of the required organizational documents in lieu of providing organizational documents with each of the copies of the Technical Proposal.

3.2.2 Information about Proposer, Major Participants, and Key Subcontractors

The Proposal shall include completed Form B-1 providing information about the Proposer.

The Proposal shall include a completed Form B-2 providing information regarding the following: (i) each Major Participant; (ii) each firm that will provide engineering, architectural, surveying, planning, quality assurance, and/or other professional services for development of the Project valued at $5,000,000 or more ("Major Professional Services Firm"); and (iii) Key Subcontractors identified by the Proposer as of the Technical Proposal Due Date. The Proposer is advised that all Major Professional Services Firms must be identified at the time of the Proposal.

3.2.3 Responsible Proposer Questionnaire

The Proposal shall include Form C, the "Responsible Proposer Questionnaire," completed and signed by the Proposer.

3.2.4 Industrial Safety Record for Team Members

The Proposal shall include Form D, the "Industrial Safety Record For Team Members Performing Installation or Construction Work" for the Proposer, each Major Participant, and any other team member identified in the Proposal. This form shall be filled out separately and provided for each member of the Proposer's team that will perform or supervise installation or construction Work for this Project, and include information for any entity in which such team member holds a substantial interest.

3.2.5 Key Personnel

The individuals described in Section 9.9 of the DBA are considered Key Personnel.

The Proposal shall identify the pre-approved Key Personnel and shall include Form E identifying personnel work assignments and a statement signed by the Proposer committing to maintain such individual's availability for active involvement in the Project. Refer to the Contract Documents, as applicable, for information regarding time commitment requirements for Key Personnel and DDOT's rights if it concludes that any such personnel are not devoting sufficient time to the prosecution and performance of the Work required for the Project. The Proposer may not make any changes in its Key Personnel after receipt of DDOT approval, as specified herein, except as provided in the Contract Documents.

3.2.6 Letters Approving Key Personnel and Changes in Proposer's Organization

The Proposal shall include a copy of the approval letter(s) issued by the CO pursuant to Section 2.11 approving the Key Personnel. If the Proposer's organization has changed since submission of the SOQ, the Proposer shall specifically describe such changes and, if applicable, include a copy of the CO's approval letter provided under ITP Section 2.11.

3.2.7 Non-Collusion Affidavit

The Proposal shall include Form F, signed by the Proposer, certifying that the Proposal is not the result of and has not been influenced by collusion.

3.2.8 Certification Regarding Buy America

The Proposal shall include Form G, signed by the Proposer, regarding Buy America requirements for the Proposer and each Major Participant, Key Subcontractor and any other team members as applicable.

3.2.9 DBE Requirements

The Proposal shall include a statement confirming that the Proposer will obtain DBE commitments equal to or exceeding the DBE participation goal or will exercise good faith efforts to substantiate its attempts to meet the goal.

3.2.10 Training Services Provisions (TSP)

The Proposal shall include a statement confirming that the Proposer will provide training positions equal to or exceeding the TSP goal, will provide the on-the-job training as described in the DBA and will exercise good faith efforts in meeting the objectives of the TSP.

3.2.11 Organizational Conflict of Interest Disclosure

Attention is directed to the provisions set forth in Title 27 DCMR §§ 2220 and 2221 regarding conflicts of interest. The Proposal shall include a certification on Form J describing potential organizational conflicts of interest, including disclosure of all relevant facts concerning any past, present, or currently planned interest that may present an organizational conflict of interest.

3.2.12 Certification Regarding Equal Employment Opportunity and Non-Segregated Facilities

The Proposal shall include Form P, regarding participation in contracts or subcontracts subject to the equal opportunity clause and the filing of required reports, and non-segregated facilities, signed by the Proposer.

3.2.13 Local Hiring

The Proposal shall include a statement confirming that the Proposer will exercise good faith efforts in its attempt to meet the Local Labor Hiring Preference goals.

3.2.14 Certification Regarding Use of Contract Funds For Lobbying

The Proposal shall include Form Q, signed by the Proposer, certifying that no Project funds have been or will be paid for lobbying activities, and no other funds have been paid or will be paid to influence governmental decisions regarding the Project.

3.2.15 Certification Regarding Ineligible Contractors

The Proposal shall include Form R, signed by the Proposer, certifying that the Proposer, its Major Participants, Key Subcontractors and any other team members as applicable, are not declared by the federal government or District, or have not voluntarily declared themselves debarred, suspended, or ineligible from doing transactions with the federal government or any of its agencies and making other certifications as described on Form R.

3.2.16 Project Labor Agreement (PLA) Letters of Assent

The Proposal shall include executed PLA Letters of Assent, included as Exhibit A of the PLA. The Letters of Assent shall be signed by each Contractor and Subcontractor, as defined in the PLA.

3.2.17 Completion Schedule

The Proposal shall include Form O. Proposer shall indicate the number of Calendar Days between execution of the DBA, which shall be assumed to be February 10, 2017, and its proposed Completion Deadlines on Form O. In no event shall the number of calendar days between execution of the DBA and Final Completion Deadlines exceed 1,420 calendar days.

3.2.18 Stipend Agreement

The Proposal shall include the Exhibit F Stipend Agreement signed by the Proposer.

4.0 Project Development Plan

The Proposer shall submit a Project Development Plan that shall consist of the following components: the Technical Solutions, including the Design and Construction Plan (Section 4.1.1), visual quality aspects of the Proposal (Section 4.1.2), Project Baseline Schedule (Section 4.1.3) and the Preliminary Project Plans (Section 4.1.4).

The Project Development Plan shall provide the information relevant for developing the Proposer's schematic; its visual quality; the project management philosophy, plan, and schedule for executing the Project, including management structure and personnel; and the quality control procedures for any related contract administration, describing how the Proposer plans to achieve and satisfy the Project requirements.

4.1 Technical Solutions

The Technical Solutions component of the Proposal shall describe the Proposer's approach to implementing the Work and shall include the information as described herein. The Technical Solutions shall also include information about approved ATCs, perceived added-value items, and the incorporation of new technologies, as follows:

1. Specifically, for all ATCs, the Proposer shall:
    a. Specifically state whether any approved ATCs are included in the Proposal, with reference to the ATC identification number assigned by DDOT.
2. For perceived added-value components of the Proposal that will be evaluated and scored, the Proposer shall:
    a. Specifically identify characteristics of its Proposal which the Proposer considers improving upon the Project's technical requirements as set forth in the Contract Documents and which bring additional benefits and/or value to DDOT and the public.
    b. Provide an estimate of the value of such benefits.

4.1.1 Design and Construction Plan

The Design and Construction Plan shall include information identified in Section 4.1.1.1 through Section 4.1.1.9 relevant to Proposer's conceptual design and proposed approach. The Proposer shall provide sufficient information to enable DDOT to understand and evaluate the Proposer's approach to designing and constructing the Project.

The Proposer's schematic shall clearly identify the Work to be completed by DB Contractor. Changes in alignments or other elements proposed by Proposer's schematic to the extent they will require an evaluation for compliance with the DDOT-provided approvals and possibly re-evaluations and delays associated with such re-evaluations will be at Proposer's risk.

The Proposer shall indicate how sustainability will be achieved in the Project schematic and proposed approach.

Items that do not apply to Proposer's proposed approach are to be specifically noted as such. For all of the items not required, backup information is to be provided that supports the non-applicability of the items.

4.1.1.1 Roadway Design

The Proposer shall provide plans and supportive narratives describing the roadway components for the proposed Project. The information shall include at least the following:

1. The termini of the proposed Project.
2. Proposed horizontal and vertical geometric configuration stationed at every 100 feet for all roadways and ramps within the proposed Project. Maximum grade for all roadways and ramps.
3. General geometry, including number and widths of lanes and shoulders and geometric dimensions.
4. Existing and proposed ROW lines. Indicate whether the limits of construction, and both permanent and temporary easements, are within the existing/proposed ROW limits shown in the Conceptual Design Plans in Volume III, Book II.
5. Connections to existing roadways.
6. Typical roadway cross sections for all roadways and ramps within the proposed Project.
7. Proposed type and height of traffic barriers and barrier end treatments.
8. A description of the Traffic Signals and Intelligent Transportation Systems. This shall include a schematic plan and layout showing the traffic configuration at each intersection and preliminary camera and detection equipment locations to demonstrate adequate coverage.

4.1.1.2 Structure Design

The Proposer shall submit its conceptual plans for each bridge structure within the proposed Project. The plans shall include at least the following:

1. Structure plan and elevation;
2. Superstructure cross sections;
3. Additional superstructure cross sections showing the existing condition, each construction phase, and the final condition. The existing and new bridge should be shown in one section to illustrate the interrelationship between them.
4. Pier elevations and pier sections;
5. Provide plans showing the location of earth-retaining structures. Include elevation and plan views showing the extent of the Work and conceptual details for surface treatments.
6. Foundation layout and types;

7. Locations of ROW lines, existing structures, and existing/relocated Utilities; and
8. Wall type

For each structure provide a narrative that describes the Proposer's approach to achieving the required service life, minimizing short-term and long-term maintenance efforts and costs for the bridge and outlines inspection and maintenance access provisions. The Proposer shall provide conceptual design plans and narrative describing the phasing for construction and demolition.

In addition, the following structure specific information shall be provided as described below:

Frederick Douglass Memorial Bridge

The Proposer shall provide conceptual design plans and narrative for the Frederick Douglass Memorial Bridge that, at a minimum, identifies the following:

1. Piers and Towers
   a. Provide plans showing the pier/tower configuration and layout, including height, shape, tapers, and approximate dimensions, cross sections, and orientation and architectural details.
   b. If using multiple components to form piers/towers, provide plans indicating approximate size, shape, location, and description of purpose of components.
   c. Provide supporting narratives.
2. Stay Cables (if used)
   a. Provide plans showing anchor locations, cable anchorage connections, details of guide pipes, cable arrangement including number and spacing, and proposed cable suppliers, along with supporting narratives.
3. Constructability
   a. Provide a narrative describing construction methods and major equipment used to construct the bridge. Include the associated temporary works, material types, equipment used, the construction sequence, and falsework needs.
   b. Describe the erection procedure.
   c. Describe critical construction events.
   d. Describe how river traffic will be maintained throughout construction of the bridge.
4. The Proposer shall provide a description of its methods for demolition and removal of the existing bridge:
   a. The Proposer's approach to worker, public, and property safety during demolition
   b. Maintenance of the navigable channel, including coordination with the U.S. Coast Guard
   c. Special equipment and demolition techniques to be used
   d. Hazardous materials abatement
   e. Permitting and best management practices to control environmental impacts
   f. Disposal of demolition debris, including material proposed to be recycled or salvaged
   g. Demolition milestones and durations shall be shown as part of the Project Baseline Schedule

4.1.1.3 Construction Staging, Sequencing, and Traffic Management

The Proposer shall describe the construction staging, sequencing, and traffic control to safely maintain traffic during the construction of the proposed Project. The information shall include at least the following:

1. The overall traffic management, haul routes, and control and sequencing approach.

2. Concept drawings and a description of the proposed construction staging and steps that will be taken to minimize disruptions to the traveling public and impacts on the project stakeholders and communities and how business and residential access will be maintained.
3. A description of the proposed staging locations.
4. A description of the Proposer's approach to accommodate special events (for example, Washington Nationals or DC United games) and emergency service providers.

Identification of potential impacts on navigation in the Anacostia River, and plans showing the extent and arrangement of temporary platforms in the Anacostia River.

4.1.1.4 Drainage Design

The Proposer shall submit conceptual drainage plans and narrative that describes the approach to drainage design, including, at a minimum:

1. Hydrologic/hydraulic analysis including Anacostia River floodplain study;
2. Culvert design, storm sewer design, ditch design including identification and location of all proposed outfalls and existing/proposed ROW limits;
3. Identify existing stormwater facilities that will be left in place or reused;
4. Stormwater management including description of proposed types of best management practices; and
5. A preliminary maintenance plan.

Proposer shall describe its approach to maximizing stormwater retention volumes and quantity control and identify drainage associated risks.

4.1.1.5 Environmental Permitting, Mitigation, and Impacts

The Proposer shall describe its approach to complying with the environmental requirements of the Project and any environmental risks that may arise. The information shall include at least the following:

1. A list of environmental permits, permit amendments, and other approvals, whether state, federal, or local, that will or may be required, together with the name of the issuing agency and a plan for obtaining required permits and permit amendments in a timely manner.
2. A description of the measures that will be undertaken to ensure compliance with environmental permits and approvals and approach to limit or eliminate environmental impacts including minimizing noise, dust and vibration impacts to residences and businesses.
3. A description of the project-specific environmental risks anticipated to be encountered on the Project and how design and construction will address the anticipated impacts and be sensitive to the environment.
4. A narrative on Proposer's approach to limiting impacts to the Anacostia River and aquatic resources.

4.1.1.6 Bike and Pedestrian Design

The Proposer shall provide a narrative description of the plan for development of bike, pedestrian, and shared-use paths within the proposed Project and how they fit within the existing and proposed local and regional trail network. Conceptual plans shall be provided showing width and limits of bike, pedestrian and shared-use paths, transition areas, belvederes, road crossings, tie-ins at the propose Project termini and way-marking concept plans.

4.1.1.7 Utilities

The Proposal shall provide a description of the Utility Work required for the Project. The information shall include at least the following:

1. The intended means of communication and planning of construction to keep Utility Owners informed of the construction schedule, the means of construction, and changes that may affect their facilities including methods to facilitate cooperation from Utility Owners, including, without limitation, the approach to negotiating Utility adjustment agreements and resolving betterment issues.
2. The process for verifying the Utility and Drainage Plans provided in Volume III Book I – Reference Information Documents.
3. The proposed methods of design and construction related to Utility relocation and protection and efforts to minimize Utility conflicts and interruptions during design and construction and the approach for managing conflicts.
4. A Utility Conflict Matrix that clearly identifies and differentiates between all utilities within the project area, including DC Water and sanitary sewer facilities, that notes anticipated impacts to those facilities, and details of whether those impacts will be mitigated by DB Contractor through avoidance, protection-in-place, or facility relocation.
5. Concept Utility Relocation plans that accurately reflect the information provided in the Utility Conflict Matrix and that provides the basis for the DC Water – Water and Sanitary Sewer facilities price breakdown item contained in form M-1.1.
6. Identify Utility relocations on the critical path of the Project Baseline Schedule. Describe how the Proposer will mitigate schedule issues when negotiating agreements between the Proposer and Utility Owners.

4.1.1.8 Geotechnical Design

The Proposer shall demonstrate a thorough understanding of geotechnical risks associated with the proposed Project. The Proposer shall describe the geotechnical approach so that embankments, foundations, and walls can be constructed meeting global stability, bearing capacity, and settlement criteria required for the Project with due consideration given to the location of existing Utilities and structures. The information shall include at least the following:

1. Proposed solutions to meet the settlement requirements of the RFP for retaining walls and fill embankments;
2. Geotechnical design assumptions;
3. For deep foundations a summary of the load testing program and the locations where each load test will be performed; and
4. Conceptual subsurface exploration program, laboratory and field testing program and geotechnical instrumentation plan.

For each pavement the Proposer shall provide the pavement design method, including all of the design inputs that were used to arrive at the pavement selection including a narrative on how the inputs were determined. Include pavement design outputs as follows:

1. Design life
2. Rehabilitation cycles for the design life provided
3. Pavement typical sections
4. Pavement and base thickness
5. Distress predictions including rutting and fatigue cracking for asphalt pavements and faulting and slab cracking for concrete pavements
6. Minimum friction number (FN) and the maximum International Roughness Index (IRI) measurement that will be obtained on the final wearing surface.

4.1.1.9 Stakeholder Outreach

The Proposer shall describe its understanding and approach to partnering with DDOT to deliver an effective communications and public outreach program throughout design and construction. The narrative shall describe the Proposer's approach to facilitating effective two-way communication, as coordinated through DDOT, with key stakeholders, including but not limited to Commission of Fine Arts, National Capitol Planning Commission and Joint Base Anacostia-Bolling, the public, surrounding projects, businesses and communities.

The Proposer shall describe its approach for protecting stakeholder facilities, identifying what will be monitored and where, and describe the coordination that will be undertaken with the owner(s).

4.1.2 Visual Quality Plan

The Visual Quality Plan shall be submitted with a cover sheet identifying the Proposer, and stating "South Capitol Street Corridor Phase I Project – Visual Quality Plan." Other than the cover sheet, the Visual Quality Plan shall not include any information that discloses the Proposer's identity.

The Proposer shall submit a description of the visual quality aspects of the Technical Proposal, which shall include the following:

1. A narrative description of the visual quality aspects of the Technical Proposal, not to exceed 20 pages in length, including:
    a. A description of visual quality aspects of the Technical Proposal that differ from the final VQC submission; and
    b. How the visual quality aspects of the Technical Proposal meet or exceed each of the Project Design Appearance Goals.
2. Three-dimensional images that illustrate the visual quality aspects of the Technical Proposal, including:
    a. Aerial 3D views of bridge and ovals from the east and west orientation;
    b. 3D view of the south elevation of the bridge taken from a viewpoint at the elevation of the water;
    c. 3D views of the approach to the bridge from the viewpoint of an automobile driver (east and west);
    d. 3D view of the north elevation of the bridge taken from a viewpoint at Yards Park;
    e. 3D details of bridge piers; and
    f. Photographic representations of the Technical Proposal using base photographs to be provided by DDOT.
    g. A video fly-through presentation not to exceed three minutes in length. The video shall, at a minimum, highlight the multi-modal experience of the bridge as well as the experience of the civic spaces created on either side of the river.
3. Illustrations or sketches of key components, including representative visual design approach to:
    a. Bridge elements
    b. Landscape elements
    c. Streetscape elements
    d. Bicycle and pedestrian elements
    e. Wall treatments
4. Provide architectural concept plans and renderings, along with supportive narratives for the following:
    a. Spacing and location of light poles, types of luminaires, and controls;

b. Aesthetic lighting plans for the bridge (inclusive of towers, cables, deck, under-structure, and piers), and the shared-use path (including belvederes) from all primary perspectives and demonstrating compatibility among these elements;

c. Color night renderings showing architectural concepts and lighting concepts for the bridges;

d. Detailed section of the proposed bridge railing with pedestrian and bicycle facilities; and

e. Detailed section of the Frederick Douglass Memorial Bridge esplanades with pedestrian and bicycle facilities at the waterfront (east and west).

5. Illustration of other components for consideration by DDOT.

4.1.3 Preliminary Project Baseline Schedule

The Proposer shall provide a Preliminary Project Baseline Schedule using Primavera P6, V8, and narrative for all portions of the Project and include at least the following:

1. Narrative that describes the proposed execution of the Work for the term of the DBA and identifies key milestone dates.
2. Preliminary Project Baseline Schedule to Work Breakdown Structure Level V for the design and construction period in accordance with the Technical Provisions.
3. The Preliminary Project Baseline Schedule shall include anticipated Maintenance of Traffic phases and durations.
4. The Preliminary Project Baseline Schedule shall show achievement of Final Completion no later than 1,420 calendar days from execution of the DBA (assumed to be February 10, 2017).
5. The Preliminary Project Baseline Schedule shall identify permitting and design submittal reviews by DDOT.
6. The Preliminary Project Baseline Schedule shall identify all Work authorized by NTP1 and prior to issuance of NTP2.

The Proposer's Preliminary Project Baseline Schedule submission shall not limit, modify, or alter DDOT's ability to review and approve the Preliminary Project Baseline Schedule, and selection of a Proposer shall not be deemed to be acceptance or approval of Proposer's Preliminary Project Baseline Schedule.

4.1.4 Preliminary Project Plans

The Proposer's Preliminary Project Plans for Project Management, Quality Management, Safety, and Draft DBE Performance Plan /Work Force Development should set out in general terms, the Proposer's anticipated approach for each of these Plans as follows: The preliminary Project Management Plan shall set out the Proposer's anticipated management approach to design, construction, traffic management, documentation, testing and auditing/reporting for the Project, risk, and organizational structure. The minimum information to be provided within the Project Management Plan is detailed herein. Additional details and requirements may be found in the Technical Provisions.

(a) Preliminary Project Management Plan

The Preliminary Project Management Plan shall describe in general terms the Proposer's overall Project Management Plan and approach to the Work (including design, construction, and maintenance), and should at a minimum include the following:

1. A description of the methods to be used to provide necessary communication and documentation within the Proposer's team, including communication among the sub-organizations and management personnel.

2. A description of how the Proposer intends to: (i) provide the experienced personnel, facilities, and equipment, and to integrate such resources to complete each aspect of the Project; (ii) control and coordinate the various subcontractors; (iii) interface with DDOT, its consultants, and relevant federal and local agencies; (iv) interface with applicable Utility Owners; (v) control Project schedules.
3. A description of the Proposer's plan to manage permitting and third-party coordination and approvals. Identify permits that will be critical to meeting the Project schedule and describe how this risk will be managed.
4. An organization chart outlining the basic structure of the Proposer's Project organization (including the design and construction sub-organizations) and a description of the roles, responsibilities, interrelation, and Work to be accomplished by each member of the management team and each sub-organization, including identified subcontractors and suppliers (at all tiers).
5. Describe the plan and management approach for performing design on the Project.
6. Describe the approach to identification, management, mitigation, and allocation of Project-specific risks, including a risk matrix that identifies risk categories during design and construction, potential consequences of identified risks, and potential risk mitigation strategies.
7. Description of the Proposer's anticipated management approach for schedule and cost control on the Project.

(b) Preliminary Quality Management Plan

The Proposer's Preliminary Quality Management Plan shall in general terms, provide a description of the Proposer's plan and approach to ISO compliant quality management during all stages of the Project through mobilization, design, and construction of the Project, outline the systems that will be employed to check that the Work is executed with minimal requirement for corrective Work, detail the systems to be employed for detecting noncompliance, for correcting noncompliance, and for preventing the recurrence of noncompliance and should at a minimum also include the following:

1. A description of the proposed design and construction quality program organization, including limits on authority, lines of reporting, and communication protocols.
2. Description of the continuous quality improvement efforts that will be employed to prevent systemic failures and how the proposer will result in consistently reliable, quality work and minimal oversight efforts by DDOT.
3. Clear demonstration that the plan enables DDOT to monitor, audit, and otherwise measure the Proposer's performance for all aspects of design and construction.

(c) Preliminary Safety Plan

The Preliminary Safety Plan shall describe in general terms the Proposer's anticipated program for making the Project safe for the public, employees, and proposed subcontractors, staff from the agencies, the agencies' representatives, public safety personnel, project stakeholders, and all businesses and contractors operating within or affected by the construction of the Project during construction and upon service, and should at a minimum include the following:

1. A policy statement of the DB Contractor's commitment to safety
2. Identification of DB Contractor's Safety Officers and their roles and responsibilities for safety, reporting procedures, safety inspection procedures, and audit programs
3. General discussion of anticipated employee safety education and training plan for required training for all workers, required regularly scheduled on-site meetings, and specific training details for hazardous materials and unexploded ordnance training

4. Anticipated procedures and programs being considered to integrate safety into design, construction, testing and acceptance, and start-up activities
5. Discussion of emergency and rescue procedures that include, at a minimum, medical, fire, water, chemical spill, hazardous materials, unexploded ordinance, property damage, bomb threat, severe weather, aviation, utility, explosion, natural disaster, and terrorist attack
6. Anticipated process for the identification and effective communication of safety hazards associated with the operational phase of Project
7. Anticipated security provisions

(d) Draft DBE Performance Plan and Preliminary Training Plan

1. The Draft DBE Performance Plan shall provide a description of the Proposer's plan and management approach for achieving DBE goals, and should include the requirements outlined in Exhibit D, Section 8 of the DBA.
2. The Preliminary TSP Plan shall provide a description of the Proposer's plan and management approach for achieving TSP goals.

Exhibit C
Price Proposal Instructions

1.0 General Instructions

This Exhibit C describes the submission format for Price Proposals and outlines the required information that will comprise the Price Proposal.

The Proposer shall submit the information required by this Exhibit C in the organization and format specified herein. The Price Proposal shall be organized in the order listed in Exhibit E, and shall be clearly indexed. Each component of the Price Proposal shall be clearly titled and identified.

All forms named herein are found in Exhibit D, unless otherwise noted. All blank spaces in the Proposal forms must be filled in as appropriate. No substantive change shall be made in the Proposal forms.

1.1 Format of Price Proposal

All price, cost, and financial information provided in the Price Proposal shall be in U.S. dollars only, rounded to the nearest whole dollar.

If there are any discrepancies between the hard copy and electronic copy of any quantitative information provided in the Price Proposal, the hard copy version will prevail. If there are any differences between individual line amounts and totals, the total amount indicated on Form M-1 will prevail.

1.2 Contents of Price Proposal

All parts of the Proposal that indicate price and financial information are to be included in the Price Proposal.

The required contents and organization of the Price Proposal are presented in this Exhibit C and summarized in the Proposal checklist provided in Exhibit E. Proposers are to provide all the information set out in this Exhibit C. A copy of the checklist for the Price Proposal shall be included in the Price Proposal. The Proposer shall not amend the order or change the contents of the checklist, except to provide the required cross reference to its Proposal.

2.0 Price Proposal Letter

The Price Proposal shall include the Price Proposal Letter (Form A-2). The Proposer shall attach to the Price Proposal Letter the documents and information described in the section entitled “Additional Information To Be Provided With Price Proposal Letter” of Form A-1.

3.0 Surety Letter

The Proposal shall include a letter(s) from an Eligible Surety, signed by an authorized representative as evidenced by a current certified power of attorney, committing to provide a Payment Bond and a Performance Bond in the amounts and as detailed in Section 10, Surety Bonds, of the DBA and in the forms attached as Exhibits F and G and to the DBA.

The letter shall also include the following information:

1. Name of bonding company and the name and address of the agent.
2. Whether the listed bonding company has defaulted on any obligation within the past 10 years, and the details in the event of such default.
3. A statement that bonding company has reviewed the RFP, is familiar with the contractual structure and has evaluated the Proposer’s backlog and work-in-progress in determining its bonding capacity.
4. If multiple Surety letters are provided, the Proposal shall identify which Surety will be the lead Surety.

5. The commitment letter may include no conditions, qualifications, or reservations for underwriting or otherwise, other than a statement that the commitment is subject to award and execution of the DBA and issuance of NTP1; provided, however, that the Surety may reserve, in its letter, the right to reasonably approve any material adverse changes made to the Contract Documents, but excluding any changes or information reflected in the Proposal, such as ATCs and Proposer commitments.
6. Evidence of the surety's rating shall be attached to the letter.

4.0 Price Information

4.1 Contract Price Information and Cash Flow Table

4.1.1. Contract Price and Cash Flow Table

The Proposer shall submit a Contract Price using Form M-1 setting forth the total price for the work required under the DBA, including any ATCs. Form M-1.1 shall set forth the price breakdown for the work required under the DBA, including any ATCs. Form M-2 shall set forth the cash flow corresponding to the anticipated draw requests for the work required under the DBA. The draw requests shall be established by anticipated percentage complete monthly. Form M-2 shall form the Maximum Payment Schedule under the DBA.

4.1.2 Contract Price Details

The Proposer shall provide all documentary information used in the preparation of its Contract Price, clearly showing cost or price elements in sufficient detail to enable DDOT to understand how the Proposer calculated its Contract Price as follows;

1. All documentary information itemizing the estimated costs or price of performing the required work separated into usual and customary items and cost or price categories to present a detailed estimate of costs and price, such as direct labor, equipment ownership and operation, perishable materials, permanent materials, supplies, subcontract costs, plant and equipment, indirect costs, contingencies, itemized insurance premiums, mark-ups, overhead, and profit, and;
2. All assumptions, detailed quantity takeoffs, rates of production, progress calculations, and quotes from subcontractors used by the Proposer to arrive at its Contract Price.

Proposals will be kept in a secured-access bid room. Following award, the Contract Price Details shall be kept in a locked cabinet in DDOT's offices.

4.2 Maximum Payment Prior to NTP2

The maximum payment to the DB Contractor prior to issuance of NTP2 for Work under the DBA, as indicated on Form M-2, shall not exceed the amount stipulated in Volume II, Book I (DBA), Section 13.3.2.

5.0 Proposal Security

The Proposal shall include a proposal bond equal to 5 percent of the Proposer's Contract Price from an Eligible Surety and in the form of Form K.

Exhibit D
Required Forms

TECHNICAL PROPOSAL LETTER, CERTIFICATIONS AND REPRESENTATIONS – FORM A-1

PROPOSER: _____

Technical Proposal Date: _____, 2016

District Department of Transportation
Mr. Steven Wishod
DDOT Contracting Officer
Office of Contracting and Procurement
4th Floor
55 M Street, SE
Washington, D. C. 20003

The undersigned ("Proposer") submits this technical proposal (this "Technical Proposal") in response to that certain Request for Proposals (the "RFP") issued by the District of Columbia, dated, XXX, XX, 20XX, to design and construct the South Capitol Street Corridor Segments 1 and 2 Project (the "Project"), as more specifically described herein and in the documents provided with the RFP (the "RFP Documents"). Initially capitalized terms not otherwise defined herein shall have the meanings set forth in the RFP Documents.

In consideration for DDOT supplying us, at our request, with the RFP Documents and agreeing to examine and consider this Technical Proposal, the undersigned undertakes [jointly and severally] *[if Proposer is a joint venture or association other than a corporation, limited liability company or a partnership, leave in words "jointly and severally" and delete the brackets; otherwise delete the entire phrase]:*

a) to keep this Technical Proposal open for acceptance initially for 120 days after the Price Proposal Due Date, and if the undersigned is notified within such 120-day period that it is the next highest ranked Proposer, for an additional 60 days, without unilaterally varying or amending its terms and without any member or partner withdrawing or any other change being made in the composition of the partnership/joint venture/limited liability company/consortium on whose behalf this Proposal is submitted, without first obtaining the prior written consent of DDOT, in DDOT's sole discretion; and

b) if this Technical Proposal is accepted, to provide security (including bonds and insurance) for the due performance of the Design-Build Agreement ("DBA") as stipulated in the DBA and the RFP.

If selected by the District, Proposer agrees to do the following: (a) enter into good faith negotiations with DDOT regarding the terms of the DBA, in accordance with the requirements of the RFP; (b) enter into the DBA without varying or amending its terms and satisfy all other conditions to award of the DBA; and (c) perform its obligations as set forth in the Instructions to Proposers ("ITP"). If the Technical Proposal is non-compliant with the requirements of the Contract Documents, this does not waive the Proposer's obligation to comply with the Contract Documents.

The following individual is designated as the Proposer's Authorized Representative in accordance with Section 2.2.2 of the ITP: _____

The following individual(s) is/are authorized to enter into negotiations with DDOT on behalf of the Proposer in connection with this RFP:

_____

Enclosed, and by this reference incorporated herein, is the Technical Proposal.

Proposer acknowledges receipt of the following Addenda and sets of questions and responses:

> *[List all Addenda by number and date issued. For example, "Addenda 1 issued April 5, 2014."]*
> *[List other addenda]*_____
>
> Responses issued *[list dates on which DDOT responded to Proposers' questions regarding the RFP Documents or this procurement.]*

Proposer certifies that it has carefully examined and is fully familiar with all of the provisions of all of the RFP Documents, has reviewed all materials posted on the secure file transfer site for the Project, the Addenda (if any) and DDOT's responses to questions (as and when posed), and is satisfied that the RFP Documents provide sufficient detail regarding the obligations to be performed by the DB Contractor and do not contain internal inconsistencies; that it has carefully checked all the words, figures and statements in this Technical Proposal; that it has conducted such other field investigations and additional design development that are prudent and reasonable in preparing this Technical Proposal; and that it has notified DDOT of any deficiencies in or omissions from any RFP Documents or other documents provided by DDOT and of any unusual site conditions observed prior to the date hereof.

Proposer represents that all statements made in the SOQ previously delivered to DDOT [(as amended and resubmitted)] are true, correct, and accurate as of the date hereof, except as otherwise specified in the enclosed Technical Proposal and Technical Proposal forms. Proposer agrees that such SOQ, except as modified by the enclosed Technical Proposal and Technical Proposal forms, is incorporated as if fully set forth herein.

Proposer understands the evaluation process and acknowledges and accepts that determination of the award may require subjective judgments by DDOT.

Proposer further understands that all costs and expenses incurred by it in preparing this Technical Proposal and participating in the RFP process will be borne solely by the Proposer, however, Proposer may be entitled to receive a stipend , which may be paid in accordance with the RFP.

Proposer acknowledges and agrees to the Confidentiality and Disclosure terms described in ITP Section 2.6.

This Technical Proposal shall be governed by and construed in all respects according to the laws of the District of Columbia.

Proposer's business address:

_____

(No.) (Street) (Floor or Suite)

_____

(City) (State or Province) (ZIP or Postal Code) (Country)

State or Country of Incorporation/Formation/Organization:_____

[Insert appropriate signatures block from following page.]

1. Sample signature block for corporation or limited liability company:

[Insert the proposer's name]

By: _____

Print Name: _____

Title: _____

2. Sample signature block for partnership or joint venture:

[Insert the proposer's name]

By: *[Insert general partner's or member's name]*

By: _____

Print Name: _____

Title: _____

[Add signatures of additional general partners or members as appropriate]

3. Sample signature block for attorney in fact:

[Insert the proposer's name]

By: _____

Print Name: _____
Attorney in Fact

ADDITIONAL INFORMATION TO BE PROVIDED WITH TECHNICAL PROPOSAL LETTER:

A. Describe in detail the legal structure of the Proposer.

   1. If the Proposer is a corporation or includes a corporation as a joint venture partner or member, provide articles of incorporation and bylaws for each corporation, in each case certified by an appropriate individual within each such entity.

   2. If the Proposer includes a partnership as a joint venture partner, or member, attach full names and addresses of all partners and the equity ownership interest of each entity, and provide the partnership agreement and certificate of partnership for a partnership, in each case certified by an appropriate individual within each such entity.

   3. If the Proposer is a joint venture or includes a joint venture as a joint venture partner or member, attach full names and addresses of all joint venture members and the equity ownership interest of each entity, and provide the joint venture agreement, in each case certified by an appropriate individual with each such entity.

   4. If the Proposer is a limited liability company or includes a limited liability company as a joint venture partner or member, attach full names and addresses of all members and the equity ownership interest of each entity, and provide the operating agreement, in each case certified by an appropriate individual within each such entity.

B. The Proposer's partnership agreement, limited liability company operating agreement, or joint venture agreement, as applicable, must include an express provision satisfactory to DDOT, in its sole discretion, stating that, in the event of a dispute between or among joint venture members, partners, or members, as applicable, no joint venture member, partner, or member, as applicable, shall be entitled to stop, hinder, or delay work on the Project. Proposers should submit the applicable agreement to DDOT and identify on a cover page where in the agreement the provision can be found.

C. Evidence of authority to transact business in the District of Columbia for the Proposer that will transact business in the District of Columbia, dated no earlier than 30 days before the Proposal Due Date. Depending on the form of organization, such evidence may be in the form of the following: (i) a Certificate of Authority to transact business in District of Columbia along with a Certificate of Good Standing from the state of organization of the member; (ii) a Certificate of Good Standing from the District of Columbia Comptroller; or (iii) if such documents are not available due to the form of organization of the entity, the Proposer shall provide appropriate documents evidencing its ability to transact business in the District of Columbia.

D. With respect to authorization of execution and delivery of the Technical Proposal and validity thereof, the Proposer shall provide evidence as follows:

   1. If the Proposer is a corporation, it shall provide evidence in the form of a resolution of its governing body certified by an appropriate and authorized officer of the corporation.

   2. If the Proposer is a joint venture, such evidence shall be in the form of a resolution of each joint venture member, certified by an appropriate and authorized officer of such joint venture member. If the Proposer is a joint venture or a partnership, the Technical Proposal must be executed by all joint venture members or all general partners, as applicable.

   3. If the Proposer is a limited liability company, such evidence shall be in the form of one of the following: (i) a resolution of the governing body of the limited liability company, certified by an appropriate officer of the company, (ii) a managing member(s) resolution, certified by an appropriate officer of the managing member(s), or (iii) if there is no managing member, a resolution from each member, certified by an appropriate officer of such member.

E. A written opinion from counsel for the Proposer, (provided that the organization, authorization, and/or execution opinion shall be provided by an attorney licensed in the District of Columbia of the formation/organization of the entity for which the opinion is rendered (for example, the DB Contractor or JV member), and the qualification to do business in District of Columbia, and the enforceability opinion shall be provided by an attorney licensed in the District of Columbia), in substantially the form attached hereto as Form L (with such changes as agreed to by DDOT in its sole discretion); provided, however, that the organization/authorization/execution opinion for an entity formed or organized under the laws of the District of Columbia may be issued by an in-house or outside counsel not licensed in the District of Columbia.

F. Evidence of signature authority shall be provided for all individuals signing forms on behalf of the Proposer and each Major Participant.

G. The Proposer shall review its SOQ previously submitted to DDOT and provide any material updates as necessary.

PRICE PROPOSAL LETTER, CERTIFICATIONS AND REPRESENTATIONS – FORM A-2

PROPOSER: _____

Price Proposal Date: _____, 2016

District Department of Transportation
Mr. Steven Wishod
DDOT Contracting Officer
Office of Contracting and Procurement
4th Floor
55 M Street, SE
Washington, D. C. 20003

The undersigned ("Proposer") submits this price proposal (this "Price Proposal") in response to that certain Request for Proposals (the "RFP") issued by the District of Columbia, dated, XXX, XX, 20XX, to design and construct the South Capitol Street Corridor Segments 1 and 2 Project (the "Project"), as more specifically described herein and in the documents provided with the RFP (the "RFP Documents"). Initially capitalized terms not otherwise defined herein shall have the meanings set forth in the RFP Documents.

In consideration for DDOT supplying us, at our request, with the RFP Documents and agreeing to examine and consider this Price Proposal, the undersigned undertakes [jointly and severally] *[if Proposer is a joint venture or association other than a corporation, limited liability company or a partnership, leave in words "jointly and severally" and delete the brackets; otherwise delete the entire phrase]:*

A. to keep this Price Proposal open for acceptance initially for 120 days after the Price Proposal Due Date, and if the undersigned is notified within such 120-day period that it is the next highest ranked Proposer, for an additional 60 days, without unilaterally varying or amending its terms and without any member or partner withdrawing or any other change being made in the composition of the partnership/joint venture/limited liability company/consortium on whose behalf this Proposal is submitted, without first obtaining the prior written consent of DDOT, in DDOT's sole discretion; and

B. if this Price Proposal is accepted, to provide security (including bonds and insurance) for the due performance of the Design-Build Agreement ("DBA") as stipulated in the DBA and the RFP.

If selected by the District, Proposer agrees to do the following: (a) enter into good faith negotiations with DDOT regarding the terms of the DBA, in accordance with the requirements of the RFP; (b) enter into the DBA without varying or amending its terms and satisfy all other conditions to award of the DBA; and (c) perform its obligations as set forth in the Instructions to Proposers ("ITP"). If the Price Proposal is non-compliant with the requirements of the Contract Documents, this does not waive the Proposer's obligation to comply with the Contract Documents.

The following individual is designated as the Proposer's Authorized Representative in accordance with Section 2.2.2 of the ITP: _____

The following individual(s) is/are authorized to enter into negotiations with DDOT on behalf of the Proposer in connection with this RFP:

_____

Enclosed, and by this reference incorporated herein, is the Price Proposal.

Proposer acknowledges receipt of the following Addenda and sets of questions and responses:

> *[List all Addenda by number and date issued. For example, "Addenda 1 issued April 5, 2014."]*
> *[List other addenda]*_____
>
> Responses issued *[list dates on which DDOT responded to Proposers' questions regarding the RFP Documents or this procurement.]*

Proposer certifies that it has carefully examined and is fully familiar with all of the provisions of all of the RFP Documents, has reviewed all materials posted on the secure file transfer site for the Project, the Addenda (if any) and DDOT's responses to questions (as and when posed), and is satisfied that the RFP Documents provide sufficient detail regarding the obligations to be performed by the DB Contractor and do not contain internal inconsistencies; that it has carefully checked all the words, figures and statements in this Price Proposal; that it has conducted such other field investigations and additional design development that are prudent and reasonable in preparing this Price Proposal; and that it has notified DDOT of any deficiencies in or omissions from any RFP Documents or other documents provided by DDOT and of any unusual site conditions observed prior to the date hereof.

Proposer represents that all statements made in the SOQ previously delivered to DDOT [(as amended and resubmitted)] are true, correct, and accurate as of the date hereof, except as otherwise specified in the enclosed Price Proposal and Price Proposal forms. Proposer agrees that such SOQ, except as modified by the enclosed Price Proposal and Price Proposal forms, is incorporated as if fully set forth herein.

Proposer understands the evaluation process and acknowledges and accepts that determination of the award may require subjective judgments by DDOT.

Proposer further understands that all costs and expenses incurred by it in preparing this Price Proposal and participating in the RFP process will be borne solely by the Proposer, however, Proposer may be entitled to receive a stipend , which may be paid in accordance with the RFP.

Proposer acknowledges and agrees to the Confidentiality and Disclosure terms described in ITP Section 2.6.

This Price Proposal shall be governed by and construed in all respects according to the laws of the District of Columbia.

Proposer's business address:

_____

(No.) (Street) (Floor or Suite)

_____

(City) (State or Province) (ZIP or Postal Code) (Country)

State or Country of Incorporation/Formation/Organization:_____

[Insert appropriate signatures block from following page.]

1. Sample signature block for corporation or limited liability company:

[Insert the proposer's name]

By: _____

Print Name: _____

Title: _____

2. Sample signature block for partnership or joint venture:

[Insert the proposer's name]

By: *[Insert general partner's or member's name]*

By: _____

Print Name: _____

Title: _____

[Add signatures of additional general partners or members as appropriate]

3. Sample signature block for attorney in fact:

[Insert the proposer's name]

By: _____

Print Name: _____
Attorney in Fact

ADDITIONAL INFORMATION TO BE PROVIDED WITH PRICE PROPOSAL LETTER:

A. With respect to authorization of execution and delivery of the Price Proposal and validity thereof, the Proposer shall provide evidence as follows:

   1. If the Proposer is a corporation, it shall provide evidence in the form of a resolution of its governing body certified by an appropriate and authorized officer of the corporation.

   2. If the Proposer is a joint venture, such evidence shall be in the form of a resolution of each joint venture member, certified by an appropriate and authorized officer of such joint venture member. If the Proposer is a joint venture or a partnership, the Price Proposal must be executed by all joint venture members or all general partners, as applicable.

   3. If the Proposer is a limited liability company, such evidence shall be in the form of one of the following: (i) a resolution of the governing body of the limited liability company, certified by an appropriate officer of the company, (ii) a managing member(s) resolution, certified by an appropriate officer of the managing member(s), or (iii) if there is no managing member, a resolution from each member, certified by an appropriate officer of such member.

B. The Proposer shall review its SOQ previously submitted to DDOT and provide any material updates since the Technical Proposal Due Date as necessary.

INFORMATION ABOUT PROPOSER — Form B-1

1. Name of entity: _____

2. Role of entity : _____

3. Address: _____

_____

_____

_____

Telephone: Email:

4. How many years has the entity been in its current line of business, and how many years has the entity been in business under its present name?

_____

_____

5. Under what other or former names has the entity operated?

_____

_____

6. List all District of Columbia licenses held by the entity. Attach copies of all District of Columbia licenses. Attach a separate sheet if necessary.

_____

_____

_____

_____

_____

_____

_____

_____

_____

I declare under penalty of perjury under the laws of the District of Columbia that the foregoing declaration is true and correct.

Executed: _____, 2016.

_____ (Signature)

_____ (Name Printed)

_____ (Title)

_____ (Proposer)

INFORMATION ABOUT MAJOR PARTICIPANTS, MAJOR PROFESSIONAL SERVICES FIRMS, AND KEY SUBCONTRACTORS—Form B-2

[This form will be used to provide information about any Major Participants, Major Professional Services Firms, and Key Subcontractors that have been identified as of the Technical Proposal Due Date.]

Proposer's Name _____

Entity Name / Contact	Address of Head Office	Telephone / Fax	Specialty / Assignment

Add additional sheet(s) as necessary.

The undersigned Proposer hereby certifies that it has not entered into any substantive negotiations with Major Participants and/or Major Professional Services Firms resulting in an agreement to enter into any Subcontracts with respect to the Project, except for those listed above. The Proposer agrees that it will follow applicable DBA requirements with respect to Subcontractors. Proposer further declares that it has carefully examined the RFP Documents, including DDOT's DBE participation goal for the Project (set forth in Section 9.2.1 of the DBA) and acknowledges that a Proposer's efforts to obtain participation by Subcontractors could reasonably be expected to accomplish DDOT's DBE participation goal for the Project with respect to the professional services and construction portions of the Work performed under the DBA.

I declare under penalty of perjury under the laws of the District of Columbia that the foregoing declaration is true and correct.

Executed: _____, 2016.

_____ (Signature)

_____ (Name Printed)

_____ (Title)

_____ (Proposer)

RESPONSIBLE PROPOSER QUESTIONNAIRE—Form C

[REFER TO SEPARATE EXCEL FORM ATTACHED]

BIDDER/OFFEROR CERTIFICATION FORM

COMPLETION

The person(s) completing this form must be knowledgeable about the bidder's/offeror's business and operations.

RESPONSES

Every question must be answered. Each response must provide all relevant information that can be obtained within the limits of the law. Individuals and sole proprietors may use a Social Security number but are encouraged to obtain and use a federal Employer Identification Number (EIN). Provide any explanation at the end of the section or attach additional sheets with numbered responses. Include the bidder's/offeror's name at the top of each attached page.

GENERAL INSTRUCTIONS

This form contains four (4) sections. Section I concerns the bidder's/offeror's responsibility; Section II includes additional required certifications; Section III relates to the Buy American Act (if applicable); and Section IV requires the bidder's/offeror's signature.

SECTION I. BIDDER/OFFEROR RESPONSIBILITY CERTIFICATION

Instructions for Section I: Section I contains eight (8) parts. Part 1 requests information concerning the bidder's/offeror's business entity. Part 2 inquires about current or former owners, partners, directors, officers or principals. Part 3 relates to the responsibility of the bidder's/offeror's business. Part 4 concerns the bidder's/offeror's business certificates and licenses. Part 5 inquires about legal proceedings. Part 6 relates to the bidder's/offeror's financial and organizational status. Part 7 requires the bidder/offeror to agree to update the information provided. Part 8 relates to disclosures under the District of Columbia Freedom of Information Act (FOIA).

PART 1: BIDDER/OFFEROR INFORMATION

Legal Business Entity Name:	Solicitation #:	
Address of the Principal Place of Business (street, city, state, zip code)	Telephone # and ext.:	Fax #:
Email Address:	Website:	

Additional Legal Business Entity Identities: If applicable, list any other DBA, Trade Name, Former Name, Other Identity and EIN used in the last five (5) years and the status (active or inactive).

Type:	Name:	EIN:	Status:

1.1 Business Type (Please check the appropriate box and provide additional information if necessary.):

☐ Corporation (including PC)	Date of Incorporation:
☐ Joint Venture	Date of Organization:
☐ Limited Liability Company (LLC or PLLC)	Date of Organization:
☐ Nonprofit Organization	Date of Organization:
☐ Partnership (including LLP, LP or General)	Date of Registration or Establishment:
☐ Sole Proprietor	How many years in business?:
☐ Other	Date established?:

If "Other," please explain:

1.2 Was the bidder's/offeror's business formed or incorporated in the District of Columbia? ☐ Yes ☐ No

If "No" to Subpart 1.2, provide the jurisdiction where the bidder's/offeror's business was formed or incorporated. Attach a Certificate or Letter of Good Standing from the applicable jurisdiction and a certified Application for Authority from the District, or provide an explanation if the documents are not available.

State _____ Country _____

1.3 Please provide a copy of each District of Columbia license, registration or certification that the bidder/offeror is required by law to obtain (other than those provided in Subpart 1.2). If the bidder/offeror is not providing a copy of its license, registration or certification to transact business in the District of Columbia, it shall either:

(a) Certify its intent to obtain the necessary license, registration or certification prior to contract award; or

(b) Explain its exemption from the requirement.

PART 2: INDIVIDUAL RESPONSIBILITY

Additional Instructions for Section I, Parts 2 through 8: *Provide an explanation of the issue(s), relevant dates, the government entity involved, any remedial or corrective action(s) taken and the current status of the issue(s).*	
Within the past five (5) years, has any current or former owner, partner, director, officer, principal or any person in a position involved in the administration of funds, or currently or formerly having the authority to sign, execute or approve bids, proposals, contracts or supporting documentation on behalf of the bidder/offeror with any government entity:	
2.1 Been sanctioned or proposed for sanction relative to any business or professional permit or license?	☐ Yes ☐ No
2.2 Been under suspension, debarment, voluntary exclusion or determined ineligible under any federal, District or state statutes?	☐ Yes ☐ No
2.3 Been proposed for suspension or debarment?	☐ Yes ☐ No
2.4 Been the subject of an investigation, whether open or closed, by any government entity for a civil or criminal violation for any business-related conduct?	☐ Yes ☐ No
2.5 Been charged with a misdemeanor or felony, indicted, granted immunity, convicted of a crime, or subject to a judgment or a plea bargain for: (a) Any business-related activity; or (b) Any crime the underlying conduct of which was related to truthfulness?	☐ Yes ☐ No
2.6 Been suspended, cancelled, terminated or found non-responsible on any government contract, or had a surety called upon to complete an awarded contract?	☐ Yes ☐ No
Please provide an explanation for each "Yes" in Part 2.	
PART 3: BUSINESS RESPONSIBILITY	
Within the past five (5) years, has the bidder/offeror:	
3.1 Been under suspension, debarment, voluntary exclusion or determined ineligible under any federal, District or state statutes?	☐ Yes ☐ No
3.2 Been proposed for suspension or debarment?	☐ Yes ☐ No
3.3 Been the subject of an investigation, whether open or closed, by any government entity for a civil or criminal violation for any business-related conduct?	☐ Yes ☐ No
3.4 Been charged with a misdemeanor or felony, indicted, granted immunity, convicted of a crime, or subject to a judgment or plea bargain for: (a) Any business-related activity; or (b) Any crime the underlying conduct of which was related to truthfulness?	☐ Yes ☐ No
3.5 Been disqualified or proposed for disqualification on any government permit or license?	☐ Yes ☐ No
3.6 Been denied a contract award or had a bid or proposal rejected based upon a non-responsibility finding by a government entity?	☐ Yes ☐ No
3.7 Had a low bid or proposal rejected on a government contract for failing to make good faith efforts on any Certified Business Enterprise goal or statutory affirmative action requirements on a previously held contract?	☐ Yes ☐ No
3.8 Been suspended, cancelled, terminated or found non-responsible on any government contract, or had a surety called upon to complete an awarded contract?	☐ Yes ☐ No
Please provide an explanation for each "Yes" in Part 3.	
PART 4: CERTIFICATES AND LICENSES	
Within the past five (5) years, has the bidder/offeror:	
4.1 Had a denial, decertification, revocation or forfeiture of District of Columbia certification of any Certified Business Enterprise or federal certification of Disadvantaged Business Enterprise status for other than a change of ownership?	☐ Yes ☐ No
Please provide an explanation for "Yes" in Subpart 4.1.	
4.2 Please provide a copy of the bidder's/offeror's District of Columbia Office of Tax and Revenue Tax Certification Affidavit.	
PART 5: LEGAL PROCEEDINGS	
Within the past five (5) years, has the bidder/offeror:	
5.1 Had any liens or judgments (not including UCC filings) over $25,000 filed against it which remain undischarged?	☐ Yes ☐ No
If "Yes" to Subpart 5.1, provide an explanation of the issue(s), relevant dates, the Lien Holder or Claimant's name, the amount of the lien(s) and the current status of the issue(s).	
5.2 Had a government entity find a willful violation of District of Columbia compensation or prevailing wage laws, the Service Contract Act or the Davis-Bacon Act?	☐ Yes ☐ No

5.3 Received any OSHA citation and Notification of Penalty containing a violation classified as serious or willful?	☐ Yes ☐ No
Please provide an explanation for each "Yes" in Part 5.	
PART 6: FINANCIAL AND ORGANIZATIONAL INFORMATION	
6.1 Within the past five (5) years, has the bidder/offeror received any formal unsatisfactory performance assessment(s) from any government entity on any contract?	☐ Yes ☐ No
If "Yes" to Subpart 6.1, provide an explanation of the issue(s), relevant dates, the government entity involved, any remedial or corrective action(s) taken and the current status of the issue(s).	
6.2 Within the past five (5) years, has the bidder/offeror had any liquidated damages assessed by a government entity over $25,000?	☐ Yes ☐ No
If "Yes" to Subpart 6.2, provide an explanation of the issue(s), relevant dates, the government entity involved, the amount assessed and the current status of the issue(s).	
6.3 Within the last seven (7) years, has the bidder/offeror initiated or been the subject of any bankruptcy proceedings, whether or not closed, or is any bankruptcy proceeding pending?	☐ Yes ☐ No
If "Yes" to Subpart 6.3, provide the bankruptcy chapter number, the court name and the docket number. Indicate the current status of the proceedings as "initiated," "pending" or "closed".	
6.4 During the past three (3) years, has the bidder/offeror failed to file a tax return or pay taxes required by federal, state, District of Columbia or local laws?	☐ Yes ☐ No
If "Yes" to Subpart 6.4, provide the taxing jurisdiction, the type of tax, the liability year(s), the tax liability amount the bidder/offeror failed to file/pay and the current status of the tax liability.	
6.5 During the past three (3) years, has the bidder/offeror failed to file a District of Columbia unemployment insurance return or failed to pay District of Columbia unemployment insurance?	☐ Yes ☐ No
If "Yes" to Subpart 6.5, provide the years the bidder/offeror failed to file the return or pay the insurance, explain the situation and any remedial or corrective action(s) taken and the current status of the issue(s).	
6.6 During the past three (3) years, has the bidder/offeror failed to comply with any payment agreement with the Internal Revenue Service, the District of Columbia Office of Tax and Revenue and the Department of Employment Services?	☐ Yes ☐ No
If "Yes" to Subpart 6.6, provide the years the bidder/offeror failed to comply with the payment agreement, explain the situation and any remedial or corrective action(s) taken and the current status of the issue(s).	
6.7 Indicate whether the bidder/offeror owes any outstanding debt to any state, federal or District of Columbia government.	☐ Yes ☐ No
If "Yes" to Subpart 6.7, provide an explanation of the issue(s), relevant dates, the government entity involved, any remedial or corrective action(s) taken and the current status of the issue(s).	
6.8 During the past three (3) years, has the bidder/offeror been audited by any government entity?	☐ Yes ☐ No
(a) If "Yes" to Subpart 6.8, did any audit of the bidder/offeror identify any significant deficiencies in internal controls, fraud or illegal acts; significant violations of provisions of contract or grant agreements; significant abuse; or any material disallowance?	☐ Yes ☐ No
(b) If "Yes" to Subpart 6.8(a), provide an explanation of the issue(s), relevant dates, the government entity involved, any remedial or corrective action(s) taken and the current status of the issue(s).	
PART 7: RESPONSE UPDATE REQUIREMENT	
7.1 In accordance with the requirement of Section 302(c) of the Procurement Practices Reform Act of 2010 (D.C. Official Code § 2-353.02), the bidder/offeror shall update any response provided in Section I of this form during the term of this contract: (a) Within sixty (60) days of a material change to a response; and (b) Prior to the exercise of an option year contract.	
PART 8: FREEDOM OF INFORMATION ACT (FOIA)	

8.1 Indicate whether the bidder/offeror asserts that any information provided in response to a question in Section I is exempt from disclosure under the District of Columbia Freedom of Information Act (FOIA), effective March 25, 1977 (D.C. Law 1-96; D.C. Official Code §§ 2-531, et seq.). Include the question number(s) and explain the basis for the claim. (The District will determine whether such information is, in fact, exempt from FOIA at the time of request for disclosure under FOIA.)	☐ Yes ☐ No

SECTION II. ADDITIONAL REQUIRED BIDDER/OFFEROR CERTIFICATIONS

Instructions for Section II: Section II contains four (4) parts. Part 1 requests information concerning District of Columbia employees. Part 2 applies to the bidder/offeror's pricing. Part 3 relates to equal employment opportunity requirements. Part 4 relates to First Source requirements.

PART 1. DISTRICT EMPLOYEES NOT TO BENEFIT

The bidder/offeror certifies that:

1.2 No person listed in clause 13 of the Standard Contract Provisions, "District Employees Not To Benefit", will benefit from this contract.

1.3 The following person(s) listed in clause 13 of the Standard Contract Provisions may benefit from this contract. (For each person listed, attach the affidavit required by clause 13.)

(a) _____

(b) _____

PART 2: INDEPENDENT PRICE DETERMINATION REQUIREMENTS

The bidder/offeror certifies that:

2.1 The signature of the bidder/offeror is considered to be a certification by the signatory that:

(a) The contract prices have been arrived at independently without, for the purpose of restricting competition, any consultation, communication or agreement with any bidder/offeror or competitor related to:

(i) Those prices;

(ii) The intention to submit a bid/proposal; or

(iii) The methods or factors used to calculate the prices in the contract.

(b) The prices in this contract have not been and will not be knowingly disclosed by the bidder/offeror, directly or indirectly, to any other bidder/offeror or competitor before bid/proposal opening unless otherwise required by law; and

(c) No attempt has been made or will be made by the bidder/offeror to induce any other concern to submit or not to submit a contract for the purpose of restricting competition.

2.2 The signature on the bid/proposal is considered to be a certification by the signatory that the signatory:

(a) Is the person in the bidder's/offeror's organization responsible for determining the prices being offered in this contract, and that the signatory has not participated and will not participate in any action contrary to subparagraphs 2.1(a)(i) through (a)(iii) above; or

(b) Has been authorized, in writing, to act as an agent for the following principal in certifying that the principal has not participated, and will not participate, in any action contrary to subparagraphs 2.1(a)(i) through (a)(iii) above:

_____

[Insert full name of person(s) in the organization responsible for determining the prices offered in this contract and the title of his or her position in the bidder's/offeror's organization]

(i) As an authorized agent, certifies that the principals named in subparagraph 2.2(b) above have not participated, and will not participate, in any action contrary to subparagraphs 2.1(a)(i) through (a)(iii) above; and

(ii) As an agent, has not participated and will not participate in any action contrary to subparagraphs 2.1(a)(i) through (a)(iii) above.

2.3 If the bidder/offeror deletes or modifies subparagraph 2.1(b) above, the bidder/offeror must furnish with its bid a signed statement setting forth in detail the circumstances of the disclosure.

PART 3: EQUAL OPPORTUNITY OBLIGATIONS

3.1 I hereby certify that I am fully aware of the contents of Mayor's Order 85-85 and the Office of Human Rights' regulations in Chapter 11 of the DCMR, and agree to comply with them while performing this contract.

PART 4: FIRST SOURCE OBLIGATIONS - NOT APPLICABLE

4.1 I hereby certify that I am fully aware of the requirements of the Workforce Intermediary Establishment and Reform of the First Source Amendment Act of 2011 (D.C. Law 19-84), and agree to enter into a First Source Employment Agreement with the Department of Employment Services if awarded any contract valued at $300,000 or more which receives funds or resources from the District, or funds or resources which, in accordance with a federal grant or otherwise, is administered by the District government.

4.2 I certify that the Initial Employment Plan submitted with my bid or proposal is true and accurate.

SECTION III. BUY AMERICAN ACT CERTIFICATION

Instructions for Section III: *Section III contains one (1) part which should only be completed if goods are being provided that are subject to the requirements of the Buy American Act.*

PART 1: BUY AMERICAN ACT COMPLIANCE

1.1 The bidder/offeror certifies that each end product, except the end products listed below, is a domestic end product (as defined in Paragraph 23 of the Standard Contract Provisions, "Buy American Act"), and that components of unknown origin are considered to have been mined, produced or manufactured outside the United States.

_____ EXCLUDED END PRODUCTS

_____ COUNTRY OF ORIGIN

SECTION IV. CERTIFICATION

Instruction for Section IV: This section must be completed by all bidder/offerors.

I, [ ], as the person authorized to sign these certifications, hereby certify that the information provided in this form is true and accurate.

Name [Print and sign]:	Telephone #:	Fax #:
Title:	Email Address:	
Date:		

The District of Columbia is hereby authorized to verify the above information with appropriate government authorities. Penalty for making false statements is a fine of not more than $1,000.00, imprisonment for not more than 180 days, or both, as prescribed in D.C. Official Code § 22-2405. Penalty for false swearing is a fine of not more than $2,500.00, imprisonment for not more than three (3) years, or both, as prescribed in D.C. Official Code § 22-2404.

INDUSTRIAL SAFETY RECORD FOR TEAM MEMBERS PERFORMING INSTALLATION OR CONSTRUCTION WORK—Form D

PROPOSER'S NAME: _____

NAME OF TEAM MEMBER:

ROLE OF TEAM MEMBER:

This form shall be filled out separately and provided for each member of the Proposer, Key Subcontractors and Major Participants that will perform or supervise installation or construction Work for this Project, and include information for any entity in which such team member holds a substantial interest. Information must be provided with regard to all installation and construction work undertaken in the United States (including the District of Columbia (DC)) by the entity, with separate statistics relative to the District of Columbia. The Proposer may be requested to submit additional information or explanation of data that DDOT may require for evaluating the safety record.

	2011	2012	2013	2014	2015
1) Total Hours Worked (in thousands) Nationwide: DC:					
2) Number of fatalities:* Nationwide: DC:					
3) Number of lost workdays:* Nationwide: DC:					
4) Number of lost workdays* cases: Nationwide: DC:					
5) Number of injury/illness* cases: Nationwide: DC:					
6) Number of days of* restricted work activity due to injury/illness: Nationwide: DC:					
7) Incidence Rate** Lost Workday Cases: Nationwide: DC: Days Lost: Nationwide: DC:					
8) Worker's Compensation Experience Modifier Nationwide: DC:					

* The information required for these items is the same as required for columns 3 to 6, Code 10, Log and Summary of Occupational Injuries and Illnesses, Occupational Safety & Health Administration (OSHA) Form 200.

** Incidence Rate = No. Injuries (Cases) x 200,000 / Total Hours Worked

The above information was compiled from the records that are available to me at this time, and I declare under penalty of perjury under the laws of the District of Columbia that the information is true and accurate within the limitation of those records.

Name of Company (Print)	Signature
Address	Title

City	State and ZIP Code	Telephone Number

PERSONNEL WORK ASSIGNMENT FORM AND STATEMENT OF AVAILABILITY — Form E

Name of Proposer: _____

The Proposer hereby commits that, if it becomes the DB Contractor, it will use the individuals listed below for their stated positions and that, to the extent within the DB Contractor's control, such entities and individuals will be available on a full-time basis for the periods necessary to fulfill their Project-related responsibilities.

Key Personnel Assignment	**Name of Individual Assigned**
DB Project Manager	_____
DB Deputy Project Manager	_____
Design Manager	_____
Lead Urban Designer	_____
Lead Bridge Architect	_____
Lead Structures Engineer	_____
Lead Roadway Engineer	_____
Lead Geotechnical Engineer	_____
Lead Stormwater Engineer	_____
Lead Intelligent Transportation Systems (ITS)/Traffic Engineer	_____
Construction Manager	_____
Construction Quality Assurrance Manager	_____
Construction Quality Control Manager	_____
Environmental Manager	_____
Maintenance of Traffic Manager	_____

[Insert the Proposer's name]

By: _____

Name: _____

Title: _____

Date: _____

NON-COLLUSION AFFIDAVIT—Form F

STATE OF _____)

COUNTY OF _____)

Each of the undersigned, being first duly sworn, deposes and says that:
A. _____ is the _____ of _____ ____ and _____ is the _____ _ of _____ , which entity(ies) are the _____ of _____, the entity making the foregoing Proposal.

B. The Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, joint venture, limited liability company or corporation; the Proposal is genuine and not collusive or a sham; the Proposer has not directly or indirectly induced or solicited any other Proposer to put in a false or sham Proposal, and has not directly or indirectly colluded, conspired, connived or agreed with any Proposer or anyone else to put in a sham Proposal or that anyone shall refrain from proposing; the Proposer has not in any manner, directly or indirectly, sought by agreement, communication or conference with anyone to fix the prices of the Proposer or any other Proposer, or to fix any overhead, profit or cost element included in the Proposal, or of that of any other Proposer, or to secure any advantage against DDOT or anyone interested in the proposed agreement; all statements contained in the Proposal are true; and further the Proposer has not, directly or indirectly, submitted its prices or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, joint venture, limited liability company, organization, Proposal depository or any member, partner, joint venture member or agent thereof to effectuate a collusive or sham Proposal.

C. The Proposer will not, directly or indirectly, divulge information or data regarding the price or other terms of its Proposal to any other Proposer, or seek to obtain information or data regarding the price or other terms of any other Proposal, until after award of the Agreement or rejection of all Proposals and cancellation of the RFP.

_____	_____
(Signature)	(Signature)
_____	_____
(Name Printed)	(Name Printed)
_____	_____
(Title)	(Title)

Subscribed and sworn to before me this ___ day of ____, 2016.

_____
Notary Public in and for said County and State

[Seal]

My commission expires: _____.

BUY AMERICA CERTIFICATION—Form G

(STEEL OR MANUFACTURED PRODUCTS)

[61 FR 6302, Feb. 16, 1996, as amended at 74 FR 30239, June 25, 2009]

General Requirement (as stated in 49 CFR 661.5)

(a) Except as provided in 49 CFR 661.7 and 49 CFR 661.11, no funds may be obligated by FHWA for a project unless all iron, steel, and manufactured products used in the project are produced in the United States.

(b) All steel and iron manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.

(c) The steel and iron requirements apply to all construction materials made primarily of steel or iron and used in infrastructure projects such as, transit or maintenance facilities, rail lines, and bridges. These items include, but are not limited to, structural steel or iron, steel or iron beams and columns, running rail and contact rail. These requirements do not apply to steel or iron used as components or subcomponents of other manufactured products or rolling stock, or to bimetallic power rail incorporating steel or iron components.

(d) For a manufactured product to be considered produced in the United States:

(1) All of the manufacturing processes for the product must take place in the United States; and

(2) All of the components of the product must be of U.S. origin. A component is considered of U.S. origin if it is manufactured in the United States, regardless of the origin of its subcomponents.

If steel, iron, or manufactured products (as defined in 49 CFR 661.3 and 661.5) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder or offeror in accordance with the requirement contained in 49 CFR 661.13(b).

Certificate of **Compliance** with Buy America Requirements.

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.

Company_____

Name_____Title_____

Signature_____Date_____

Certificate of **Non-Compliance** with Buy America Steel or Manufactured Products Requirements The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 C.F.R. 661.7.

Company_____

Name_____Title_____

Signature_____Date_____

CONFLICT OF INTEREST DISCLOSURE STATEMENT—Form J

Proposer's attention is directed to Title 27 District of Columbia Municipal Regulations (DCMR) § 2220, § 2221 and § 2222 (1987 as amended) regarding organizational conflicts of interest.

Proposers are advised that, in accordance with DDOT's conflicts of interest rules, certain firms will not be allowed to participate on any Proposer's team for the Project because of their work with DDOT in connection with the Project development, Project procurement, and document preparation.

1. <u>Disclosure of potential conflicts</u>

In the space provided below, and on supplemental sheets as necessary, identify all relevant facts relating to past, present, or planned interest(s) of the Proposer's team (including the Proposer, DB Contractor, the Major Participants, proposed consultants, and proposed Subcontractors, and their respective chief executives, directors, and key project personnel) that may result in, or could be viewed as, an organizational conflict of interest in connection with this RFP.

Proposer should disclose (a) any current contractual relationships with DDOT, (b) any past, present, or planned contractual or employment relationships with any DDOT member, officer, or employee; and (c) any other circumstances that might be considered to create a financial interest in the contract by any DDOT member, officer, or employee if Proposer is awarded the contract. Proposer should also disclose matters such as ownership of 10 percent or more of the stock of, or having directors in common with, any of DDOT's consultants and subconsultants on the Project. Proposer should also disclose contractual relationships with DDOT's consultants and subconsultants in the nature of a joint venture, as well as relationships wherein consultant or subconsultant is a contractor or consultant (or Subcontractor or Subconsultant) to Proposer or a member of Proposer's team. The foregoing is provided by way of example, and shall not constitute a limitation on the disclosure obligations.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. Explanation

In the space provided below, and on supplemental sheets as necessary, identify steps that have been or will be taken to avoid, neutralize, or mitigate any organizational conflicts of interest described herein.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. Certification

The undersigned hereby certifies that, to the best of his or her knowledge and belief, no interest exists that is required to be disclosed in this Conflict of Interest Disclosure Statement, other than as disclosed above.

_____

Signature

_____

Name

_____

Title

_____

Company Name

_____, 2016

Date

PROPOSAL BOND—Form K

Bond No. _____

KNOW ALL PERSONS BY THESE PRESENTS, that the _____ ***[NOTE: insert name of Proposer as the Principal and delete this bracketed text]***, as Principal and _____, as Surety or as Co-Sureties, each a _____ duly organized under the laws of the State indicated on the attached page, having its principal place of business at the address listed on the attached page, in the State indicated on the attached page, and authorized as a surety in the District of Columbia, are hereby jointly and severally held and firmly bound unto DDOT, in the sum of 5 percent of the proposed total design-build price (the "Bonded Sum").

WHEREAS, the Principal is herewith submitting its Proposal to design and construct the South Capitol Street Corridor Segments 1 and 2 Project in Washington, DC, through a DBA, which Proposal is incorporated herein by this reference and has been submitted pursuant to DDOT's RFP dated as of XXX XX, 2016 (as amended or supplemented);

NOW, THEREFORE,

1. The condition of this Proposal Bond is such that, upon occurrence of any of the following events, then this obligation shall be null and void; otherwise it shall remain in full force and effect, and the Bonded Sum will be forfeited to DDOT as liquidated damages and not as a penalty, upon receipt by Principal and Surety or by Principal and Sureties listed on the attached page (the "Co-Sureties") of notice of such forfeiture from DDOT:

   (a) Principal's receipt of written notice from DDOT that either (i) no DBA for the Project will be awarded by DDOT pursuant to the RFP, or (ii) DDOT has awarded a DBA for the Project, has received the executed DBA and other required documents, and does not intend to award the contract to the Principal; or

   (b) If DDOT has not previously delivered notice of forfeiture hereunder, failure of DDOT to execute the DBA to Principal within 120 days (or 180 days if DDOT has extended the 120 day period to 180 days pursuant to the terms of the RFP) after the Proposal Due Date.

2. The Principal agrees to pay to DDOT the full Bonded Sum hereinabove set forth, as liquidated damages and not as a penalty, within 10 days after occurrence of any of the following events:

   (a) Principal withdraws, repudiates, or otherwise indicates in writing that it will not meet all or any part of its commitments made in its Proposal prior to the time allowed for execution of the DBA under the ITP, as such time may be extended pursuant to the ITP, without DDOT's consent; or

   (b) Principal is selected for negotiations and fails to engage in good faith negotiations with DDOT;

   (c) Principal is the Successful Proposer and fails to provide the documents required under the ITP.

   Principal and each Surety agrees and acknowledges that such liquidated damages are reasonable in order to compensate DDOT for damages it will incur as a result of Principal's failure to satisfy the obligations under the RFP to which Principal agreed when submitting its Proposal. Such damages include potential harm to the credibility and reputation of DDOT's transportation improvement program, including the design-build program, with policy makers and with the general public, delays to the Project, and additional costs of administering this or a new procurement (including engineering, legal, accounting, overhead

and other administrative costs). Principal further acknowledges that these damages would be difficult and impracticable to measure and prove, are incapable of accurate measurement because of, among other things, the unique nature of the Project and the efforts required to receive and evaluate proposals for it, and the unavailability of a substitute for those efforts. The amounts of liquidated damages stated herein represent good faith estimates and evaluations as to the actual potential damages that DDOT would incur as a result of Principal's failure to satisfy the obligations under the RFP to which Principal agreed when submitting its Proposal, and do not constitute a penalty. Principal agrees to such liquidated damages in order to fix and limit Principal's costs and to avoid later Disputes over what amounts of damages are properly chargeable to Principal.

3. The following terms and conditions shall apply with respect to this Proposal Bond:

(a) This Proposal Bond shall not be subject to forfeiture in the event that DDOT disqualifies the Proposal based on a determination that it is unacceptable or non-compliant.

(b) If suit is brought on this Proposal Bond by DDOT and judgment is recovered, Principal and Surety or Co-Sureties shall pay all costs incurred by DDOT in bringing such suit, including, without limitation, reasonable attorneys' fees and costs as determined by the court.

(c) If Principal is selected as the next Successful Proposer and receives Notice of Intent to Award within 120 days after the Proposal Due Date, the Proposal Bond shall be extended to the date that is 180 days after the Proposal Due Date, as set forth in ITP Section 4.4.3. Any other extension(s) of the time for award of the DBA that Principal may grant in accordance with the DBA or otherwise, shall be subject to the reasonable approval of Surety or Co-Sureties.

d) Correspondence or claims relating to this Proposal Bond should be sent to Surety at the following address(es):

_____

_____

_____

_____

_____

_____

SIGNED and SEALED this _____ day of _____, 2016

_____

Principal

By: _____

_____

Co-Surety

By: _____

Attorney in Fact

By: _____

_____

Co-Surety

By: _____

Attorney in Fact

By: _____

_____

Co-Surety

By: _____

Attorney in Fact

[ADD APPROPRIATE SURETY ACKNOWLEDGMENTS]

CO-SURETIES

SURETY NAME	SURETY ADDRESS	INCORPORATED IN

OPINION OF COUNSEL—Form L

[Letterhead of Independent Law Firm or In-house Counsel – SEE SECTION 6.1.1 OF THE ITP FOR LEGAL COUNSEL REQUIREMENTS]

District Department of Transportation
Mr. Steven Wishod
DDOT Contracts Officer
Office of Contracting and Procurement
55 M Street, SE
7th Floor
Washington, DC 20003

Re: Design-Build Agreement ("DBA") for the South Capitol Street Corridor Segments 1 and 2 Project _____, 2015, by and between District Department of Transportation and _____ (the "DB Contractor")

Gentlemen:

[Describe relationship to DB Contractor and its joint venture members, general partners, members, as applicable, and any other entities whose approval is required in order to authorize delivery of the proposal and execution of the DBA.] This letter is provided to you pursuant to Section 6.1.1 of the Instructions to Proposers of that certain Request for Proposals issued by the District Department of Transportation ("DDOT") on _____, 2016, as amended.

In giving this opinion, we have examined _____. We have also considered such questions of law and we have examined such documents and instruments and certificates of public officials and individuals who participated in the procurement process as we have deemed necessary or advisable. [Bonds used/obtained from DB Contractor shall run in favor of DDOT and should be attached to opinion.]

In giving this opinion, we have assumed that all items submitted to us or reviewed by us are genuine, accurate and complete, and if not originals, are true and correct copies of originals, and that all signatures on such items are genuine.

Subject to the foregoing, we are of the opinion that:

1. [Opinion regarding organization/formation and existence of DB Contractor and that DB Contractor has corporate power to own its properties and assets, carry on its business, make the Proposal, enter into the Agreements and to perform its obligations under the DBA Documents.] [If DB Contractor is a partnership/joint venture, these opinions are also required for each of its joint venture members and general partners.]

2. [Opinion regarding good standing and qualification to do business in District of Columbia for DB Contractor.] [If DB Contractor is a partnership/joint venture, these opinions are also required for each of its joint venture members and general partners.]

3. [Opinion that Proposal and the Agreements have been duly authorized by all necessary corporate action on the part of the DB Contractor and the Proposal and Agreements have been duly executed and delivered by DB Contractor.] [If DB Contractor is a partnership/joint venture, add: and its joint venture members/general partners after the first and second "DB Contractor."]

4. [Opinion that the Agreements constitute a legal, valid and binding obligation of the DB Contractor enforceable against the DB Contractor in accordance with its terms.] [If DB Contractor is a partnership/joint venture, add: and its joint venture members/general partners after the second "DB Contractor."]

5. [Opinion that all required approvals have been obtained with respect to execution, delivery and performance of the Proposal and the Design-Build Agreement documents; and that neither the Proposal nor the Design-Build Agreement documents conflict with any agreements to which DB Contractor is a party [If DB Contractor is a partnership/joint venture, add: and its joint venture members/general partners are a party.] or with any orders, judgments or decrees by which DB Contractor is bound.] [If DB Contractor is a partnership/joint venture, add: and its joint venture members/general partners are bound.]

6. [Opinion that execution, delivery and proper performance of all obligations by DB Contractor under the Proposal and the Design-Build Agreement documents do not conflict with, and are authorized by, the articles of incorporation and bylaws of DB Contractor.] [If DB Contractor is a partnership, replace articles of incorporation and bylaws with partnership agreement and (if applicable) certificate of limited partnership; if DB Contractor is a joint venture, replace articles of incorporation and bylaws with joint venture agreement; if DB Contractor is a limited liability company, replace articles of incorporation and bylaws with operating agreement and certificate of formation.]

7. [Opinion that execution and delivery by the DB Contractor of the Proposal and the Design-Build Agreement documents do not, and the DB Contractor's proper performance of its obligations under the Proposal and the Design-Build Agreement documents will not, violate any current statute, rule or regulation applicable to the DB Contractor or to transactions of the type contemplated by the Proposal or the Design-Build Agreement documents.]

CONTRACT PRICE—Form M-1

(all figures are in U.S. dollars, nominal)

Proposer is requesting the following Contract Price from DDOT.

	Amount
Contract Price	

If there is a discrepancy between the Contract Price indicated on Form M-1 or Form M-1.1, the Contract Price indicated on Form M-1 will prevail.

CONTRACT PRICE BREAKDOWN—Form M-1.1

(all figures are in U.S. dollars, nominal)

ITEM / LINE NO.	DESCRIPTION	ITEM TOTAL (US Dollars)
A	**Professional Services and Permitting**	
1	Project Management and Community Outreach	
2	Design, Design Survey, and Landscape Design	
3	Environmental Permitting Activities and Compliance	
4	Utility Coordination, Utility Survey, and Utility Design (excluding DC Water)	
5	DC Water (Water and Sanitary Sewer facilities) Utility Survey, and Utility Design	
6	Quality Control and Quality Assurance	
7	Miscellaneous Professional Services not covered by Lines 1-7	
8	**Subtotal Professional Services and Permitting (Sum Lines 1 through 7) Subtotal**	**$0.00**
B	**Construction**	
9	Project and Construction Management	
10	Mobilization	
11	Removals	
12	Demolition	
13	Earthwork	
14	Subbase and Base Course	
15	Pavement	
16	Structures – Frederick Douglass Memorial Bridge	
17	Structures – All Others	
18	Maintenance of Traffic	
19	Maintenance During Construction	
20	Drainage	
21	Lighting	
22	Signing	
23	Pavement Markings	
24	Barrier, Fencing, Guardrail, and Curbs	
25	Landscaping and Street Furnishings	
26	Environmental Mitigation and Erosion and Siltation Control	
27	DC Water (Water and Sanitary Sewer facilities)	
28	Other Utilities	
29	Traffic Signals and Intelligent Transportation Systems	
30	Bond Premiums	
31	Insurance Premiums	
32	Subtotal Construction (Sum Lines 8 through 31) Subtotal	$0.00
C	**Allowances**	
33	Hazardous Materials Allowance	$3,800,000.00
34	**Subtotal Allowances (Line 33) Subtotal**	**$3,800,000.00**
35	**Total Contract Price (Line 8 + Line 32 + Line 34) TOTAL**	**$0.00**

DB CONTRACTOR DRAWS / CASH FLOW TABLE – FORM M-2
CASH FLOW ADJUSTMENT TABLE/PAYMENT CURVE

(all figures are in U.S. dollars, nominal)

If the Proposer becomes the DB Contractor, this table will form an Exhibit to the DBA.

Months after NTP1	(A) Anticipated Draw / Cash Flow	(B) Cumulative Draw / Cash Flow	Cash Flow Percentage of Cumulative Draw (A/B)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
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24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
TOTAL CONTRACT PRICE			

COMPLETION SCHEDULE—Form O

Description	Completion Deadlines
Proposal Commitment Date for Substantial Completion	DBA Execution Date plus _____ calendar days
Proposal Commitment Date for Final Completion	DBA Execution Date plus _____ calendar days

EQUAL EMPLOYMENT OPPORTUNITY and NON SEGREGATED FACILITIES CERTIFICATION—Form P

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATE

Bidder represents that he [ ] has [ ] has not participated in a contract or subcontract subject to in substance either the equal opportunity provisions in Article 6 of LABOR PROVISIONS, STANDARD CONTRACT PROVISIONS, 1973, or Section 202 of Executive Order 11246 of 3 CFR; that he [ ] has [ ] has not filed all required compliance reports under any such contract or subcontract; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to subcontract awards.

NONSEGREGATED FACILITIES CERTIFICATE

Bidder represents that he does not and will not maintain or provide for his employees any segregated facility at any of his establishments; that he does not and will not permit his employees to perform their services at any location under his control where segregated facilities are maintained; and that he will obtain and retain identical certifications from proposed subcontractors prior to award of subcontracting exceeding $10,000.00.

"Segregated facilities" shall mean any waiting room, work area, wash and rest room, eating area, time clock, locker room and other storage or dressing area, parking lot drinking fountain, recreation or entertainment area, transportation and housing facility, provided for employees which is segregated by explicit directive or is segregated on the basis of race, creed, color, or national origin, because of habit, local custom or otherwise.

Penalty for violations or making false statements is prescribed in 18 USC 1001.

_____
Company

_____
Signature of Official

_____
Date

_____
Title

CERTIFICATION AND RESTRICTIONS ON LOBBYING — Form Q

I, _____, hereby certify
(Name and title of official)
On behalf of _____ that:
(Name of Bidder/Company Name)

- No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

- If any funds other than federal appropriated funds have been paid or will be paid to any person influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form – LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

- The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including sub-contracts, subgrants and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure. The undersigned certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification and understands that the provisions of 31 U.S.C. Section 3801, et seq., are applicable thereto.

Name of Bidder/Company Name _____

Type or print name_____

Signature of authorized representative _____ Date __/__/__

Signature of notary and SEAL _____

[Duplicate or modify this form as necessary so that it accurately describes the entity making the Proposal and so that it is signed on behalf of all partners, members or joint venturers of the Proposer and all other Major Participant.]

CERTIFICATION OF ELIGIBILITY — Form R

_____, being
(President or Authorized Official of Bidder)

duly sworn (or under penalty of perjury under the laws of the United States), certifies that, except as noted below, (the Company) or any person associated therewith in the capacity of (owner, partner, director, officer, principal investigator, project director, manager, auditor, or nay position involving the administration of federal funds):

is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility under any Federal, District or State statutes;

has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal, District or State agency within the past three (3) years;

does not have a proposed debarment pending; and

has not been indicted, convicted, or had a civil judgment rendered against (it) by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

Exceptions will not necessarily result in denial of award, but will be considered in determining acceptability of offeror. For any exception noted, indicate below to who it applies, initiating agency, and dates of action. Providing false information may result in criminal prosecution or administrative sanctions.

_____

_____

_____

_____
Contractor

_____
President or Authorized Official

_____
Date

_____
Title

The penalties for making false statements are prescribed in the Program Fraud Civil Remedies Act of 1986 (public Law 99-509, 31 U.S.C. 3801-3812).

Subscribed and sworn before me this_____day_____

at _____
City and State

Notary Seal

_____
Notary Public

CLARIFICATION REQUESTS AND QUESTIONS – FORM S

Clarification/Question No.	Document (e.g. ITP, DBA, Technical Provisions)	Section Reference	Question

Exhibit E
Summary and Order of Proposal Contents

Proposal Component	Form (if any)	ITP Section Cross-Reference	Included in Page Count
Technical Proposal			
Proposers shall follow the order of this checklist in their submissions. A referenced copy of this document shall be submitted with the Technical Proposal.			
Executive Summary			
Executive Summary **(Exclude price information)**	No forms are provided	Exhibit B, Section 3.1	Yes
Proposer Information, Certifications & Documents			
Technical Proposal Letter, Certifications and Representations	Form A-1	Exhibit B, Section 3.2.1	No
Additional Information to be provided with Technical Proposal Letter	No forms are provided	Exhibit B, Section 3.2.1	No
Information About Proposer Organization	Form B-1	Exhibit B, Section 3.2.2	No
Information About Major Participants, Major Professional Services Firms and Key Subcontractors	Form B-2	Exhibit B, Section 3.2.2	No
Responsible Proposer and Major Participant Questionnaire	Form C	Exhibit B, Section 3.2.3	No
Industrial Safety Record for Team Members Performing Installation or Construction Work	Form D	Exhibit B, Section 3.2.4	No
Personnel Work Assignment Form and Statement of Availability	Form E	Exhibit B, Section 3.2.5	No
Letter(s) Approving Key Personnel	No forms are provided	Exhibit B, Section 3.2.6	No
Letter(s) Approving Changes in Proposer's Organization	No forms are provided	Exhibit B, Section 3.2.6	No
Non-Collusion Affidavit	Form F	Exhibit B, Section 3.2.7	No
Buy America Certification	Form G	Exhibit B, Section 3.2.8	No
DBE Certification	No forms are provided	Exhibit B, Section 3.2.9	No
TSP Certification	No forms are provided	Exhibit B, Section 3.2.10	No
Conflict of Interest Disclosure Statement	Form J	Exhibit B, Section 3.2.11	No
Equal Employment Opportunity and Non-Segregation Certification	Form P	Exhibit B, Section 3.2.12	No
Local Hiring Certification	No forms are provided	Exhibit B, Section 3.2.13	No

Proposal Component	Form (if any)	ITP Section Cross-Reference	Included in Page Count
Certification Regarding Use of Contract Funds for Lobbying	Form Q	Exhibit B, Section 3.2.14	No
Certification Regarding Ineligible Contractors	Form R	Exhibit B, Section 3.2.15	No
Project Labor Agreement (PLA) Letter of Assent	PLA Exhibit A	Exhibit B, Section 3.2.16	No
Completion Schedule	Form O	Exhibit B, Section 3.2.17	No
Stipend Agreement	Exhibit F	Exhibit F, Section 6.3	No
Project Development Plan			
Design and Construction Plan	No forms are provided	Exhibit B, Section 4.1.1	Yes
Visual Quality Plan	No forms are provided	Exhibit B, Section 4.1.2	Yes
Preliminary Project Baseline Schedule and Narrative	No forms are provided	Exhibit B, Section 4.1.3	No
Preliminary Project Plans			
Preliminary Project Management Plan	No forms are provided	Exhibit B, Section 4.1.4(a)	Yes
Preliminary Quality Management Plan	No forms are provided	Exhibit B, Section 4.1.4(b)	Yes
Preliminary Safety Plan	No forms are provided	Exhibit B, Section 4.1.4(c)	Yes
Draft DBE Performance Plan and Training Plan	No forms are provided	Exhibit B, Section 4.1.4(d)	Yes

Price Proposal			
Proposers shall follow the order of this checklist in their submissions. A referenced copy of this document shall be submitted with the Price Proposal.			
Price Proposal Letter			
Price Proposal Letter and Additional Information	Form A-2	Exhibit C, Section 2.0	No
Updated Financial Information			
Surety Letter	No forms are provided.	Exhibit C, Section 3.0	No
Price Information			
Contract Price	Form M-1	Exhibit C, Section 4.1	No
Contract Price Breakdown	Form M-1.1	Exhibit C, Section 4.1	No
Contract Price Details	No forms are provided.	Exhibit C, Section 4.1	No
DB Contractor Draws / Cash Flow Table	Form M-2	Exhibit C, Section 4.1, Section 4.2	No
Price Supporting Documentation	No forms are provided.	Exhibit C, Section 4.1	No
Proposal Security			
Proposal Security	Form K	Exhibit C, Section 5.0	No

Exhibit F
Stipend Agreement

FORM OF STIPEND AGREEMENT

THIS STIPEND AGREEMENT ("Agreement") is made and entered into as of this _____ day of 2016, by and between the DISTRICT OF COLUMBIA ("District") and _____, a _____ ("unsuccessful Proposer"), for the purpose of paying a stipend to compensate unsuccessful Proposers for a portion of proposal development costs and for the District's use of information contained in the Proposals.

THEREFORE, the District shall pay the stipend to unsuccessful Proposers that have submitted acceptable Proposals complying with the conditions to design and construct the South Capitol Street Corridor Segments 1 & 2 Project, as set forth in the RFP No._____("RFP").

THEREFORE, the acceptance of a stipend is optional on the part of the unsuccessful Proposer. 27 DCMR §1645.3(h).

NOW, THEREFORE, the District and the Proposer hereby agree as follows:

CONDITIONS:

1) Subject to requirements set forth below, the District shall pay to each unsuccessful Proposer a stipend of one million dollars ($1,000,000) to compensate for a portion of the Proposal development costs and for the use of ideas, information and work product contained in or used to develop the Proposal. The District shall pay a stipend to the unsuccessful Proposers which submitted an acceptable Proposal complying with the conditions of the RFP.

2) In order to receive payment of the stipend, an unsuccessful Proposer must submit with the Technical Proposal this Stipend Agreement. The amount of the stipend shall be one million dollars ($1,000,000). The unsuccessful Proposer shall have submitted at a minimum an acceptable Proposal complying with the conditions of the RFP.

3) If the District cancels the procurement subsequent to the submittal of the Technical Proposal but prior to award of the Design Build Contract, the District will pay the Successful Proposer a stipend in the amount of $1,000,000 if the Successful Proposer is in compliance with the post-selection requirements of the RFP and the cancellation has not been caused in whole or in part by the acts or omissions of the Successful Proposer, negligence, fault, recklessness or willful misconduct of the Successful Proposer.

4) If the District awards the Design Build Contract to the Successful Proposer, the Successful Proposer will not be entitled to compensation hereunder.

5) Within 30 days after the award to the Design Build Contract, each unsuccessful Proposer which submitted the Stipend Agreement shall submit to the District an invoice for payment of the stipend. The District intends to pay the stipend within 30 days of receipt of an acceptable invoice. Failure of the unsuccessful Proposer to submit an invoice within the 30 days may be deemed to have waived its right to payment of the stipend but shall not extinguish the District's unlimited right to the ideas, designs, information and work product of the unsuccessful Proposer. Unsuccessful Proposer shall be solely responsible for distributing and paying any portion of the payments received by the District under this Agreement to members of the unsuccessful Proposer team, and the District assumes no liability with respect thereof.

6) The Proposer shall actively participate in good faith in the procurement process and submit a Proposal that conforms in all material respects to the requirements of the RFP, as determined by the District and is timely received by the District.

7) The District may inform the Design Build Contractor of the District's unlimited rights in unsuccessful Proposer's ideas, designs, information, and work product and the Design Build Contractor may use any information, idea, design, and work product of the unsuccessful Proposer, which submitted a Stipend Agreement.

8) The District shall obtain the unlimited right to use ideas, information and work product of the unsuccessful Proposer if it submits the Stipend Agreement with the Technical Proposal. Unlimited rights to ideas, designs, information and work product, include but are not limited to, ATCs, VQCs, concepts, ideas, designs, technology, techniques, methods, processes, drawings, reports, plans and specifications contained in the proposal or used to develop the proposal.

9) All ideas, designs, information and work product submitted by unsuccessful Proposer to the District during the procurement and in connection with the proposal including all exchanges of information during the pre-proposal and post-proposal period, and any BAFO, and shall specifically include alternate technical concepts (ATCs) and visual quality concepts (VQCs) submitted for District's review in accordance with the RFP, and other Pre-proposal submittals, written and electronic correspondence, exhibits, photographs, reports, printed material, tapes, disks, designs, concepts, ideas, technology, techniques, methods, processes, drawings, reports, plans, specifications, and other graphic and visual aids generated by or on behalf of unsuccessful Proposer for the purpose of developing its proposal during this procurement process shall be considered work for hire, and the products of such work shall become the property of the District without restriction or limitation on their use. If the ideas, designs, information and work product do not constitute works made for hire as a matter of law, then the unsuccessful Proposer hereby transfers and assigns all rights in the ideas, designs, information and work product to the District. The unsuccessful Proposer shall provide any further documentation of this transfer that the District requests. The unsuccessful Proposer shall secure the same agreement from all subcontractors performing services in connection with the unsuccessful Proposer's performance under this Agreement.

10) Neither unsuccessful Proposer nor any of its team members shall copyright any of the material developed under this Agreement. With respect to any ideas, designs, information and work product that incorporates intellectual property owned by members of the unsuccessful Proposer team or any third party, the unsuccessful Proposer represents and warrants that it has the right to grant the District an irrevocable, non-exclusive, perpetual, royalty-free license to use such intellectual property for the purposes specified herein. The unsuccessful Proposer hereby grants such license to the District effective upon the unsuccessful Proposer's acceptance of payment hereunder. The foregoing shall not be deemed a requirement for the unsuccessful Proposer to provide a license for off-the-shelf software or patented rights in previously existing proprietary technology to the District.

11) Unsuccessful Proposer agrees that all ideas, designs, information and work product are, upon receipt by the District, the property of the District. The District acknowledges that the use of any of the ideas, designs, information and work product by the District is at the sole risk of the District and shall in no way be deemed to make liable to the District the unsuccessful Proposer or any member of the unsuccessful Proposer Team. Further, such unsuccessful Proposer provides no warranty that the ideas, designs, information and work product is adequate to be used by the District in the development of the Project or any other project, and does not represent that any of the members of the unsuccessful Proposer team will be available to the District with respect to the use of the ideas, designs, information and work product.

12) Unsuccessful Proposer agrees that it will indemnify, defend, and hold harmless the District and all of the District's agents, representatives, employees, successors and assigns from any claim, loss, damage, cost, judgment, fee, penalty, charge, or expenses (including attorneys' fees and costs) asserted, incurred, suffered or awarded as a result of or that relate to any third party claims, suits, actions, allegations or proceedings arising out of or caused by any acts, actions, negligence, omissions, fault, willful misconduct, violation of law or breach of contract by unsuccessful Proposer, its Equity Members, Major Participants, other team members or their respective agents, employees, or representatives arising out of or relating to the ideas, designs, information and work product provided by unsuccessful Proposer hereunder or in connection with or contained in the proposal, except that unsuccessful Proposer shall not be liable under this section for any claims, suits, actions, losses, costs, judgments, fees, charges or expenses arising out of or resulting from the sole negligence, willful misconduct or bad faith of the District or any of its officers, agents, representatives or employees. The foregoing indemnity shall survive the expiration or termination of this Agreement and shall expressly apply to and include all third party claims, suits, actions or allegations of infringement, confidential information, domestic or foreign patent rights, copyrights, intellectual property rights, moral rights, trade secrets, proprietary rights, licensing rights and unauthorized use relating to the matters contemplated herein. Notwithstanding the foregoing, except for such matters covered by the preceding sentence, the indemnity shall not cover use by the District of such ideas, designs, information and work product award of the Design Build Contract. Only a final and un- appealable adjudication or judgment specifically finding sole negligence, willful misconduct or bad faith of the District or any of its officers, agents, representatives or employees shall excuse performance of this provision. Unsuccessful Proposer shall pay all costs and fees related to this obligation and its enforcement by the District (other than as expressly set forth herein). The District's failure to notify unsuccessful Proposer of a claim shall not release unsuccessful Proposer of the above duty to defend.

13) Unsuccessful Proposer shall comply with all federal, state, and local laws, ordinances, rules, and regulations applicable to the work performed or paid for under this Agreement and covenants and agrees that it and its employees shall be bound by the standards of conduct provided in applicable laws, ordinances, rules, and regulations as they relate to work performed under this Agreement. Unsuccessful Proposer agrees to incorporate the provisions of this paragraph in any subcontract into which it might enter with reference to the work performed pursuant to this Agreement.

14) Unsuccessful Proposer shall not assign, transfer, pledge, sell, or otherwise convey this Agreement without the District's prior written consent, in its sole discretion; provided that this Agreement may be assigned to the special purpose vehicle formed by the unsuccessful Proposer for purposes of the Project without the prior written consent of the District but upon written notice to the District. Any assignment of this Agreement without the required consent of the District shall be null and void and may, in the District's sole discretion, disqualify unsuccessful Proposer from further consideration for the procurement process and the Project.

A. MISCELLANEOUS

15) Unsuccessful Proposer and the District agree that unsuccessful Proposer, its Equity Members, Major Participants and other team members and their respective employees are not agents or representatives of the District as a result of this Agreement.

16) All words used herein in the singular form shall extend to and include the plural. All words used in the plural form shall extend to and include the singular. All words used in any gender shall extend to and include all genders.

17) It is understood and agreed by the parties hereto that if any part, term, or provision of this Agreement is by the courts held to be illegal or in conflict with any law of the District of Columbia, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if this Agreement did not contain the particular part, term, or provisions to be invalid.

18) This Agreement shall be governed by and construed in accordance with the laws of the District of Columbia.

19) This instrument may be executed in one or more counterparts, each of which shall be deemed an original, but all of which, together, shall constitute one and the same instruments.

20) If unsuccessful Proposer is a consortium, partnership or other form of joint venture, each member of such consortium, partnership or other form of joint venture shall be jointly and severally liable under this Agreement.

21) This Agreement, together with the RFP, as amended from time to time, the provisions of which are incorporated herein by reference, embodies the entire agreement of the parties with respect to the subject matter hereof. There are no promises, terms, conditions, or obligations other than those contained herein or in the RFP, and this Agreement shall supersede all previous communications, representation, or agreements, either verbal or written, between the parties hereto.

22) It is understood and agreed by the parties hereto that if any part, term, or provision of this Agreement is by the courts held to be illegal or in conflict with any law of the District of Columbia, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provisions to be invalid.

23) If the District is the prevailing party with respect to a substantial portion of its claim in any judicial proceeding to resolve a dispute between the parties arising out of or connected with this Agreement, the unsuccessful Proposer shall pay to the District upon demand all attorneys' fees, expenses and costs, expert and consultant fees and other costs incurred by the District for or in connection with such proceeding (including all such fees, expenses and costs on appeal).

24) This instrument may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

25) This Agreement shall be governed by and construed in accordance with the laws of the District.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the last signature date below:

[If the unsuccessful Proposer is a corporation or limited liability company, this Agreement shall be executed by an authorized signing officer(s) of such entity. If the unsuccessful Proposer is a consortium, partnership or other form of joint venture, each member of such consortium, partnership or other form of joint venture shall be required to individually sign this Agreement on behalf of the unsuccessful Proposer and such member]

_____
(Name of unsuccessful Proposer)

By

_____
(Signature)

_____
(Printed Name)

_____
(Title)

_____
(Date)

DISTRICT OF COLUMBIA CONTRACTING OFFICER

_____
(Signature)

_____
(Printed Name)

_____
(Title)

_____
(Date)

REQUEST FOR PROPOSALS
DESIGN-BUILD SERVICES

South Capitol Street Corridor Phase I Project

VOLUME II BOOK I
Design-Build Agreement

DISTRICT OF COLUMBIA
DISTRICT DEPARTMENT OF TRANSPORTATION

ADDENDUM #3 – AUGUST 5, 2016

Contents

1 Reserved 1-1

2 Introduction 2-1

3 Contract Components; Interpretation of Contract Documents 3-1
3.1 Certain Definitions 3-1
3.2 Contract Documents 3-1
3.3 Order of Precedence 3-1
3.4 Reference Information Documents 3-1
3.5 Interpretations 3-1
3.6 Referenced Standards, Codes, or Criteria 3-2
3.7 Omission of Details; Clarification by the District 3-2
3.8 Computation of Periods 3-3
3.9 Standard for Approvals 3-3
3.10 District of Columbia and Federal Requirements 3-3
3.10.1 Contract Assurances 3-3
3.11 Completion Deadlines 3-3

4 Obligations of Contract 4-1
4.1 Performance Requirements 4-1
4.1.1 Performance of Work 4-1
4.1.2 Performance Standards 4-1
4.1.3 Performance as Directed 4-1
4.2 General Obligations of DB Contractor 4-1
4.3 Representations, Warranties, and Covenants 4-2
4.3.1 Evaluation of Constraints 4-2
4.3.2 Review of Site Information 4-2
4.3.3 Governmental Approvals 4-3
4.3.4 Progression of Work 4-3
4.3.5 DB Contractor/Employee Performance Requirements 4-3
4.3.6 Design and Engineering Personnel 4-4
4.3.7 Organization 4-4
4.3.8 Authorization 4-4
4.3.9 Legal, Valid, and Binding Obligation 4-4
4.3.10 False or Fraudulent Statements and Claims 4-4

5 Information Supplied to DB Contractor; Responsibility for Design Disclaimer 5-1
5.1 Information Supplied 5-1
5.2 Responsibility for Design 5-1
5.3 Disclaimer 5-1
5.3.1 No Liability Regarding Reference Information Documents 5-1
5.4 Professional Licensing Laws 5-2

6 Time Within Which Project Shall be Completed; Scheduling 6-1
6.1 Time is of the Essence 6-1
6.2 Notices to Proceed 6-1
6.2.1 Issuance of Notice to Proceed 1 6-1
6.2.2 Issuance of Notice to Proceed 2 6-1
6.3 Completion Deadlines 6-1

6.3.1 Substantial Completion Deadline 6-1
6.3.2 Final Completion Deadline 6-1
6.3.3 No Time Extensions 6-1
6.4 Contract Schedules 6-1
6.5 Recovery Schedule 6-1
6.6 Prerequisites for Start of Construction 6-2

7 Control of Work 7-1
7.1 Control and Coordination of Work 7-1
7.2 Safety 7-1
7.3 Process to be Followed for Discovery of Certain Site Conditions 7-1
7.3.1 Notification to the District 7-1
7.3.2 Further Investigation 7-1
7.3.3 Recommence Work 7-2
7.3.4 Obligation to Minimize Impacts 7-2
7.4 Quality Management 7-2
7.4.1 DB Contractor Quality Management 7-2
7.4.2 Oversight, Audit, Inspection, and Testing by the District and Others 7-2
7.4.3 Obligation to Uncover Finished Work 7-2
7.5 Effect of Oversight, Spot Checks, Assessment, Tests, Acceptances, and Approvals 7-3
7.5.1 Oversight and Acceptance 7-3
7.5.2 No Estoppels 7-3
7.6 Nonconforming Work 7-3
7.6.1 Rejection, Removal, and Replacement of Work 7-3
7.6.2 Nonconforming Work Pay Adjustment 7-3

8 Access to Site, Utility Relocations, and Environmental Compliance 8-1
8.1 Access to ROW Identified on ROW Drawings 8-1
8.1.1 Obligation to Provide Access 8-1
8.1.2 ROW Access Requirements 8-1
8.1.3 Delay in Providing Access 8-1
8.1.4 Obligation to Provide Written Notice 8-1
8.1.5 Access to ROW Not Identified on ROW Drawings 8-1
8.1.6 Failure to Have Necessary Rights of Access 8-1
8.2 Utility Relocations 8-2
8.2.1 Utility Delays 8-2
8.2.2 Certain Obligations of DB Contractor and Utility-Related ROW Costs 8-2
8.2.3 Coordination Costs 8-2
8.2.4 Voluntary Action by DB Contractor 8-3
8.2.5 Betterments 8-3
8.3 Environmental Compliance 8-3
8.3.1 Mitigation Requirements 8-3
8.3.2 New Environmental Approvals to be Obtained by the District 8-3
8.3.3 New Environmental Approvals to be Obtained by Contractor 8-3

9 Equal Employment Opportunity; Subcontracts; Labor 9-1
9.1 Equal Employment Opportunity 9-1
9.1.1 Equal Employment Opportunity Policy 9-1
9.1.2 Non-Discrimination 9-1
9.1.3 Reserved 9-2
9.1.4 Federal Workforce Requirements 9-2
9.1.5 Training Services Provisions 9-2

9.1.6 Local Hiring 9-4
9.2 Disadvantaged Business Enterprises 9-5
9.2.1 DBE Policy 9-5
9.2.2 Inclusion in Subcontracts 9-5
9.3 Limitation on Subcontracted Work 9-5
9.4 Subcontracting Requirements 9-6
9.5 District's Rights to Guarantees and Warranties 9-6
9.6 Subcontract Terms 9-6
9.7 Subcontract Data 9-6
9.8 Responsibility for Work by Subcontractors 9-6
9.9 Key Personnel 9-6
9.9.1 Key Personnel 9-6
9.9.2 Key Personnel; Qualifications of Employees 9-6
9.10 Project Labor Agreement 9-7

10 Surety Bonds 10-1
10.1 Performance Bond 10-1
10.2 Payment Bond 10-1
10.3 Replacement of Performance Bond 10-1
10.4 No Relief of Liability 10-2

11 Insurance 11-1
11.1 General Insurance Requirements 11-1
11.1.1 Evidence of Insurance 11-1
11.1.2 A.M. Best Rating 11-1
11.1.3 Full Force and Effect 11-1
11.1.4 No Recourse 11-2
11.1.5 Indemnification 11-2
11.2 Contractor-Provided Insurance 11-2
11.2.1 Workers' Compensation and Employer's Liability Coverage 11-2
11.2.2 Commercial General Liability Insurance 11-2
11.2.3 Automobile Liability Insurance 11-2
11.2.4 Excess (Umbrella) Liability Insurance 11-3
11.2.5 Contractor's Pollution Legal Liability Coverage 11-3
11.2.6 Additional Insureds 11-3
11.2.7 Navigable Waters Insurance Protection 11-3
11.2.8 Professional Liability Insurance 11-3
11.2.9 Railroad Protective Insurance 11-3
11.2.10 Builder's Risk 11-4
11.2.11 Crime Insurance 11-4

12 Risk of Loss 12-1
12.1 Site Security and Access 12-1
12.2 Maintenance and Repair of Work and Onsite Property 12-1
12.2.1 Responsibility of Contractor 12-1
12.2.2 Relief from Liability for Maintenance 12-1
12.3 Damage to Offsite Property 12-1
12.4 Third-Party Agreements and District-Obtained Permits 12-1

13 Payment 13-1
13.1 Contract Price 13-1
13.1.1 Contract Price 13-1

13.1.2 Items Included in Contract Price ... 13-1
13.1.3 Delay in Award of Contract ... 13-1
13.1.4 Fuel, Asphalt and Steel Price Adjustment ... 13-1
13.2 Invoices and Payment ... 13-4
13.3 Limitations on Payment ... 13-4
13.3.1 Requirement to Provide Corrected Monthly Update ... 13-5
13.3.2 NTP1 Payment Cap ... 13-5
13.3.3 Stockpiled Materials ... 13-5
13.4 Mobilization and Insurance Payment, Retainage and Deductions ... 13-5
13.4.1 Retainage ... 13-6
13.4.2 Deductions ... 13-6
13.5 Final Payment ... 13-6
13.5.1 Application for Final Payment ... 13-6
13.5.2 Payment ... 13-7
13.6 Prompt Payment to Subcontractors ... 13-7
13.7 Disputes ... 13-7

14 Change Orders ... 14-1
14.1 Time and Money Changes ... 14-1
14.2 Time-Only Changes ... 14-2

15 Changes in the Work ... 15-1
15.1 Procedure for Change Order Requests ... 15-1
15.1.1 Change Orders ... 15-1
15.1.2 Issuance of Directive Letter ... 15-1
15.1.3 Performance of Changed or Extra Work ... 15-1
15.2 Value Engineering Change Proposals ... 15-2
15.2.1 Definition of Value Engineering Change Proposal ... 15-2
15.2.2 Required Information ... 15-2
15.2.3 District Review and Approval or Rejection ... 15-2
15.2.4 Contract Price Adjustment ... 15-3
15.2.5 Use of Value Engineering Changes by the District ... 15-3
15.3 Lump Sum Change Orders ... 15-4
15.3.1 Procedure for District-Initiated Lump Sum Change Orders ... 15-4
15.3.2 Procedures for Contractor-Initiated Lump Sum Change Orders ... 15-5
15.4 Force Account Change Orders ... 15-6
15.4.1 Force Account Records ... 15-6
15.5 Contents of Change Orders ... 15-7
15.5.1 Justification ... 15-8
15.5.2 Contractor Representation ... 15-8
15.5.3 Incomplete Change Orders ... 15-8
15.5.4 Phased Change Orders ... 15-9
15.6 Certain Limitations for all Change Orders ... 15-9
15.6.1 Limitation on Contract Price Increases ... 15-9
15.6.2 Limitation on Acceleration Costs; Delay and Disruption Damages ... 15-9
15.6.3 Limitation on Time Extensions ... 15-10
15.7 Pricing of Change Orders ... 15-10
15.7.1 Scope Development Risk ... 15-10
15.7.2 Labor Costs ... 15-10
15.7.3 Material Costs ... 15-11
15.7.4 Permit Fees ... 15-11

15.7.5 Subcontracted Work 15-12
15.7.6 Overhead and Profit 15-12
15.7.7 Compliance with Federal Acquisition Regulations 15-12
15.8 Differing Site Conditions 15-12
15.8.1 Cost Compensation 15-12
15.8.2 Burden of Proof 15-12
15.9 Removal and Disposal of Hazardous Materials 15-13
15.9.1 Hazardous Materials 15-13
15.9.2 Limitations on Change Orders 15-13
15.10 Material Errors in ROW Drawings 15-13
15.11 Waiver 15-14
15.12 Disputes 15-14
15.13 No Release or Waiver 15-14
15.13.1 Extension of Time for Performance 15-14
15.13.2 No Change Order Based on Course of Conduct Order by Unauthorized Person . 15-14

16 Suspension of Work 16-1
16.1 Suspension for Convenience 16-1
16.2 Suspension for Cause 16-1
16.3 DB Contractor Responsibilities during Suspension 16-1

17 Termination for Convenience 17-1
17.1 Notice of Termination 17-1
17.2 DB Contractor Responsibilities upon Termination 17-1
17.3 Responsibility After Notice of Termination 17-2
17.4 Negotiated Termination Settlement 17-2
17.4.1 Settlement Proposal 17-2
17.4.2 Negotiated Settlement Amount 17-2
17.5 Determination of Settlement Amount if Negotiations Fail 17-3
17.5.1 Payment Amount 17-3
17.5.2 Maximum Compensation 17-6
17.5.3 Excluded Items 17-6
17.5.4 Payment of Termination Amount 17-7
17.6 Partial Termination 17-7
17.7 Reduction in Amount Due to DB Contractor 17-7
17.8 Partial Payments 17-7
17.9 Inclusion in Subcontracts 17-7
17.10 Limitation on Payments to Subcontractor 17-7
17.11 No Unearned Profit or Consequential Damages 17-8
17.12 No Waiver 17-8
17.13 Dispute Resolution 17-8
17.14 Allowability of Costs 17-8
17.15 Suspension of Work 17-8

18 Default and Force Majeure Events 18-1
18.1 Default 18-1
18.2 Force Majeure 18-2

19 Damages 19-1
19.1 Liquidated Damages 19-1
19.1.1 Failure to Meet Contract Requirements 19-1
19.2 Offset/Waiver 19-1

19.2.1 Offset 19-1
19.2.2 No Waiver 19-1
19.3 Payment of Liquidated Damages 19-2

20 Indemnification 20-1
20.1 Indemnifications by Contractor 20-1
20.2 Responsibility of the District for Certain Hazardous Materials 20-1
20.2.1 Pre-existing Site Contamination 20-1
20.2.2 No Effect on Other Rights 20-1
20.3 Comprehensive Environmental Response, Compensation, and Liability Act Agreement 20-2

21 Partnering; Claims for Adjustment and Disputes 21-1
21.1 Partnering 21-1
21.1.1 Partnering Workshops 21-1
21.1.2 Partnering Evaluations 21-1
21.1.3 Partnering Issue Resolution 21-1
21.1.4 Partnering Dispute Resolution 21-2
21.2 Claims for Adjustment and Disputes 21-2
21.2.1 Claims by the DB Contractor against the District 21-2
21.2.2 Claims by the District against a Contractor 21-3

22 Acceptance of Project 22-1
22.1 Substantial Completion 22-1
22.2 Notice of Substantial Completion 22-1
22.3 Affidavit of Final Completion 22-1
22.4 Notice of Final Acceptance 22-2
22.5 Overpayments; No Relief from Continuing Obligations 22-3
22.6 Opening of Sections of Project to Traffic 22-3
22.7 Assignment of Causes of Action 22-3

23 Warranties 23-1
23.1 Warranties by Contractor 23-1
23.1.1 Project Warranties 23-1
23.1.2 Transfer of Title 23-2
23.1.3 Project Warranty Term 23-2
23.1.4 Corrective Work 23-2
23.1.5 Contractor's Costs of Correction of Work 23-2
23.2 Subcontractor Warranties 23-3
23.2.1 Assignment 23-3
23.2.2 Enforcement 23-3
23.3 No Limitation of Liability 23-3
23.4 Warranty Beneficiaries 23-3
23.5 Remedies for Breach of Warranty 23-3
23.6 Warranty Disputes 23-3

24 Documents and Records 24-1
24.1 Project Records 24-1
24.1.1 Maintenance of Records 24-1
24.1.2 Audit and Inspection Rights 24-1
24.1.3 Audit of Force Account Work 24-1
24.1.4 Change Order Pricing Data 24-1
24.1.5 Claims Audits 24-1

24.1.6 Ownership of Documents 24-2
24.2 Retention of Records 24-3
24.3 District of Columbia Freedom of Information Act 24-3
24.3.1 Applicability of Law 24-3
24.3.2 Confidential Materials 24-3
24.3.3 Contractor to Defend Against Disclosure Request 24-4
24.3.4 Cooperation with the District Regarding D.C. FOIA Requests 24-4

25 Cooperation and Coordination with Others 25-1
25.1 Cooperation with Other Contractors 25-1
25.2 Interference by Other Contractors 25-1

26 Miscellaneous Provisions 26-1
26.1 Amendments 26-1
26.2 Waiver 26-1
26.2.1 No Waiver of Subsequent Rights 26-1
26.2.2 Custom Does not Constitute Waiver 26-1
26.2.3 Waivers Must be in Writing 26-1
26.3 DB Contractor 26-1
26.4 Successors and Assigns 26-1
26.4.1 Assignment by the District 26-2
26.4.2 Assignment by DB Contractor 26-2
26.5 Designation of and Cooperation with Representatives 26-2
26.5.1 Designation of Representatives 26-2
26.5.2 Cooperation 26-2
26.6 Gratuities and Conflicts of Interest 26-2
26.7 Survival 26-2
26.8 Limitation on Third-Party Beneficiaries 26-2
26.9 No Personal Liability 26-3
26.10 Notices and Communications 26-3
26.10.1 Delivery of Notices 26-3
26.10.2 Receipt of Notices 26-4
26.10.3 Copies of Correspondence to the District 26-4
26.11 Further Assurances 26-4
26.12 Severability 26-4
26.13 Headings 26-5
26.14 Governing Law 26-5
26.15 Entire Agreement 26-5
26.16 Incorporation by Reference 26-5
26.17 Counterparts 26-5

Exhibits

A Acronyms and Definitions

B Completion Deadlines

C Federal Requirements

D Disadvantaged Business Enterprise Program

E Key Personnel

F Performance Bond

G Payment Bond

H VECP Sample Calculation

I Cost Analysis for Request for Change Order

J Cost and Pricing Data Certification

K Subcontractor Approval Form

L DB Contractor's Proposal Commitments, ATCs, and Schematics

M Project Labor Agreement

1 Reserved

2 Introduction

This Design-Build Agreement (DBA) is entered into as of _____, _____, by and between the District of Columbia, Office of Contracting and Procurement, by and through the District Department of Transportation (hereinafter referred to as, "the District" or "DDOT") and _____ (hereinafter, "Design-Build [DB] Contractor"), (collectively referred to as "the parties"), with reference to the definitions contained in Exhibit A hereto and the following facts:

The purpose of this Project is to design and build the South Capitol Street Corridor Phase I Project as defined within the Contract Documents. DDOT completed an Environmental Impact Statement for the impacts of the Project redevelopment and the proposed roadway system, interchanges, and bridge replacement. A combined Federal Highway Administration (FHWA) Record of Decision and Supplemental Final Environmental Impact Statement / Section 4(f) Evaluation (ROD/Supplemental FEIS) was approved on August 13, 2015.

The Contract is a lump-sum (fixed price) Design-Build Agreement obligating the DB Contractor to perform all Work necessary to complete the Project by the deadlines specified herein, for the Contract Price, subject only to specified exceptions. To allow the District to budget for the Project and to reduce the risk of cost overruns, the Contract includes restrictions affecting the DB Contractor's ability to make Claims for an increase to the Contract Price or an extension of the Completion Deadline(s). The DB Contractor agrees to assume such responsibilities and risks and has reflected the assumption of such responsibilities and risks in the Contract Price.

If the DB Contractor fails to complete the Project within the time limitations set forth in the Contract Documents, then the District will suffer substantial losses and damages. The Contract Documents therefore provide that the DB Contractor shall pay the District substantial Liquidated Damages if such completion is delayed.

The District has provided Reference Information Documents (RIDs) to the DB Contractor. The District does not warrant the correctness or adequacy of the information contained in the Reference Information Documents and it is the DB Contractor's sole responsibility to perform their own due diligence and further investigations as may be necessary. The District and the DB Contractor both agree that the DB Contractor assumes full responsibility and liability with respect to the design of the Project, and the District and the DB Contractor both agree that the DB Contractor shall indemnify and hold harmless the District and others with respect to any defects in the Project. NOW, THEREFORE, in consideration of the sums to be paid to the Design-Build Contractor by the District, the foregoing premises and the covenants and agreements set forth herein, the parties hereby agree as follows.

3 Contract Components; Interpretation of Contract Documents

3.1 Certain Definitions

Exhibit A of this DBA contains the meaning of various acronyms and terms used in the Contract Documents.

3.2 Contract Documents

The term "Contract Documents" shall mean the documents listed in Section 3.3, including all exhibits and addenda issued prior to execution of the DBA thereto and all design documents, construction documents, submittals and modifications approved by the District.

For the purposes of this Section 3.2, modifications means (1) a written amendment to the Design-Build Agreement signed by both parties, (2) a Change Order, or (3) a Force Account Change Order, or (4) a Directive Letter.

3.3 Order of Precedence

Each of the Contract Documents is an essential part of the Contract, and a requirement occurring in one is as binding as though occurring in all. The Contract Documents are intended to be complementary and to describe and provide for a complete Contract. In the event of any conflict among the Contract Documents, the order of precedence shall be as set forth below:

1. Volume II, Book I, Design-Build Agreement as executed by the District and the DB Contractor, including all exhibits of this DBA
2. Volume II, Book II, Technical Provisions
3. Volume II, Book III, Contract Data and Reports (CDR)
4. The Proposal Documents and the Proposal Appendix, to the extent that they meet or exceed the requirements of the other Contract Documents, including the Approved Alternative Technical Concepts. In other words, if the Proposal Documents or Proposal Appendix include statements that can reasonably be interpreted as offers to provide higher quality items than otherwise required by the Contract Documents, or to perform services in addition to those otherwise required or otherwise contain terms which are more advantageous to the District than the requirements of the other Contract Documents, the DB Contractor's obligations hereunder shall include compliance with all such statements, offers, and terms.

Notwithstanding the foregoing, in the event of conflicting requirements involving any requirement within Volume II, Book I, Book II, or Book III, or a reference contained within a Book of the Contract Documents, the District shall have the right to determine, in its sole discretion, which requirement(s) apply. The DB Contractor shall request the District's determination respecting the order of precedence among conflicting provisions promptly upon becoming aware of any such conflict.

3.4 Reference Information Documents

The documents included in the Reference Information Documents (RIDs) are for information only and are not to be relied upon by the DB Contractor. Cross-references in the Contract Documents to the RIDs do not incorporate the RIDs or portions thereof as Contract Documents or requirements.

3.5 Interpretations

In the Contract Documents:

1. The singular includes the plural and vice versa.
2. References to statutes or regulations include all statutory or regulatory provisions consolidating, amending, or replacing the statute or regulation referred to as of the Proposal Due Date.
3. Words such as “herein,” “hereof,” and “hereunder” refer to the entire document in which they are contained and not to any particular provision or Section.
4. Words not otherwise defined that have well-known technical or construction industry meanings are used in accordance with such recognized meanings and are considered terms of art.
5. References to Persons include their respective permitted successors and assigns and, in the case of Governmental Persons, Persons succeeding to their respective functions and capacities.
6. Words of any gender used herein include each other gender.
7. Words which are capitalized have the meaning as defined in the Contract Documents.

Unless otherwise specified, lists contained in the Contract Documents defining the Project or the Work shall not be deemed all-inclusive. The DB Contractor acknowledges and agrees that it had the opportunity and obligation, before submission of its Proposal, to review the Contract Documents and to bring to the District’s attention any conflicts or ambiguities contained therein. The DB Contractor further acknowledges and agrees that it has independently reviewed the Contract Documents with legal counsel and that it has the requisite experience and sophistication to understand, interpret, and agree to the particular language of the Contract Documents. Accordingly, in the event of an ambiguity in or Dispute regarding the interpretation of the Contract Documents, the Contract Documents shall not be construed against the Person that prepared them, and instead other rules of interpretation shall be used.

3.6 Referenced Standards, Codes, or Criteria

Except as may otherwise be specified in the Contract Documents, references to standards, codes, or criteria, are to the latest version or edition as of the due date for Technical Proposals, shall be in accordance with Volume II, Book II, Section 2, Mandatory Standards.

3.7 Omission of Details; Clarification by the District

The DB Contractor shall not take advantage of any apparent Error in the Contract. Should it appear that the Work to be done or any matter relative thereto is not sufficiently detailed or explained in the Contract Documents, the DB Contractor shall apply to the District in writing for such further written explanations as may be necessary and shall conform to the explanation provided. The DB Contractor shall promptly notify the District in writing of all Errors that it may discover in the Contract Documents and shall obtain specific instructions in writing regarding any such Error before proceeding with the Work affected thereby.

DB Contractor shall perform all work and services that are reasonably inferable from the Contract Documents. The term “reasonably inferable” takes into consideration the understanding of the parties hereto that not every detail or condition will be shown in the Contract Documents. The DB Contractor shall not be entitled to an increase in the Contract Price (as described in Section 13.1, Contract Price, of the DB Agreement) due to the absence of any detail, condition, or specification the DB Contractor may require or for any construction which may be found necessary as the Work progresses in order to complete the construction of the Project. If an item or system is either shown or specified, all material and equipment required for the proper installation of such item or system and needed to make a complete functioning and operating installation shall be provided whether or not detailed or specified, omitting only such parts as are specifically excepted by the District.

3.8 Computation of Periods

References to “days” or “Days” contained in the Contract Documents shall mean Calendar Days unless specified otherwise. If the date to perform any act or give any notice specified in the Contract Documents (including the last date for performance or provision of notice “within” a specified time period) falls on a non-Business Day, such act or notice may be timely performed on the next succeeding day that is a Business Day. Notwithstanding the foregoing, requirements contained in the Contract Documents relating to actions to be taken in the event of an emergency, requirements contained in Section 7.3.1 herein, and any other requirements for which it is clear that performance is intended to occur when necessary on a non-Business Day shall be required to be performed as specified, even though the date in question may fall on a non-Business Day.

3.9 Standard for Approvals

In all cases where Approvals, acceptances, or consents are required to be provided by the District or Approvals, acceptances, or consents are required to be provided by the DB Contractor hereunder, such Approvals, acceptances, or consents shall not be withheld unreasonably except in cases where a different standard (such as sole discretion) is specified and shall not be unreasonably delayed if no response time is specified. In cases where sole discretion is specified, the decision shall not be subject to Dispute resolution hereunder.

3.10 District of Columbia and Federal Requirements

The DB Contractor must comply with all applicable District of Columbia and Federal Requirements, including the requirements in Exhibit C and Title I, Part B of the Fair Criminal Record Screening Act, D.C. Official Code § 24-1351 *et seq*. (Bill 20-642 (D.C. 2014)). Notwithstanding anything to the contrary contained herein, in the event of any conflict between any District of Columbia requirements, Federal Requirements, or other requirements of the Contract Documents, the Federal Requirements shall prevail, take precedence, and be in force over and against any such conflicting provisions, unless the District of Columbia requirements are more stringent as allowed by federal law.

3.10.1 Contract Assurances

The DB Contractor, subconsultant, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The DB Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this Contract. Further, the DB Contractor shall comply with the requirements of D.C. Code §2-1401.01 et seq. Failure by the DB Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the District deems appropriate.

3.11 Completion Deadlines

The ITP permits the DB Contractor to propose earlier Completion Deadlines as described in Exhibit B. All references in the Contract Documents to the Completion Deadlines shall be deemed to include those deadlines set forth in Exhibit B.

Substantial Completion, Final Completion, and Final Acceptance shall be in accordance with the terms and conditions set forth in Section 22.

4 Obligations of Contract

4.1 Performance Requirements

4.1.1 Performance of Work

All materials, services, and efforts necessary to achieve Completion Dates on or before the Completion Deadlines as shown in Exhibit B shall be the DB Contractor's sole responsibility, except as otherwise specifically provided in the Contract Documents. Subject to the terms of Section 15, the costs of all such materials, services, and efforts shall be included in the Contract Price.

4.1.2 Performance Standards

The DB Contractor shall furnish the design of the Project in strict accordance with the terms of Section 23.1.1 and in accordance with the terms and conditions and requirements set forth in the Contract Documents, and shall construct the Project as designed, in a good and workmanlike manner, free from defects and in strict accordance with the terms and conditions of the Contract Documents.

4.1.3 Performance as Directed

At all times during the term hereof, including during the course of and notwithstanding the existence of any Dispute, the DB Contractor shall perform in a diligent manner and without delay; shall abide by the District's decision or order; and shall comply with all applicable provisions of the Contract.

4.2 General Obligations of DB Contractor

The DB Contractor, in addition to performing all other requirements of the Contract Documents, shall:

1. Furnish all design and other services; provide all materials, equipment, and labor; and undertake all efforts necessary or appropriate (excluding only those services, materials and efforts that the Contract Documents specify will be undertaken by other Persons): (i) to construct the Project and maintain it during construction in strict accordance with the requirements of the Contract Documents, including the Contract Schedule, all legal requirements, all Governmental Approvals, the Project Management Plan, the Maintenance of Traffic Plan, the Public Information Plan, Applicable Standards (including approved ATCs), and all other applicable safety, environmental, licensing and other requirements, taking into account the ROW drawings and other constraints affecting the Project, so as to achieve the Completion Deadlines; and (ii) otherwise to do everything required by and in strict accordance with the Contract Documents.
2. At all times, provide a DB Contractor Project Manager, approved by the District, who: (i) will have full responsibility for the prosecution of the Work; (ii) will act as agent and be a single point of contact in all matters on behalf of the DB Contractor; (iii) will be present (or his approved designee will be present) at the Site at all times that Work is performed; and (iv) will have authority to bind the DB Contractor on all matters relating to the Project. Either the DB Contractor Project Manager or his designee will attend all meetings related to the Project.
3. Obtain all Governmental Approvals (other than the environmental and certain New Environmental Approvals agreed to be obtained by the District in other areas of the Contract Documents). Table 8-1 of the Technical Provisions, Volume II, Book II, lists the permits the DB Contractor is to obtain and those that DDOT will obtain.
4. Comply with all conditions imposed by and undertake all actions required by and all actions necessary to maintain in full force and effect all Governmental Approvals, including implementation of all environmental commitments and mitigation measures required by the Contract Documents, except to the extent that such responsibility is expressly assigned in the Contract Documents to another Person.

5. Provide such assistance as requested by the District in dealing with any Person and/or in prosecuting and defending lawsuits in any and all matters relating to the Project, which may include providing information and reports regarding the Project, executing declarations, and attending meetings and hearings, but which shall in no event be deemed to require the DB Contractor to provide legal services.
6. Comply with all requirements of all applicable legal requirements, including, without limitation: (i) the environmental laws, including all environmental commitments, mitigation and monitoring measures required for the Project, including those set forth in Volume II, Book II, Section 8, Environmental, and requirements regarding the handling, generation, treatment, storage, transportation and disposal of Hazardous Materials; (ii) the Americans with Disabilities Act of 1990, 42 U.S. Code (USC) § 12101 et seq., including any amendments, as well as all applicable regulations and guidelines; and (iii) the Federal Requirements.
7. Comply with all Applicable Standards, including, without limitation, those revised to ensure their enforceability.
8. Cooperate and coordinate with the District and Governmental Persons with jurisdiction over the Project in the review and oversight of the Project and other matters relating to the Work.
9. Make payments to Third Parties required by the Contract Documents, if any, including but not limited to, payments to Utility Companies.
10. Supervise and be responsible to the District for acts and omissions of all DB Contractor-Related Entities, as though the DB Contractor directly employed all such Persons.
11. Federal Excise Taxes and DC Sales and Use Tax will be addressed in accordance with the provisions of Article 25 of the *Standard Specifications for Highways and Structures* (DDOT, 2013).
12. Conduct all Work over, on, or adjacent to navigable waters so that free navigation of the waterways will not be interfered with and that existing navigable depths will not be impaired except as allowed by permit issued by the U.S. Coast Guard and/or the U.S. Army Corps of Engineers, as applicable.
13. Assure compliance with Title VI of the Civil Rights Act of 1964.
14. Assure compliance with the Americans with Disabilities Act of 1990.
15. Assure compliance with Section 504 of the Rehabilitation Act of 1973.
16. Assure compliance with Office of Civil Rights and Federal Requirements regarding: Equal Employment Opportunities, Disadvantaged Business Enterprises, On-the-Job Training, Apprenticeships, and work force development.

4.3 Representations, Warranties, and Covenants

The DB Contractor represents, warrants, and covenants for the benefit of the District as follows:

4.3.1 Evaluation of Constraints

The DB Contractor has evaluated the constraints affecting delivery of the Project, including, but not limited to the ROW Drawings and the conditions of the Environmental Approvals, and has grounds for agreeing that the Project can be delivered within such constraints, within the time specified in Exhibit B, and within the Contract Price.

4.3.2 Review of Site Information

DB Contractor has reviewed the boring logs provided by the District in Volume II, Book III, Contract Data and Reports (CDR); inspected and examined the Site and surrounding locations; and undertaken other appropriate activities sufficient to familiarize itself with surface and subsurface conditions affecting the Project. Any failure to do so will not relieve it from responsibility for successfully performing the Work without additional expense to the District. As a result of such review, inspection, examination, and other

activities, the DB Contractor is familiar with and accepts the physical requirements of the Work. Before beginning any Work on a particular aspect of the Project, the DB Contractor shall verify all governing dimensions and conditions at the Site and shall examine all adjoining work that may have an impact on such Work. The DB Contractor shall be responsible for ensuring that the Design Documents and Construction Documents accurately depict all governing and adjoining dimensions and conditions.

The DB Contractor warrants, represents, covenants, and agrees to call to the District's attention anything of any nature in any drawings, specifications, plans, sketches, instructions, information, requirements, procedures, and other data supplied to the DB Contractor (by the District or any other party) which it regards in its opinion as unsuitable, improper, or inaccurate in connection with the purposes for which such document or data is furnished. Nothing shall excuse or detract from the DB Contractor's responsibilities or obligations hereunder in a case where such document or data is furnished unless the DB Contractor advises the District in writing that in its opinion such document or data and any requests made therein for action are unsuitable, improper, or inaccurate and the District confirms in writing that it wishes the DB Contractor to proceed in accordance with the data as originally given.

4.3.3 Governmental Approvals

If any Governmental Approvals required to be obtained by the DB Contractor must formally be issued in the name of the District, the DB Contractor shall undertake all efforts to obtain such approvals, with the District's reasonable cooperation with the DB Contractor, including execution and delivery of appropriate applications and other documentation. The DB Contractor shall assist the District in obtaining any Governmental Approvals that the District may be obligated to obtain, including providing information requested by the District and participating in meetings regarding such approvals.

4.3.4 Progression of Work

The DB Contractor shall at all times schedule, direct and complete its Work in order to provide an orderly progression of the Work to achieve Substantial Completion, Final Completion, and Final Acceptance by the applicable Completion Deadlines and in accordance with the Approved Contract Schedules, including furnishing such employees, materials, facilities, and equipment and working such hours (including extra shifts, overtime operations, Sundays and Holidays, as approved by DDOT) as may be necessary to achieve such goals, all at the DB Contractor's own expense, except as otherwise specifically provided in Section 14.

4.3.5 DB Contractor/Employee Performance Requirements

The DB Contractor and its internal design team or design Subcontractor(s) have maintained, and throughout the term of the Contract and its design Subcontract(s) shall maintain, all required authority, license status, professional ability, skills, and capacity to perform the Work and shall perform them in strict accordance with the requirements of the Contract Documents.

If the District determines in its sole discretion that any Person employed by the DB Contractor or by any Subcontractor is not performing the Work in strict accordance with the Contract Documents, the District has the authority to require the DB Contractor to replace any DB Contractor's representative, including staff members, who is not performing to the satisfaction of the District. At the written request of the District, such Person shall not be re-employed on the Project without the prior written Approval of the District. If such Person is not replaced with skilled and experienced personnel for the proper performance of the Work, then the District may, in its sole discretion, take any appropriate and available contract remedy by delivery of written notice. Such action shall in no way relieve the DB Contractor of any obligation contained in the Contract Documents or entitle the DB Contractor to a Change Order. Once compliance is achieved, the DB Contractor shall be entitled to and shall promptly resume the Work.

DB Contractor shall remove or cause to be removed from any Project site any employee of DB Contractor or of any Subcontractor or supplier at any tier upon the reasonable request of the District if, in the District's opinion, such employee has engaged in inappropriate, offensive, vulgar, or disruptive behavior or speech, including, without limitation, lewd or sexually harassing behavior or speech. DB Contractor shall make its

Project employees at any Project site aware of this provision and shall cause all Subcontractors and suppliers with employees at any Project site to make their employees aware of this provision.

4.3.6 Design and Engineering Personnel

All design and engineering Work furnished by the DB Contractor shall be performed by or under the supervision of Persons licensed to practice architecture, engineering, landscape architecture, or surveying (as applicable) in the District of Columbia and by personnel who are skilled, experienced, and competent in their respective trades or professions, who are professionally qualified to perform the Work in strict accordance with the Contract Documents, and who shall assume professional responsibility for the accuracy and completeness of the Design Documents in accordance with the terms of Section 23.1.1.

4.3.7 Organization

The DB Contractor is duly organized and validly existing under the laws of the District of Columbia with all requisite power to own its properties and assets and carry on its business as now conducted or proposed to be conducted. The DB Contractor [and its joint venture members] is [are] duly qualified to do business and are in good standing in the District of Columbia and will remain in good standing throughout the term of the Contract and for as long thereafter as any obligations remain outstanding under the Contract Documents.

4.3.8 Authorization

The execution, delivery, and performance of the Contract have been duly authorized by all necessary actions of the DB Contractor and, if applicable, the DB Contractor's members and/or Major Participants and will not result in a breach or a default under the organizational documents of any such Person or any indenture, loan, credit agreement, or other material agreement or instrument to which any such Person is a party or by which its properties and assets may be bound or affected.

4.3.9 Legal, Valid, and Binding Obligation

The Contract constitutes the legal, valid, and binding obligation of the DB Contractor and, if applicable, of each member of the DB Contractor.

4.3.10 False or Fraudulent Statements and Claims

The DB Contractor recognizes that the requirements of the Program Fraud Civil Remedies Act of 1986, 31 USC § 3801 et seq. and the U.S. Department of Transportation (USDOT) regulations, "Program Fraud Civil Remedies," 49 *Code of Federal Regulations* (CFR) Part 31, apply to its actions hereunder. Accordingly, by signing the Contract, the DB Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, or it may make pertaining to the Contract. In addition to other penalties that may be applicable, the DB Contractor acknowledges that if it makes a false, fictitious, or fraudulent Claim, statement, submission, or certification, the District and the federal government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986, on the DB Contractor to the extent the federal government deems appropriate.

5 Information Supplied to DB Contractor; Responsibility for Design Disclaimer

5.1 Information Supplied

The District has made available to the DB Contractor information that is described in the Contract Documents as RIDs regarding the Project.

5.2 Responsibility for Design

The DB Contractor agrees that it has full responsibility for the design of the Project and that the DB Contractor shall furnish the design of the Project, regardless of the fact that certain conceptual design work occurred and was provided to the DB Contractor prior to the date of execution of the Contract. The DB Contractor specifically acknowledges and agrees that:

1. The DB Contractor is not entitled to rely on and has not relied on: (i) the RIDs; or (ii) any other documents or information provided by the District, including the Conceptual Design, unless specifically permitted in the Contract Documents.
2. The DB Contractor's Warranties and indemnities hereunder cover any Errors in the Project even though they may be related to Errors in the RIDs or Conceptual Design.
3. The Engineer of Record shall be responsible for all aspects of the design, and shall ensure that the design conforms to the Contract – regardless of who performs the Work.

5.3 Disclaimer

5.3.1 No Liability Regarding Reference Information Documents

DDOT does not represent or warrant that the information contained in the RIDs or the Conceptual Design Plans, is either complete or accurate or that such information conforms to the requirements of the Contract Documents.

The DB Contractor understands and agrees that the District shall not be responsible or liable in any respect for any loss, damage, cost or expense whatsoever suffered by the DB Contractor or any Related Entity by reason of any use of any information contained in the Conceptual Design or RIDs or any action or forbearance in reliance thereon, except to the extent that the Contract Documents provide that the DB Contractor shall be entitled to an increase in the Contract Price and/or extension of Contract Time with respect to such matter. The DB Contractor further acknowledges and agrees that: (i) if and to the extent the DB Contractor or anyone on the DB Contractor's behalf uses any of said information in any way, such use is made on the basis that the DB Contractor, not the District, has approved and is responsible for said information; and (ii) the DB Contractor is capable of conducting and obligated hereunder to conduct any and all studies, analyses and investigations as it deems advisable to change, recreate, verify or supplement said information, and that any use of said information is entirely at the DB Contractor's own risk and at its own discretion.

Notwithstanding anything in the Contract Documents to the contrary, no field explanations or interpretations provided by DDOT at any meetings and no comments or approvals by DDOT on Design Documents or Released for Construction Documents shall be deemed, construed, or interpreted to: (a) amend, supersede, or alter the terms, requirements, limitations, or meaning of any Contract Document; or (b) release or relieve the DB Contractor from full responsibility for the design of the Project in strict accordance with the Contract Documents.

5.4 Professional Licensing Laws

The District will not contract for, pay for, or receive any design services that are in violation of any professional licensing laws; and by execution of the Contract, this is acknowledged by the DB Contractor. The parties agree that the DB Contractor is fully responsible for furnishing the design of the Project and will provide the design services required by the Contract Documents. Any references in the Contract Documents to the DB Contractor's responsibilities or obligations to "perform" the design portions of the Work, that are required to be performed by licensed design professionals, shall be deemed to mean that the DB Contractor shall "furnish" the design for the Project. The terms and provisions of this Section 5.4 shall control and supersede every other provision of the Contract Documents.

6 Time Within Which Project Shall be Completed; Scheduling

6.1 Time is of the Essence

For this Contract, the DB Contractor shall consider that time is of the essence for the delivery of this Project.

6.2 Notices to Proceed

6.2.1 Issuance of Notice to Proceed 1

The DB Contractor shall begin performance of certain limited Work as directed and described in the First Notice to Proceed (NTP1) issued by the District. Issuance of NTP1 authorizes the DB Contractor to perform design, including access to DDOT-owned Project ROW for surveying and site investigations, including but not limited to: geotechnical, Hazardous Materials, and Utilities investigations; the development of schedule as required by the Contract Documents; and the development of and submission to DDOT for review the plans and other submittals identified in the Technical Provisions.

NTP1 will be issued following execution of the Contract. The DB Contractor shall proceed with the NTP1 Work, subject to the limits of Section 13.3.2, and shall not receive its first monthly progress payment until it has submitted an Initial Baseline Schedule that is acceptable to the District.

6.2.2 Issuance of Notice to Proceed 2

The DB Contractor shall begin performance of the remainder of the Work as directed and described in the Second Notice to Proceed (NTP2) issued by the District. NTP2 is conditioned upon the acquisition of required permits and the submission, review and/or Approval of plans and/or other information as required by the Technical Provisions.

6.3 Completion Deadlines

6.3.1 Substantial Completion Deadline

The DB Contractor shall achieve Substantial Completion within the deadline set forth in Exhibit B. Said deadline for Substantial Completion, as it may be extended hereunder, is referred to as the "Substantial Completion Deadline."

6.3.2 Final Completion Deadline

The DB Contractor shall achieve Final Completion within the deadline set forth in Exhibit B. Said deadline for Final Completion, as it may be extended hereunder, is referred to as the "Final Completion Deadline."

6.3.3 No Time Extensions

Except as otherwise specifically provided in Section 14, the District shall have no obligation to extend any Completion Deadlines, and the DB Contractor shall not be relieved of its obligation to comply with the Contract Schedule and the applicable Completion Deadlines for any reason.

6.4 Contract Schedules

The DB Contractor shall deliver the Work in accordance with the Approved Contract Schedules, as described in Volume II, Book II, Section 26. Such schedules shall also be the basis for calculating the amount of monthly progress payments to be made to the DB Contractor.

6.5 Recovery Schedule

If a Recovery Schedule would be required in order to meet a Completion Deadline due to an event that entitles the DB Contractor to a Change Order as described in Section 14, the District shall have the right in its

sole discretion to decide whether to allow a time extension with no extended overhead or other delay or disruption damages payable, except as provided in Section 15, or to require implementation of the Recovery Schedule without such time extension.

In such an event, the DB Contractor shall submit to the District at least two alternative Change Order forms, one of which shall include a Recovery Schedule and show the proposed Acceleration Costs associated with the Recovery Schedule, and the other which shall provide for an extension of the Completion Deadline without any increase in the Contract Price except as provided in Section 15. If the District elects to implement the Recovery Schedule in lieu of a time extension, the District shall issue a Change Order increasing the Contract Price to account for additional Acceleration Costs, if any. If it is not feasible to recover to the original Completion Deadline, or if DB Contractor believes that the costs associated with such a recovery are prohibitive, then the DB Contractor shall recommend a date to be shown in the time extension Change Order form.

6.6 Prerequisites for Start of Construction

The DB Contractor shall not start construction (or resume construction following any suspension) of any portion of the Project until all of the following events have been fully satisfied with respect to the Work proposed to be constructed:

1. The District has issued NTP2.
2. All DDOT and other Governmental Agency Approvals and environmental requirements necessary for construction of such portion of the Project have been obtained, and all conditions of such Approvals that are a prerequisite to starting such construction have been performed.
3. DB Contractor has issued Released for Construction plans.
4. All insurance policies and bonds required to be delivered to the District hereunder have been submitted to the District as applicable and remain in full force and effect.
5. All necessary rights of access for such portion of the Project have been obtained.
6. Any additional conditions for construction set forth in the Contract Documents have been met.

7 Control of Work

7.1 Control and Coordination of Work

The DB Contractor shall be solely responsible for and have control over all aspects of the Work, including but not limited to construction means, methods, techniques, sequences, procedures, and site safety and shall be solely responsible for coordinating all portions of the Work, subject to all requirements of the Contract Documents.

7.2 Safety

The DB Contractor shall be solely responsible for the safety of and shall provide protection to prevent damage, injury, or loss to all persons on the Site or who would reasonably be expected to be affected by the Work, including individuals performing the Work, employees of the District and its consultants, visitors to the Site and members of the public who may be affected by the Work. The DB Contractor shall have a Safety Manager stationed at the Project for the duration of construction activities. The DB Contractor shall at all times comply with its safety program. The DB Contractor shall immediately notify the District if the DB Contractor believes that any Contract requirement creates a safety issue.

Regardless of the District's authority to suspend the work by written order as set forth in Section 16.2.1, the District shall have no obligation to issue such order. The failure to issue such order shall not be create any liability of the District, and the DB Contractor shall remain solely responsible for safety.

Except as otherwise expressly provided in the Contract Documents, the DB Contractor is authorized to refuse admission either to the premises or to the working space covered by the Contract to any person whose admission is not specifically authorized in writing by the District.

7.3 Process to be Followed for Discovery of Certain Site Conditions

7.3.1 Notification to the District

If the DB Contractor becomes aware of: (i) any onsite material that the DB Contractor believes may contain previously unidentified Hazardous Materials required to be removed or treated; (ii) any human remains, artifacts, and/or other items of historical, archaeological, or geological significance within the ROW; or (iii) any Differing Site Conditions, as a condition precedent to the DB Contractor's right to a Change Order, the DB Contractor shall immediately notify the District thereof by telephone or in person, to be followed by written notification as soon as practicable. The DB Contractor shall immediately stop work and secure the area. Operations within 50 feet of the area shall be temporarily suspended and shall not be resumed at that location unless and until authorized by the District. In such event, the District will review the location within two (2) Business Days of receipt of notification and will advise the DB Contractor at that time whether to resume Work or whether further investigation is required. Any delay resulting from the District reviewing the location up to two (2) Business Days shall not be considered a District-caused delay. The DB Contractor shall be entitled to payment for removal and disposal of certain Hazardous Materials, as provided in Section 15.9. This Section does not entitle the DB Contractor to a Change Order except as expressly provided by the Contract.

7.3.2 Further Investigation

The DB Contractor shall promptly conduct such further investigation with respect to Section 7.3.1 as the District deems appropriate. Within five (5) Business Days after its initial notice to the District, the DB Contractor shall advise the District of any action recommended to be taken regarding the situation. If Hazardous Materials are involved, the notice shall describe the type of Remediation Work, if any, which the DB Contractor proposes to undertake with respect thereto. If human remains, artifacts, or paleontological,

historical, geological, cultural, or biological resources are present, the notice shall advise the District as to what course of action the DB Contractor intends to take with respect thereto and whether the location must be fenced off or whether Work can resume. The District then will either approve, or require modification of, the DB Contractor's proposed actions. Any additional Governmental Approvals that may become required will be performed in accordance with Section 4.3.3.

7.3.3 Recommence Work

The District shall have the right to require the DB Contractor to resume Work in the area at any time, even though an investigation may still be ongoing (so long as such Work is not in violation of any legal requirements or Governmental Approvals). The DB Contractor shall promptly resume Work in the area upon receipt of notification from the District to do so. On resuming Work, the DB Contractor shall follow all applicable procedures contained in the Contract Documents and all other legal requirements with respect to such Work, consistent with the District's determination or preliminary determination regarding the nature of the material, resources, or species.

7.3.4 Obligation to Minimize Impacts

The DB Contractor shall ensure that all of its activities and the activities of all DB Contractor-Related Entities are undertaken in a manner that will minimize the effect on surrounding property and the public to the maximum extent practicable.

7.4 Quality Management

7.4.1 DB Contractor Quality Management

The DB Contractor shall perform the quality management necessary to comply with its obligations under the Contract Documents.

7.4.2 Oversight, Audit, Inspection, and Testing by the District and Others

All materials and each part or detail of the Work shall also be subject to oversight, audit, and testing by the District and other Persons designated by the District. When any third party, including a Utility Company, railroad company, unit of government, or political subdivision, is to accept or pay for a portion of the cost of the Work, its respective representatives have the right to oversee, audit, inspect, and test the Work to the extent such Work is related to such third party. Such oversight, audit, inspection, and/or testing does not make such Person a party to the Contract, nor will it change the rights of the parties hereto. The DB Contractor hereby consents to such oversight, inspection, and testing by the District and other Persons. Upon request from the District, the DB Contractor shall furnish information to such Persons as are designated in such request and shall permit such Persons access to the Site and all parts of the Work.

7.4.3 Obligation to Uncover Finished Work

At all times before Final Acceptance, the DB Contractor shall remove or uncover such portions of the finished construction Work as directed by the District. After examination by the District, the DB Contractor shall restore the Work to the standard required by the Contract Documents. If the Work exposed or examined is not in conformance with the requirements of the Contract Documents, then the cost of uncovering, removing and restoring the Work or making good the parts removed and recovery of any delay to the Critical Path occasioned thereby shall be at the DB Contractor's expense. If Work exposed or examined under this Section 7.4.3 is in conformance with the requirements of the Contract Documents, then the cost of uncovering, removing and restoring the Work shall be paid in accordance with Section 15, and any delay in the Critical Path from uncovering, removing and restoring Work shall be the District's responsibility. Refer to Section 7.6 for provisions regarding payments owing by the DB Contractor to the District, if the District agrees (in its sole discretion) to accept certain Nonconforming Work.

7.5 Effect of Oversight, Spot Checks, Assessment, Tests, Acceptances, and Approvals

7.5.1 Oversight and Acceptance

The DB Contractor shall not be relieved of its obligation to perform the Work in strict accordance with the Contract Documents, or any of its other obligations under the Contract Documents, by oversight, spot checks, assessments, reviews, tests, inspections, acceptances, Approvals, approvals by any Persons, or by any failure of any Person to take such action. The oversight, spot checks, assessments, reviews, tests, inspections, acceptances, Approvals, or approvals by any Person do not constitute Final Acceptance of the particular material or Work or waiver of any legal or equitable right with respect thereto. The District may reject or require the DB Contractor to remedy any Nonconforming Work and/or identify additional Work that must be done to bring the Project into compliance with Contract requirements at any time before Final Acceptance, whether or not previous oversight, spot checks, assessments, reviews, tests, inspections, acceptances, Approvals, or approvals by any Persons were conducted.

7.5.2 No Estoppels

The District shall not be precluded or estopped, by any measurement, estimate, or certificate made either before or after Final Acceptance and payment therefore, from showing that any such measurement, estimate, or certificate is incorrectly made or untrue, or from showing that the true amount and character of the Work performed and materials furnished by the DB Contractor do not conform in fact to the requirements of the Contract Documents. Notwithstanding any such measurement, estimate, certificate, or payment made in accordance therewith, the District shall not be precluded or estopped from recovering from the DB Contractor and its Surety(ies) such damages as the District may sustain by reason of the DB Contractor's failure to comply or to have complied with the terms of the Contract Documents.

7.6 Nonconforming Work

7.6.1 Rejection, Removal, and Replacement of Work

Subject to the District's right, in its sole discretion, to accept or reject Nonconforming Work, the DB Contractor shall remove and replace rejected Nonconforming Work to conform with the requirements of the Contract Documents, at the DB Contractor's expense and without any time extension. The DB Contractor shall promptly take all action necessary to prevent similar deficiencies from occurring in the future. The fact that the District may not have discovered the Nonconforming Work shall not constitute an acceptance of such Nonconforming Work. If the DB Contractor fails to correct any Nonconforming Work within five (5) Days of receipt of notice from the District requesting correction (or, for Nonconforming Work that cannot be corrected within five (5) Days, if the DB Contractor fails to provide to the District a schedule approved by the District for correcting any such Nonconforming Work within such 5-Day period, begin correction within such 5-Day period and thereafter diligently prosecute such correction in accordance with such approved schedule to completion), then the District may cause the Nonconforming Work to be remedied or removed and replaced, and may deduct the cost of doing so from any monies due or to become due the DB Contractor and/or obtain reimbursement from the DB Contractor for such cost.

7.6.2 Nonconforming Work Pay Adjustment

The District may, in its sole discretion, accept any Nonconforming Work without requiring it to be fully corrected and shall be entitled to a pay adjustment (or reimbursement of a portion of the Contract Price, if applicable). In such event, the District shall be entitled to reimbursement of a portion of the Contract Price in an amount determined by the District. In certain events, however, it may not be possible for the Nonconforming Work to be made to conform to the requirements of the Contract Documents, including, but not limited to, the DB Contractor's failure to perform required items to be paid in equal monthly amounts indicated in the Work Breakdown Structure during a required time period. In general, the pay adjustment (or reimbursement) shall equal, at the District's election: (i) the amount allocated to such Work in the

Revised Baseline Schedule; (ii) the DB Contractor's cost savings associated with its failure to perform the Work in strict accordance with the Contract requirements; or (iii) the amount deemed appropriate by the District to provide compensation for impacts to affected parties, such as future maintenance and/or other costs relating to the Nonconforming Work. In certain events, the District shall be entitled to a pay adjustment (or reimbursement) as expressly set forth elsewhere in the Contract Documents. Such reimbursement shall be deducted from future payments or, if future payments are insufficient to cover the amount owing, shall be payable to the District within 30 Days after DB Contractor's receipt of an invoice.

8 Access to Site, Utility Relocations, and Environmental Compliance

8.1 Access to ROW Identified on ROW Drawings

8.1.1 Obligation to Provide Access

The District has identified certain ROW to be used for permanent improvements included in the Project (the "ROW Drawings"), which are depicted in Volume II, Book III, CDR. The District will provide access to the ROW identified on the ROW Drawings in accordance with Volume II, Book II, Technical Provisions.

8.1.2 ROW Access Requirements

Concurrently with the review of the Initial Baseline Schedule, the DB Contractor and the District shall discuss the access requirements for the ROW identified on the ROW Drawings associated with the scheduled Activities.

8.1.3 Delay in Providing Access

If the District at any time determines it will be unable to provide access to a particular parcel in accordance with Volume II, Book II, Table 24-1, the District shall notify the DB Contractor regarding the revised projected date for delivery of access. The DB Contractor shall take appropriate action to minimize any cost and time impact and shall work around such parcel until access can be provided, including rescheduling and re-sequencing Work so as to avoid any delay to the Project. Subject to Section 8.1.4, to the extent that a delay to the Critical Path cannot be avoided due to a material lack of access to a parcel(s) in accordance with Volume II, Book II, Table 24-1, the DB Contractor shall be entitled to additional compensation and/or time in accordance with Section 14.

8.1.4 Obligation to Provide Written Notice

In addition to the requirements of Section 8.1.3, and as a necessary condition for obtaining any increase in the Contract Price or extension of a Completion Deadline related to the District's delivery of access to the parcels identified on the ROW Drawings, the DB Contractor shall provide the District written notice within five (5) Business Days after receipt of a revised projected date if the lack of availability will result in an impact to the cost or schedule.

8.1.5 Access to ROW Not Identified on ROW Drawings

The cost of obtaining any ROW not identified on the ROW Drawings associated with a Value Engineering Change Proposal (VECP) will be included in calculating the Contract Price adjustment discussed in Section 15.2.4.

The DB Contractor shall reimburse the District for any costs (including attorneys', accountants', and expert witness fees and costs) of acquiring any real property that is not the District's responsibility and that the DB Contractor determines is necessary or advisable in order to complete the Project, including obtaining any Temporary Easements. The District may deduct such amounts from payments otherwise owing hereunder or may invoice the DB Contractor. The DB Contractor shall reimburse the District for any such amounts paid by the District within a month after receipt of an invoice from the District.

8.1.6 Failure to Have Necessary Rights of Access

If the DB Contractor enters any property in connection with the Project without having all necessary rights of access, the District may, in its sole discretion, but is not obligated to obtain consent from the landowner for the DB Contractor's access. The DB Contractor shall be responsible for all costs incurred by the District as a result thereof.

8.2 Utility Relocations

Except as otherwise noted, the DB Contractor shall be responsible for all costs (both direct and indirect) associated with the performance/coordination of all Utility adjustment work within the ROW that remains in conflict following NTP1 and the performance/coordination of any Utility adjustment work beyond the ROW caused by DB Contractor's final design.

All costs associated with the design and construction of a complete storm sewer system are to be included in the DB Contractor's Contract Price.

The DB Contractor is not entitled to any time extensions caused by delays attributable to Utilities, except for delays due to the discovery of unknown Utilities requiring adjustment or uncooperative Utility Companies as described in Section 8.2.1. Any change in the scope of the Work pursuant to this Section 8.2 shall not be considered a District-Directed Change.

8.2.1 Utility Delays

The DB Contractor shall not be entitled to any extension of any completion deadline caused by delays attributable to Utilities unless all of the following conditions are satisfied:

1. The Contractor has provided evidence reasonably satisfactory to the District that: (i) the Contractor has fulfilled its obligation under the applicable Utility Agreement(s) to coordinate with the Utility Company to prevent or reduce such delays; and (ii) the Contractor has otherwise made diligent efforts to obtain the timely cooperation of the Utility Company but has been unable to obtain such timely cooperation.
2. If the Contractor is responsible for the Relocation, the Contractor has provided a reasonable Relocation plan to the Utility Company and the Contractor has obtained, or is in a position to timely obtain, all applicable approvals, authorizations, certifications, consents, exemptions, filings, leases, licenses, permits, registrations, options, and/or rulings required by or with any Governmental Person in order to design and construct such Relocations.
3. No circumstances exist which have delayed or are delaying the affected Relocation, other than those which fit within the definition of a Utility Delay.

8.2.2 Certain Obligations of DB Contractor and Utility-Related ROW Costs

The DB Contractor shall endeavor to avoid multiple Relocations of the same Utility, whether by the Utility Company or by the DB Contractor. Accordingly, after a Utility has been relocated once in order to accommodate the Project based on the pre-award relocations by DDOT or DB Contractor's design, the DB Contractor shall be responsible for all costs incurred by either the DB Contractor or the Utility Company in order to subsequently relocate such Utility to accommodate the Project. If the Utility Company performs such subsequent Relocation at the District's expense, then the DB Contractor shall reimburse the District for all amounts paid by the District to such Utility Company in reimbursement for such subsequent Relocation. If the DB Contractor performs such subsequent Relocation, then the DB Contractor shall not receive any extension of the Completion Deadline or increase in the Contract Price on account of the performance of such subsequent Relocation.

In designing and constructing the Project, the DB Contractor shall take all reasonable steps to minimize costs to the Utility Companies to the extent practicable and otherwise consistent with other requirements of the Contract Documents. For Relocations, the DB Contractor shall bear the burden of proving that the Relocation cannot reasonably be avoided.

8.2.3 Coordination Costs

The DB Contractor shall not be entitled to an increase in the Contract Price for any costs of coordinating with Utility Companies or assisting the District in coordinating with Utility Companies.

8.2.4 Voluntary Action by DB Contractor

If the DB Contractor elects to make payments to Utility Companies or to undertake any other efforts not required by the terms of the Contract Documents, the DB Contractor shall not be entitled to a Change Order in connection therewith. The DB Contractor shall promptly notify the District of the terms of any such arrangements.

8.2.5 Betterments

Utility Betterments may be added to the Work pursuant to Section 15.

If any Betterment has been added to the Work and the Contract Price has been increased accordingly by Change Order, but subsequently for any reason the Betterment is deleted from the Work, or the scope of the Contractor's Work with regard to such Betterment is materially reduced, then the District shall be entitled to issue a Change Order reducing the Contract Price to reflect the value of any reduction in the costs of the Work that is directly attributable to such deletion or reduction.

Any change in the scope of the Work pursuant to this Section 8.2.5 shall not be considered a District-Directed Change.

8.3 Environmental Compliance

In performance of the Work, the DB Contractor shall comply with all requirements of all applicable Environmental Laws and Governmental Approvals issued there under, whether obtained by the District or the DB Contractor. The DB Contractor acknowledges and agrees that it will be responsible for all fines and penalties that may be assessed in connection with its failure to comply with such requirements.

8.3.1 Mitigation Requirements

The DB Contractor shall perform all environmental mitigation measures (which term shall be deemed to include all requirements of the Environmental Approvals and similar Governmental Approvals, regardless of whether such requirements would be considered to fall within a strict definition of the term). The mitigation requirements for the Project are described in the ROD/Supplemental FEIS and as set forth in Volume II, Book II, Section 8. The Contract Price includes compensation for the DB Contractor's performance of all such mitigation measures that are included in the agreed-upon scope of the Contract, for performance of all mitigation measures arising from New Environmental Approvals, which Section 8.3.3 designates as the DB Contractor's responsibility, for mitigation measures required by any Governmental Approvals, and for all other Activities to be performed by the DB Contractor as described in Volume II, Book II, Section 8.

8.3.2 New Environmental Approvals to be Obtained by the District

The District will be responsible for obtaining any New Environmental Approvals necessitated by a time and money change order described in Section 14.1. The DB Contractor shall provide all necessary support to the District with respect to obtaining any such New Environmental Approval.

8.3.3 New Environmental Approvals to be Obtained by Contractor

If a New Environmental Approval becomes necessary for any reason other than those specified in Section 8.3.2, the DB Contractor shall be fully responsible for obtaining the New Environmental Approval and any other Environmental Approvals that may be necessary, and for all resulting requirements, as well as for any litigation arising in connection therewith. The District will reasonably assist the DB Contractor in obtaining any New Environmental Approvals. If the New Environmental Approval is associated with a VECP, or other DB Contractor-requested Change Order, the costs of obtaining and complying with the terms of the New Environmental Approval shall be considered in calculating the Contract Price adjustment under Section 15.2.4.

9 Equal Employment Opportunity; Subcontracts; Labor

9.1 Equal Employment Opportunity

9.1.1 Equal Employment Opportunity Policy

The DB Contractor confirms that it has an equal opportunity policy ensuring equal employment opportunity. The DB Contractor shall comply with D.C. Official Code §2-1401.01 et seq., the District's Equal Employment Opportunity (EEO) Policy, the requirements set forth in the Federal Highway Administration (FHWA) Form 1273, and in all Exhibit C, Federal Requirement forms.

9.1.2 Non-Discrimination

1. The DB Contractor shall not discriminate against any employee or applicant for employment because of actual or perceived: race, color, religion, national origin, sex, age, marital status, personal appearance, sexual orientation, gender identity or expression, familial status, family responsibilities, disability, matriculation, political affiliation, genetic information, source of income, or place of residence or business. Sexual harassment is a form of sex discrimination which is prohibited by the D.C. Human Rights Act (DCHRA), 2-1401.01 et seq. In addition, harassment based on any of the above protected categories is prohibited by the DCHRA.

2. The DB Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their actual or perceived: race, color, religion, national origin, sex, age, marital status, personal appearance, sexual orientation, gender identity or expression, familial status, family responsibilities, disability, matriculation, political affiliation, genetic information, source of income, or place of residence or business.

   The affirmative action shall include, but not be limited to, the following:

   a. Employment, upgrading or transfer;
   b. Recruitment or recruitment advertising;
   c. Demotion, layoff, or termination;
   d. Rates of pay, or other forms of compensation; and
   e. Selection for training and apprenticeship.

3. The DB Contractor agrees to post in conspicuous places, available to employees and applicants for employment, noticed to be provided by the District, setting forth the provisions in paragraphs 1 and 2 of this section concerning non-discrimination and affirmative action.

4. The DB Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the DB Contractor, state that all qualified applicants will receive consideration for employment pursuant to the non-discrimination requirements set forth in paragraph 2 of this section.

5. The DB Contractor agrees to send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the District, advising said labor union or workers' representative of the DB Contractor's commitments under this nondiscrimination clause and the DCHRA, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

6. The DB Contractor agrees to permit access to its books, records, and accounts pertaining to its employment practices, by the District's Chief Procurement Officer or designee, or the Director of Human Rights or designee, for purposes of investigation to ascertain compliance with the DCHRA and its rules at 4 DCMR ch. 11, and to require under terms of any subcontractor agreement each subcontractor to permit access of such subcontractor's books, records, and accounts for such purposes.

7. The DB Contractor agrees to comply with the provisions of 4 DCMR and with all guidelines for equal employment opportunity applicable in the District of Columbia adopted by the Director of the Office of Human Rights, or any authorized official.
8. The DB Contractor shall include in every subcontract, except construction subcontractors for standard commercial supplies or raw materials, the equal opportunity clauses, paragraph 1 through 8 of this section, so that such provisions shall be binding upon each subcontractor or vendor.
9. The DB Contractor shall take such action with respect to any subcontract as the CO may direct as a means of enforcing these provisions, including sanctions for noncompliance; provided, however, that in the event the DB Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the CO, the DB Contractor may request the District to enter into such litigation to protect the interest of the District.

9.1.3 Reserved

9.1.4 Federal Workforce Requirements

The DB Contractor must comply with the applicable and most current federal work force requirements for Washington, DC, as specified by the Department of Labor and the Living Wage Act of 2006, D.C. Official Code § 2-220.01, et. seq.

Consistent with Form 1273 the DB Contractor shall register all available employment opportunities with DC Networks, the District of Columbia' s computerized national labor exchange network. To access this website, visit http://does.dc.gov/page/job-bank-services.

9.1.5 Training Services Provisions

Training Services Provisions (TSP)/Employee Training Requirements will be provided as part of the DB Contractor's Equal Employment Opportunity affirmative action program in accordance with 23 CFR, Appendix B to Subpart A, Part 230, and as follows:

The TSP goal for this project is 50 positions as decided by the DDOT Office of Civil Rights.

The DB Contractor will provide on-the-job training aimed at developing individuals to journeyman status in the type of trade or job classification involved.

If the DB Contractor Subcontracts a portion of the Contract Work, it will decide how many, if any, of the trainees are to be trained by the Subcontractor, provided however, that the DB Contractor will retain the primary responsibility for meeting the training requirements of the TSP. The DB Contractor will also ensure that the TSP is made applicable to such Subcontractor.

When feasible, 25 percent of apprentices or trainees in each occupation will be in their first year of apprenticeship or training.

Training and upgrading of disadvantaged persons toward journeyman status is a primary objective of the TSP. Accordingly, the DB Contractor will make every effort to enroll minority and women trainees to the extent that such persons are available within a reasonable area of recruitment.

Consistent with 23 CFR part 230 Appendix B to Subpart A, due to the nature and duration of this Project, the DB Contractor is encouraged to consider a variety of job classifications for training purposes and shall be included in its OJT plan and utilization. Training is permissible in positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office.

If you need assistance in identifying eligible candidates, please contact as soon as possible:

On-the-Job Training Program Manager
55 M Street, SE

Washington, DC 20003

1. The DB Contractor will complete a Trainee/Apprentice Approval Request for each trainee/apprentice applicant for the specified project. The form is to be submitted to the OJT Program Manager for review and approval. Enrollment forms should not be submitted to the OJT Program Manager until the trainees are ready to begin training. No training hours will be credited until the enrollment has been approved by the OJT Program Manager.
2. The DB Contractor orients the training foreman, superintendent and the OJT trainees/apprentices about their individual responsibilities in the program and provides copies of the training curriculum for the job classification being used.
3. The DB Contractor annotates the certified payroll and is required to show training hours for each OJT trainee and must submit weekly and monthly to the Project Engineer or its representative and the OJT Program Manager.
4. The DB Contractor monitors all trainees for progress in the program, and reports all problems and training issues to the OJT Program Manager in a timely manner. The OJT Program Manager will communicate on at least a monthly basis with the designated personnel on the trainees' progress.
5. As the trainee progresses in hours, so does his/her respective wage percentages. Contractors are obligated to pay the trainee according to the specified wage rate and schedule. Failure to monitor this aspect of the program will result in restitution to the trainee.
6. Except in an extreme emergency, the DB Contractor should verbally notify the Project Engineer or its representative and the OJT Program Manager five (5) Business days *before* a trainee termination and submit company's termination form *within ten (10) Business days* after termination. The Project Engineer or its representative and the OJT Program Manager will make a determination as to whether this training position needs to be replaced.
7. Contractors who assign training positions to Subcontractors must be sure the Subcontractor has an approved On-the-Job Training Program or an Apprenticeship Program as required under the auspices of the DC Apprenticeship Council consistent with DC Code 36-409(1981).
8. Subcontractors who are assigned trainee positions *cannot* use the prime contractor's program and may request the services of the DDOT's OJT Program Manager to assist in developing programs of their own. The Prime Contractor shall retain the responsibility for full compliance with the OJT trainee requirements of the project.
9. The DB Contractor shall provide a copy of the weekly **and** monthly reports to the trainee for their records and to monitor their individual progress. Reports are required to be submitted by the 5th of every month. Failure to submit both weekly and monthly reports may result in a notice of non-compliance.
10. At the conclusion of the training program, the DB Contractor is required to provide the trainee with a certificate of completion citing the successful completion of the required hours for journeyman status. A certificate of completion shall also be issued to apprentices acknowledging the completion of the on-the-job training requirement for their programs.

9.1.5.1 Apprenticeship Program

All prime Contractors and Subcontractors who contract with the District of Columbia Government to perform construction or renovation work with a single contract or cumulative contracts of at least $500,000.00, let within a twelve (12) month period, shall be required to register an apprenticeship program with the District of Columbia Apprenticeship Council. (D.C. Code 36-409((1981)).

9.1.5.2 Apprentices and Trainees

This supplements EMPLOYEE TRAINING REQUIREMENTS, ARTICLE 3 of STANDARD CONTRACT PROVISIONS FOR USE WITH SPECIFICATIONS FOR DISTRICT GOVERNMENT CONSTRUCTION PROJECTS, DATED 2013; as amended by the Transmittal Sheet No. 5.

(1) In Items A, B and C, except for subparagraph C5, wherever the words "Apprenticeship Council, D.C. Department of Labor" appear, add immediately after: "and/or U.S. Department of Labor."

(2) In Item B. Trainees, add the following: "Training programs approved under the requirements of Article IV; Section 4 and 5 of Required Contract Provisions, Federal Aid Construction Contracts (Form FHWA-1273) will satisfy the requirements of this item."

The DB Contractor and all Subcontractors shall furnish to the Contracting Officer written evidence of the registration of his/her program and apprentices as well as the appropriate ratios and wage rates for the areas of construction, prior to using any apprentice on the Contract.

The DB Contractor must submit an approved Apprenticeship Registration form to the OJT Program Manager within a reasonable time for processing by the DC Office of Apprenticeship and Training. For more information about the DC Apprenticeship Program, contact:

DC Office of Apprenticeship and Training
District Department of Employment Services
4058 Minnesota Avenue, NE, Suite 3900
Washington, DC 20019
Telephone: (202) 698-5099

9.1.5.3 Unannounced Site Visits

The District Department of Transportation (DDOT) Office of Civil Rights (OCR) retains the right to perform unannounced site visits as a component of its contract compliance program. OCR or its designed representative will display the proper identification upon entering the worksite. A report of the findings from the site visit will be submitted to the DB Contractor's designated representative.

If you have any questions regarding the Training Special Provisions, please contact:

On-the-Job Training Program Manager
55 M Street, SE
Washington, DC 20003
Telephone: 202-645-8620

Equal Employment Opportunity/Affirmative Action Requirements

Please see standard language for AAP, Applicability of law regarding EEO; Apprenticeship Program, Employment of the handicapped.

9.1.6 Local Hiring

FHWA has approved DDOT's application for Local Labor Hiring Preference (LLHP) under Special Experimental Project No. 14 (SEP-14). The DB Contractor shall exercise good faith efforts to meet the following LLHP goals:

1. At least 51 percent of all new jobs created on the Project (new hires) are to be performed by residents of the District of Columbia as defined by DC Code 47-1801.04; and
2. For all training and apprenticeship positions identified, at least 51 percent of the participants shall be residents of the District of Columbia as defined by DC Code 47-1801.04.

A new hire shall be an individual who has never worked for a DB Contractor-Related Entity or has been separated from the organization for more than 90 consecutive days.

9.2 Disadvantaged Business Enterprises

9.2.1 DBE Policy

Policy: The District Department of Transportation (DDOT) has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26. DDOT has received federal financial assistance from the Department of Transportation, and as a condition of receiving this assistance, the DDOT has signed an assurance that it will comply with 49 CFR Part 26.

It is the policy of DDOT to ensure that DBEs, as defined in Part 26, have an equal opportunity to receive and participate in DOT-assisted contracts. It is also our policy:

1. To ensure nondiscrimination in the award and administration of DOT-assisted contracts;
2. To create a level playing field on which DBEs can compete fairly for DOT-assisted contracts;
3. To ensure that the DBE Program is narrowly tailored in accordance with applicable law;
4. To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are permitted to participate as DBEs;
5. To help remove barriers to the participation of DBEs in DOT-assisted contracts;
6. To assist the development of firms that can compete successfully in the marketplace outside the DBE Program.

The Chief of Office of Civil Rights, is responsible for implementing all aspects of the DBE program. Implementation of the DBE program is accorded the same priority as compliance with all other legal obligations incurred by DDOT in its financial assistance agreements with the U.S. Department of Transportation.

The DB Contractor shall comply with the District's Disadvantaged Business Enterprises (DBE) Policy to provide DBEs with a full and equal opportunity to compete fairly in the performance of contracts financed with federal funds. The DB Contractor shall subcontract at least 13.05 percent of the total contract value for design and 21.77 percent of the total contract value for construction to certified DBEs in accordance with the policy. The DB Contractor shall comply with the requirements set forth in Exhibit C and the DBE requirements set forth in Exhibit D.

9.2.2 Inclusion in Subcontracts

The DB Contractor shall include Section 9.2.1 and Exhibit D in every contract and Subcontract (including purchase orders), so that such provisions will be binding upon each Subcontractor.

9.3 Limitation on Subcontracted Work

The DB Contractor shall perform with his own organization, Work amounting to not less than 40 percent of the construction Work, and the Major Participant responsible for design shall perform with his own organization, Work amounting to not less than 40 percent of the design Work. The percentage of construction Work sublet shall be determined by dividing the total dollar value of the Subcontracts for construction Work, excluding any Subcontracts with Major Participants but including any Subcontracts under and through Major Participants, by the portion of the Contract Price allocable to construction Work (as determined by the District). The percentage of design Work sublet shall be determined by dividing the total dollar value of the design Subcontracts (except Subcontract(s) between the DB Contractor and the Major Participant(s) responsible for design) by the total dollar value of the prime design Subcontract(s); (i.e. the Subcontract(s) between the DB Contractor and the Major Participant(s) responsible for design).

9.4 Subcontracting Requirements

The DB Contractor shall comply with all applicable requirements of the Contract Documents relating to Subcontracts (including Exhibits C and D) and shall ensure that all Subcontractors performing Work on the Project comply with all applicable requirements of the Contract Documents relating to Subcontracting (including Exhibits C and D). The DB Contractor shall not add, delete, or change the role of any Major Participant or Key Subcontractor without the prior written approval of the District.

9.5 District's Rights to Guarantees and Warranties

Each Subcontract shall provide that, pursuant to terms in form and substance satisfactory to the District, all guarantees and Warranties, express and implied, shall inure to the benefit of the District as well as the DB Contractor.

9.6 Subcontract Terms

Each Subcontract shall include all terms and conditions of the Contract Documents in the Subcontracts and ensure compliance by the Subcontractor with all applicable requirements of the Contract Documents, including Sections 3, 4, 5, 7, 8, 9, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 24, 25, 26, and Exhibits C and D of this Volume II, Book I, DBA.

9.7 Subcontract Data

By submission of a completed Subcontractor Approval Form, provided in Exhibit K, the DB Contractor shall notify the District, in writing, of the name and address of, and licenses held by, each Subcontractor (excluding Suppliers) as soon as the potential Subcontractor has been identified by the DB Contractor, but in no event, less than 14 Days prior to the scheduled initiation of Work by such proposed Subcontractor. The DB Contractor shall provide the District with a list of its Subcontractors (including Suppliers) from time to time upon request by the District; shall allow the District access to all Subcontracts and records regarding Subcontracts; and shall deliver to the District, within 10 Days after execution, copies of all Subcontracts with Major Participants and Key Subcontractors and, within 10 Days after receipt of a request from the District, copies of all other Subcontracts.

9.8 Responsibility for Work by Subcontractors

Notwithstanding any Subcontract or agreement with any Subcontractor, the DB Contractor shall be fully responsible for all Work. The District shall not be bound by any Subcontract, and no Subcontract shall include a provision purporting to bind the District.

9.9 Key Personnel

9.9.1 Key Personnel

Exhibit E hereto identifies Key Personnel for the Project. The District may, with the DB Contractor's approval, add Key Personnel at no cost to the District. The District shall have the right to review the qualifications of each individual to be assigned as Key Personnel (including personnel employed by Subcontractors) and to Approve or disapprove use of such key person in such key position prior to the commencement of any Work by such individual or during the prosecution of the Work. The DB Contractor shall notify the District in writing of any proposed changes in any Key Personnel and shall include a resume of proposed Key Personnel. The DB Contractor shall not change any Key Personnel without the prior written Approval of the District.

9.9.2 Key Personnel; Qualifications of Employees

The Contract Documents identify certain job categories of Key Personnel for the Project as provided in Exhibit E. The DB Contractor shall not change, or permit any change in, any Key Personnel.

The DB Contractor shall designate an Authorized Representative who shall have onsite field and office authority to represent and act for the DB Contractor. An Authorized Representative shall be present at the jobsite at all times while Work is actually in progress. The DB Contractor shall provide office phone numbers, email addresses, and mobile telephone numbers for all Key Personnel. DDOT requires the ability to contact the following Key Personnel 24 hours per day, 7 days per week: (a) Project Manager; (b) Construction Manager; (c) Maintenance of Traffic Manager; and (d) Environmental Compliance Manager.

The DB Contractor acknowledges and agrees that the award of this DBA by the District to the DB Contractor was based, in large part, on the qualifications and experience of the personnel listed in the Proposal and DB Contractor's commitment that such individuals would be available to undertake and perform the Work. The DB Contractor represents, warrants, and covenants that such individuals are available for and will fulfill the roles identified for them in the Proposal in connection with the Work subject to the individual's absence due to illness, death or termination of his/her employment with the DB Contractor. Unless otherwise agreed to by the District in writing, individuals filling Key Personnel roles shall be available for the Work and shall maintain active involvement in the prosecution and performance of the Work. In addition to the foregoing, DDOT reserves the right to require a 100 percent time commitment per position from any Key Personnel if DDOT, in its sole discretion, determines that such personnel are not devoting sufficient time to the prosecution and performance of the Work.

If NTP1 has not been issued within 180 days after the Price Proposal Due Date through no act, omission, negligence, intentional misconduct, or breach of applicable law, contract, or Governmental Approval of any DB Contractor-Related Entity, the DB Contractor shall have 30 days after issuance of NTP1 to identify any change in Key Personnel. Following any DDOT-approved substitution or replacement of a Key Personnel pursuant to the terms hereof, the new individual shall be considered a Key Personnel for all purposes under this DBA.

9.10 Project Labor Agreement

The DB Contractor shall comply, and cause its Subcontractors to comply, with the terms and conditions of the Project Labor Agreement attached as Exhibit M.

10 Surety Bonds

The DB Contractor shall provide to the District and maintain at all times during the term of the Contract security for performance of the Work as described below (or other assurance satisfactory to the District in its sole discretion). Each bond required hereunder shall be provided by an Eligible Surety or Eligible Sureties. The Contract bonds may not be in excess of the cumulative underwriting limitation listed in the circular of the underwriting capacities of the DB Contractor's surety companies.

10.1 Performance Bond

The DB Contractor shall provide a Performance Bond in accordance with Title 27 Regulations § 2703.3, in the form of Exhibit F, in the amount of 100 percent of the original Contract Price to the extent that this differs from the Standard Specification. Additional Performance Bond protection shall be required in connection with any modification effecting an increase in price under the Contract if: (i) the modification is for new or additional Work that is beyond the scope of the existing Contract, or (ii) the modification is pursuant to an existing provision of the Contract and is expected to increase the Contract value by more than $50,000.

10.2 Payment Bond

The DB Contractor shall provide a Payment Bond in accordance with Title 27 District of Columbia Municipal Regulations § 2703.6, in the form of Exhibit G, in the amount of 100 percent of the total amount of the original Contract Price. The Surety must be authorized to do business in the District of Columbia. The Payment Bond may also be the equivalent in cash or other security considered satisfactory to the District.

The Payment Bond shall be for the protection of all businesses supplying labor and materials, including lessors of equipment to the extent of the fair rental value of the equipment, to the DB Contractor or a Subcontractor in the performance of Work provided for by the Contract.

Before receiving a progress or final payment under a contract covered by this Section, the DB Contractor shall certify in writing that the DB Contractor has made payment from the proceeds of prior payments, and that the DB Contractor will make timely payments from the proceeds of the progress or final payment then due the DB Contractor, to the DB Contractor's Subcontractors and suppliers in accordance with its contractual arrangements with them.

The Payment Bond shall be released one (1) year after Final Acceptance or the District's receipt of the DB Contractor's Affidavit Regarding Settlement of Claims, whichever occurs later.

Additional Payment Bond protection shall be required in connection with any modification effecting an increase in price under the Contract if: (i) the modification is for new or additional Work that is beyond the scope of the existing Contract, or (ii) the modification is pursuant to an existing provision of the Contract and is expected to increase the Contract value by more than $50,000.

10.3 Replacement of Performance Bond

Provided that all conditions to Final Acceptance have occurred, the DB Contractor shall have the right to replace the Performance Bond with a replacement performance bond in an amount and in a form satisfactory to the District in its sole discretion (provided that it shall not be required to exceed 5 percent of the Contract Price) or with such other security as is Approved by the District in its sole discretion, guaranteeing due and punctual performance of all obligations of the DB Contractor under the Contract Documents, for the duration of those obligations, that survive Final Acceptance including, but not limited to Warranty.

10.4 No Relief of Liability

Notwithstanding any other requirements of the Contract Documents, performance by a Surety of any of the obligations of the DB Contractor shall not relieve the DB Contractor of any of its obligations hereunder.

11 Insurance

11.1 General Insurance Requirements

11.1.1 Evidence of Insurance

The DB Contractor shall provide evidence of insurance as proof of compliance for all insurance requirements contained in this Section 11. These insurance requirements are applicable to the DB Contractor only. The DB Contractor shall require its Subcontractors to obtain insurance in amounts deemed appropriate by the DB Contractor.

The DB Contractor's insurance shall cover all Work under this Contract, whether the Work is performed by the DB Contractor or its Subcontractors. The DB Contractor's insurance shall cover the entire Project. The DB Contractor has the option of providing evidence of the insurance required in Section 11.2 either:(a) as part of its existing insurance, or (b) as Project-specific insurance. If the DB Contractor provides insurance as part of its existing insurance, its insurance premiums shall be included as part of its Proposal Price without any reimbursement from the District. If the DB Contractor purchases Project-specific insurance, such premiums shall be included in the DB Contractor's Proposal Price.

Evidence of the DB Contractor's insurance shall provide for 10 Days' written notice of cancellation for nonpayment of premiums, or 45 Days' written notice of cancellation for any other reason, including non-renewal. The DB Contractor shall delete the phrase "will endeavor to" preceding all references to provisions of notice by the insurance company in the evidence of insurance.

DB Contractor shall provide written notice to the District of cancellation, policy expiration, or non-renewal within five (5) business days of the date the DB Contractor is first aware of the cancellation, expiration, or non-renewal, or is first aware that the cancellation, expiration, or non-renewal is threatened or otherwise may occur, whichever comes first.

A Certificate of Insurance on an ACORD form indicating certain specified amendments and attachments shall be submitted by DB Contractor to the District. The DB Contractor must provide, simultaneously with the execution of the DB Agreement, copies of binders and sample policies, with a complete certified copy of the policies submitted to the District within 60 days thereafter. DB Contractor shall provide District with a copy of endorsement(s) to the policies and cancellation and/or non-renewal notices evidencing the same. All policies shall include a waiver of subrogation endorsement and a severability of interest's endorsement. The District shall not be liable for amounts that may represent a deductible or self-insured retention in any insurance policy, and the payment of such deductibles and self-insured retentions shall be the sole responsibility of the DB Contractor, Major Participant, subcontractor, or consultant providing such insurance. DB Contractor, Major Participants, its subcontractors and consultants shall reveal the amount of such deductibles and self-insured retentions, if any, for each policy. All insurance must be written on an occurrence basis, except for professional liability insurance which may be written on a claims made basis. No Work will start until proof of insurance has been submitted to the District.

11.1.2 A.M. Best Rating

All insurance companies providing policies obtained to satisfy the insurance requirements must have an A.M. Best Company, Inc. rating of A-, Class X, or better and authorized to do business in the District. Policies may be procured from companies not authorized to do business in the District with the aforementioned rating, provided that such policies are procured in accordance with the requirements of D.C. Official Code § 31-2502.40.

11.1.3 Full Force and Effect

The commercial general liability, excess (umbrella) liability, contractor's pollution liability, and professional liability insurance coverage requirements will remain in full force and effect until Final Acceptance, at which

time the DB Contractor shall maintain completed operations insurance throughout the term of all Warranties or as otherwise required by the Contract Documents, whichever is greater.

11.1.4 No Recourse

There shall be no recourse against the District for payment of premiums or other amounts with respect to the insurance provided by the DB Contractor or for deductibles under these policies. This provision does not affect any rights the DB Contractor is entitled to pursuant to Section 14.

11.1.5 Indemnification

The insurance coverage provided hereunder shall provide coverage for, but is not intended to limit, the DB Contractor's indemnification obligations under Section 20.

11.2 Contractor-Provided Insurance

The DB Contractor shall procure, at its own expense, insurance acceptable to the District, as described herein, and shall maintain such insurance, as specified herein, in accordance with the requirements stated in this Section 11, or as otherwise Approved by the District at its sole discretion.

11.2.1 Workers' Compensation and Employer's Liability Coverage

The DB Contractor shall furnish evidence to the District that, with respect to the Work, the DB Contractor carries workers' compensation insurance according to the statutes of the District of Columbia, including Employer's Liability in the amount of $25,000,000 per accident for injury, $25,000,000 per employee for disease, with a policy disease limit of $25,000,000. If Work is on or near navigable waterways, United States Longshore and Harbor Workers Compensation Act (USL&H) coverage (federal statutory limits) must be included.

11.2.2 Commercial General Liability Insurance

The DB Contractor shall provide commercial general liability broad form coverage for bodily injury, property damage, personal injury, and advertising liability written on an occurrence form that shall be no less comprehensive or more restrictive than the coverage provided by the current version of the Insurance Services Office Commercial General Liability Coverage Form.

1. Limits of liability. General liability:

   $75,000,000—each occurrence.
   $75,000,000—per general aggregate.
   $75,000,000—products/completed operations liability in the aggregate.

2. Such insurance shall include, by its terms or appropriate endorsements, bodily injury, property damage, legal liability, personal injury, blanket contractual, independent contractors, premises, operations and products and completed operations. Such insurance shall also include blanket coverage for explosion, collapse, and underground hazards.

3. Products and completed operations coverage shall be continued for a minimum of two (2) years from Final Acceptance.

4. The District shall be an additional insured with respect to liability arising out of acts or omissions of the DB Contractor or its Subcontractors, whether on or off the Site.

11.2.3 Automobile Liability Insurance

The DB Contractor shall provide occurrence-based commercial automobile liability insurance covering all owned/leased, non-owned, and hired vehicles used in the performance of Work, both on and off the Site, including loading and unloading.

The following limits of liability and other requirements shall apply:

1. $5,000,000 per occurrence combined single limit for bodily injury and property damage liability.
2. Coverage shall be provided on the current version of the Insurance Services Office Business Auto Coverage Form or equivalent.
3. The policy shall be endorsed to include Motor Carrier Act endorsement—Hazardous Materials Cleanup (Motor Carrier Safety -90), if applicable.

11.2.4 Excess (Umbrella) Liability Insurance

The DB Contractor may provide umbrella or excess liability insurance for each wrongful act that will provide bodily injury, personal injury, and property damage liability at least as broad as the primary coverage set forth above, including employer's liability, commercial general liability, and commercial automobile liability, as set forth in Sections 11.2.1, 11.2.2, and 11.2.3. The umbrella or excess liability, in combination with the primary, may be used to meet the limits stated herein.

11.2.5 Contractor's Pollution Legal Liability Coverage

The DB Contractor shall provide pollution legal liability coverage for the Project. The limit of liability per occurrence shall be $20,000,000 and the total Project aggregate shall be $20,000,000.

11.2.6 Additional Insureds

Each policy of commercial general liability insurance and commercial auto liability insurance shall name the District and the District's members, agents, consultants, and employees including, but not limited to, the District's General Engineering Consultant, as additional insureds. The insurance afforded by the DB Contractor shall be the primary insurance.

11.2.7 Navigable Waters Insurance Protection

Should watercraft of any kind be used by the DB Contractor, any tier of Subcontractor, or by anyone else on their behalf, the DB Contractor or Subcontractor shall maintain or cause the operator of the watercraft to maintain watercraft public liability insurance including bodily injury, property damage, and passenger liability, as respects any watercraft owned, used, operated, or hired in connection with the Work by the DB Contractor, Subcontractor or anyone else, with limits of $20,000,000 per occurrence combined single limit bodily injury and property damage.

11.2.8 Professional Liability Insurance

The DB Contractor and the Major Participant in the DB Contractor entity who will perform the design function (i.e., the engineer in charge or "Designer") shall maintain project-specific professional liability insurance appropriate to the consultant's profession with provisions at least as follows:

1. Each policy shall protect against any negligent act, error or omission arising out of the design or engineering Activities of the policyholder.
2. Each policy shall have a retroactive date of no later than the date the first design or engineering Activities have been conducted by the respective policyholder.
3. Each policy shall be required to cover up to $20,000,000 per Claim and $20,000,000 per aggregate for each wrongful act.

The DB Contractor shall ensure that the policies cover Claims made during the policy period, or that are reported for a period of five (5) years after Final Acceptance, arising out of acts, errors, or omissions, as described in Subsection 11.2.8-1.

11.2.9 Railroad Protective Insurance

The DB Contractor shall be responsible for providing all additional insurance as required by CSXT, WMATA and any other affected railroad facilities in the amounts as required by the respective railroads.

11.2.10 Builder's Risk

DB Contractor shall provide an all risk policy, including workmanship acceptable to the District, in the amount equal at all times to 100% of the Contract Price attributable to completed construction value including potential redesign. The policy shall include coverage for loss or damage caused by certified acts of terrorism as defined in the Terrorism Risk Insurance Act and business interruption and delayed completion coverage. The policy shall be issued in the name of the DB Contractor and shall name its Subcontractors as additional insureds. The District shall be named as a loss payee on the policy.

This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the present premises. If off site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.

11.2.11 Crime Insurance

The DB Contractor shall be responsible for crime insurance in the amount of $2,000,000 for each wrongful act and$4,000,000 aggregate for each wrongful act.

12 Risk of Loss

12.1 Site Security and Access

The DB Contractor shall provide appropriate security for the Site, including securing any buildings from entry; shall take all reasonable precautions; and shall provide protection to prevent damage, injury, or loss to the Work and materials and equipment to be incorporated therein, as well as all other property at the Site, whether owned by the DB Contractor, the District, or any other Person.

12.2 Maintenance and Repair of Work and Onsite Property

12.2.1 Responsibility of Contractor

The DB Contractor shall maintain, rebuild, repair, restore, or replace all Work (including Design Documents, Released for Construction Documents, As-Built Documents, and materials, equipment, supplies, and maintenance equipment that are purchased for permanent installation in or for use during construction of the Project, regardless of whether the District has title thereto under the Contract Documents) that is damaged prior to the date of acceptance of maintenance liability by the District or third parties as specified in Section 12.2.2. All such Work shall be at no additional cost to the District except to the extent that the District is responsible for such costs as provided in Section 14. Additional requirements regarding maintenance of roadways during construction are set forth in Volume II, Book II, Section 29, Maintenance During Construction.

12.2.2 Relief from Liability for Maintenance

Effective as of the date of Final Acceptance by the District of the Project, the District is responsible for maintenance for all elements of the Project that have been Accepted. Nothing in the Contract Documents, however, shall be construed to relieve the DB Contractor of full responsibility for making good any non-latent defect in Work or material found on any portion of Work prior to Final Acceptance of the entire Project, to alter in any manner the method of payment prescribed in the Contract Documents, or to constitute a waiver of any Claim the District may have against the DB Contractor on the entire Project. Notwithstanding the foregoing, all elements of the Work that will be owned by Persons other than the District (such as Utility facilities) will be considered accepted for purposes of maintenance responsibility only as of the date of acceptance of maintenance responsibilities by such Persons.

12.3 Damage to Offsite Property

The DB Contractor shall take all required precautions and provide protection to prevent damage, injury, or loss to property adjacent to the Site or likely to be affected by the Work. The DB Contractor shall restore damaged, injured, or lost property caused by an act or omission of any DB Contractor-Related Entity to a condition similar or equal to that existing before the damage, injury, or loss occurred.

12.4 Third-Party Agreements and District-Obtained Permits

The DB Contractor shall comply with all provisions in the third-party agreements and District-obtained permits.

13 Payment

13.1 Contract Price

13.1.1 Contract Price

As full compensation for the Work and all other obligations to be performed by the DB Contractor under the Contract Documents, subject to the provisions of this Design-Build Agreement, the District shall pay to the DB Contractor the Contract Price of [$XX,XXX,XXX.XX]. Contained in the contract price is an allowance for removal and disposal of hazardous materials which shall be paid on a cost reimbursement basis in accordance with Section 15.9. (Such amount, as it may be adjusted from time to time to account for Change Orders, is referred to herein as the "Contract Price.")

13.1.2 Items Included in Contract Price

The DB Contractor acknowledges and agrees that, subject only to the DB Contractor's rights under Section 15, the Contract Price includes the following:

1. Performance of each and every portion of the Work.
2. All designs, equipment, materials, labor, insurance and bond premiums, home office, jobsite and other overhead, profit, and services relating to the DB Contractor's performance of its obligations under the Contract Documents (including all Work, Warranties, equipment, materials, labor, and services provided by Subcontractors and intellectual property rights necessary to perform the Work).
3. The cost of obtaining all Governmental Approvals (except for approvals that are the responsibility of the District, as specifically provided elsewhere in the Contract Documents).
4. All costs of compliance with and maintenance of the Governmental Approvals and compliance with legal requirements, including environmental commitments and mitigation measures.
5. Payment of any taxes, duties, and permit and other fees and/or royalties imposed with respect to the Work and any equipment, materials, labor, or services included therein.
6. All DB Contractor's Utility Work as described in this DBA and Volume II, Book II, Technical Provisions, Section 10, Utilities.

13.1.3 Delay in Award of Contract

The District will award the Contract and issue NTP1 upon execution and delivery of the Contract, subject to the requirements in Section 6.2.1. If the District has not issued NTP1 within 15 Business Days after execution of the Contract by the District, through no fault, negligence, act or failure to act of DB Contractor, the DB Contractor may seek to negotiate a Change Order including an extension in the time allowed to the District for issuance of NTP1, extension in the time allowed for the DB Contractor to reach the Project Completion Deadlines, and an increase in the Contract Price mutually acceptable to the DB Contractor and the District. Any price increase under this Section 13.1.3 shall be amortized proportionally over all Work remaining to be performed and shall be evidenced by a Change Order.

13.1.4 Fuel, Asphalt and Steel Price Adjustment

13.1.4.1 Fuel and Asphalt Price Adjustment

General

This price adjustment provision is intended to minimize risk to the DB Contractor and DDOT due to the potential of volatile price fluctuations for fuel and asphalt materials that might occur prior to the Final Completion Deadline. The DB Contractor or DDOT may invoke this provision at any time prior to the Final Completion Deadline by written notification to the other party whenever the limits specified herein are

reached or exceeded. The adjustment may be invoked more than one time during the course of the Contract; however, following Final Acceptance, one Change Order will be executed for this provision. This Change Order will adjust the final Contract Price to reflect the net sum (increase or decrease) of all accumulative adjustments calculated by this provision.

This provision is not designed or intended to estimate actual changes in prices of fuel, asphalt materials or other petroleum-based products used to construct the Project, but provide a reasonable basis for price adjustments.

The Contract Base Price (CBP) will be the basis for determining if an adjustment is warranted under this provision. Adjustments will be made (upwards or downward) only when the difference between the CBP and the Current Average Base Price (CABP) is in excess of twenty (20) percent (up or down).

DDOT, under the provision herein, will calculate the Fuel Price Adjustments. It will be presumed that the DB Contractor has relied on these provisions for Fuel Price Adjustment when calculating the Contract Price.

Definitions

Contract Base Price

On the first Business Day following the Proposal Due Date, the District shall determine the average (mean) base price per barrel of crude oil using the data for West Texas Intermediate (WTI) crude, as listed on the following website:

http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=RWTC&f=D

The District will use the spot prices for the four weeks preceding that date as a basis. The average base price will equal the sum of the four-week spot prices divided by four. The average price determined will be the CBP. If an adjustment is made, the CABP at the time of adjustment will become the revised CBP and will be the basis for determining future adjustments.

Current Average Base Price

On the first Monday of the month following three (3) months after NTP2, and on every first Monday of the fourth month thereafter, DDOT will determine the average (mean) base price per barrel of WTI over the previous period. The first average (mean) will cover the time period from the CBP to the first Monday of the month following six (6) months after NTP2. The CABP shall be calculated by dividing the total of the individual weekly base prices during the period by the number of weeks represented.

FAPA

The monetary amount of the Fuel and Asphalt Price Adjustment (plus or minus).

Value of Work Performed

The Value of Work Performed (VWP) shall be equal to the invoice amounts earned during the time period of the adjustment. Under no circumstances shall the Value of Work Performed include any amounts that were previously covered by an adjustment.

Calculation of Fuel and Asphalt Price Adjustments

The Fuel and Asphalt Price Adjustment will be calculated as follows when the CABP is more than 120% of the CBP (or revised CBP):

FAPA = {((CABP – (1.20 * CBP))/95) * (0.035 * VWP)} Addition

The Fuel and Asphalt Price Adjustment will be calculated as follows when the CABP is less than 80% of the CBP (or revised CBP):

FAPA = {((CABP – (0.80 * CBP))/95) * (0.035 * VWP)} Deduction

The amount of the price adjustment calculated in accordance with this provision will be rounded to the nearest $500.

13.1.4.2 Reserved

13.1.4.3 Steel Price Adjustment

General

This clause is to provide additional compensation to the DB Contractor or a credit to the District for fluctuations in steel prices causing material cost changes that occur prior to the Completion Deadline. This price adjustment is dependent upon an increase or decrease in the average price of raw steel (prior to rolling or manipulation) used in the production of products used on this Project.

1. Conditions
   a. The following items are eligible to be considered for price adjustment: structural steel, reinforcing steel, overhead sign structures, guardrail, structural plate pipe, steel encasement pipe, foundation piles, strands for pre-stressed components, and mechanical systems.
   b. At the Proposal Price Date, each individual item listed above must have a minimum bid amount of $25,000.
   c. The DB Contractor shall order materials promptly upon NTP2 and take possession of materials as quickly as reasonably possible.
2. Submittals
   a. The DB Contractor shall submit, after Selection, the Producers Price Index (PPI) from the U.S. Department of Labor, Bureau of Labor Statistics. This index measures the average price change over time of the specific steel eligible item from the perspective of the seller of goods. The specific PPI to be used to adjust the price for the eligible steel items is shown in the table below. Please note the PPI is subject to revision four months after original publication; therefore, price adjustments and payments will not be made until the index numbers are finalized.

The following table indicates the PPI steel category index items and the corresponding ID numbers to which steel items will be compared:

Eligible Steel Item	Bureau of Labor Statistics PPI Series ID Number WPU#
Reinforcing steel (plain and epoxy-coated), Steel Strand (pre-tensioning and post-tensioning)	101704
Plate girders and rolled beams (standard and high strength, diaphragms, plate bearings, etc.), Steel piling (H-pile and sheet)	Average of 1017 and 101
Steel encasement pipe, overhead sign structures, posts, poles, guardrail, sign or lighting supports, and railing	101706
Guardrail	Average of 1017 and 101707

Weights and date of shipment must be documented by a bill of lading provided to the District.

3. Adjustment Computations
   a. If there is an increase or decrease in steel materials cost in excess of 10 percent from the PPI index, increases or decreases in excess of 10 percent over the same time period, the District will increase or decrease payment(s) under this Contract.

Price Increase/Decrease will be computed as follows:

$$A=B \times P \times Q$$

Where;

A = Steel price adjustment in lump sum dollars

B = Average weighted price of steel submitted with bid on Project in dollars per pound

P = Adjusted percentage change in PPI average from shipping date to bid date minus 10 percent (0.10) threshold

Q = Total quantity of steel in pounds shipped to fabricator for the Project in a monthly period

Calculations for price adjustment shall be shown separate from the monthly progress estimate and will not be included in the total cost of work for determination of progress or for extension of Contract time.

4. Adjustment Cap

   This price adjustment is capped at 50 percent. If an increase or decrease in steel material costs exceeds 50 percent of the bid price, no further adjustment beyond the 50 percent level will be made.

   If the decrease in the steel material (as dictated by the PPI) exceeds 50 percent of the original PPI index, the DB Contractor may submit to the District additional market index information specific to the item in question to dispute the decrease. The District will review this information and determine if the decrease beyond 50 percent is warranted.

13.2 Invoices and Payment

Requirements relating to invoicing are set forth in Volume II, Book II, Section 26. Within 30 Days after Approval by the District of each final and complete invoice, as described in this Section 13, the District shall pay the DB Contractor the amount of the invoice approved for payment less any amounts that the District is entitled to withhold.

Each invoice submitted for payment shall include a certification from the QAM that the work being invoiced has been performed in accordance with and meets Contract requirements.

13.3 Limitations on Payment

1. In no event shall the District have any obligation to pay the DB Contractor any amount that would result in:
   a. payment for any Activity in excess of the value of the Activity times the completion percentage of such Activity;
   b. aggregate payments hereunder in excess of: (a) the overall completion percentage for the Project times the Contract Price; or (b) the Payment Caps described herein;
2. The District may withhold payment in whole or in part if the difference between the Contract Price and the sum of the amount requested in an invoice and amounts paid pursuant to prior invoices is not sufficient, in the District's reasonable judgment to (a) pay for completion of the Work, (b) pay any unpaid liens properly and timely filed under applicable laws, or (c) satisfy all obligations of the DB Contractor, present or future, for Work provided or to be provided under this Contract.
3. The District does not have the obligation to pay the DB Contractor for any Nonconforming Work.
4. Payments made under Section 13.2 of this DBA shall not exceed DB Contractor Draws/Cash Flow Table (Form M-2) submitted with the Proposal, unless the Contracting Officer specifically approves this in writing.

13.3.1 Requirement to Provide Corrected Monthly Update

After Approval of the Original Baseline Schedule, no payment will be processed or owing to the DB Contractor for Work performed during any period not covered by the accepted current Monthly Progress Schedule.

13.3.2 NTP1 Payment Cap

The amount of funds available to pay the DB Contractor for Work performed prior to issuance of NTP2 is limited to the amount of the NTP1 Payment Cap. The NTP1 Payment Cap is $20,000,000. The District has no obligation to make any payment to the DB Contractor in excess of this amount until such time (if any) as NTP2 is issued. If the DB Contractor performs any Work in excess of the NTP1 Payment Cap, it does so at its own risk.

13.3.3 Stockpiled Materials

Payment for stockpiled materials shall be included in the monthly progress payments provided the following conditions are met:

1. The stockpile site is under the control of the DB Contractor and will remain so until the material is incorporated in the Work. The stockpile materials must be specifically authorized by and acquired for the Project. The stockpile site must be bonded and acceptable to the District and must be kept secure at all times by the DB Contractor. Proof of such bond and control shall be submitted to the District.
2. Appropriate test reports, if required, shall be submitted to the District and show that the materials meet the requirements of the Contract. The District has the authority to inspect, test, and approve the stockpiled materials.
3. If the stockpiled materials are stored in a site that is more than 20 miles from the Project Site, the DB Contractor shall be responsible for payment of all costs for the District to inspect the stockpile site and the materials stored at the site.
4. Contractor requests for payment shall be in writing and shall include the written consent of the Surety as well as insurance in the District's name that covers loss, damage, or destruction of the stockpiled materials.
5. Copies of suppliers' invoices shall accompany all requests for payment. Copies of paid invoices for materials shall be submitted to the District within one (1) month after the DB Contractor has received payment for the materials. Failure to provide timely submission of paid invoices shall be cause to deduct payment for the materials from the subsequent monthly progress payment.
6. Payment shall be limited to the following stockpiled materials unless specifically approved by the District: sewer pipe, water pipe, water and sewer valves, guiderail, electrical work materials, mechanical work materials, piling, Portland Cement Concrete (PCC) form materials, reinforcing steel, pre-stressed concrete beams, structural steel, paint, stone masonry, railing, bridge deck drainage, steel sign structures, and wall tile. No payment will be made for invoices less than $10,000.00 or for materials that will be stored for less than 30 Days. No payment greater than $5,000,000 shall be made for stockpiled materials for any given month.

13.4 Mobilization and Insurance Payment, Retainage and Deductions

The amount of premiums identified in the bid item price by the DB Contractor for the Payment and Performance Bonds and for insurance required to be provided by the DB Contractor under Sections 10 and 11 may be invoiced as described in the Technical Provisions Section 26.

The DB Contractor will be entitled to payment for mobilization, in an amount equal to the bid item price for mobilization, not to exceed 5 percent of the Contract Price. Payments will be made in four equal monthly installments commencing the first month following issuance of NTP2.

13.4.1 Retainage

The District shall withhold 10 percent retainage from each progress payment to be made to the DB Contractor in accordance with Section 103, Article 9, Standard Contract Provisions, *DDOT Standard Specifications for Highways and Structures*.

13.4.2 Deductions

The District may deduct from any amounts otherwise owing to the DB Contractor, including each monthly progress payment and the final payment, the following:

1. Any accrued losses, liability, Liquidated Damages, or other damages for which the DB Contractor is responsible hereunder including, without limitation, amounts based on reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or Liquidated Damages for the anticipated delay.
2. The estimated cost of remedying any Nonconforming Work or otherwise remedying any breach or default of the Contract by the DB Contractor.
3. The average daily value of QC/QA costs for any day in which DDOT issues an NCR.
4. The amount of any outstanding Claim relating to the Work.
5. Amounts of third-party claims filed, or of probable claims for which reasonable evidence indicates probable filing unless security acceptable to the District is provided by the DB Contractor.
6. The amount for Work that the DB Contractor is obligated to perform under the Contract, which the DB Contractor has failed to perform.
7. Damage to the District.
8. Failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment.
9. Any other sums which the District is entitled to recover from the DB Contractor under the terms of the Contract.

The District's failure to deduct from a progress payment any amount, which the District is entitled to recover from the DB Contractor under the Contract, shall not constitute a waiver of the District's right to such amounts.

13.5 Final Payment

Final payment will be made in accordance with this Section 13.5.

13.5.1 Application for Final Payment

On or about the date of delivery of its Affidavit of Final Completion, the DB Contractor shall prepare and submit a proposed Application for Final Payment to the District showing the proposed total amount due the DB Contractor. In addition to meeting all other requirements for invoices hereunder, the Application for Final Payment shall include the following: (a) an affidavit, on the form prescribed by the District, to the effect that all payments have been made and all Claims have been released for all material, labor and other items covered by the Contract bond; or (b) a list of any outstanding or pending Potential Change Order (PCO) Notices and all existing or threatened Claims, Liens and stop notices by Subcontractors, laborers, Utility Companies or other third parties relating to the Project, including any notices filed or to be filed with the Affidavit of Final Completion, stating the amount at issue associated with each such notice; (c) the written consent by the Surety to such payment; and (d) such other documentation as the District may

reasonably require. Prior applications and payments shall be subject to correction in the proposed Application for Final Payment. PCO Notices filed concurrently with the Application for Final Payment must be otherwise timely and meet all requirements under Sections 14 and 15. If a Subcontractor refuses to furnish a release or waiver required by the District, the DB Contractor may furnish a bond satisfactory to the District to indemnify the District against such Lien. If such Lien remains unsatisfied after payments are made and is not bonded over as provided in the previous sentence, the DB Contractor shall promptly pay to the District all money that the District may be compelled to pay in discharging such Lien, including all costs and attorneys' fees.

The District will review the DB Contractor's proposed Application for Final Payment, and changes or corrections will be forwarded to the DB Contractor for correction. If no changes or corrections are required, the District will approve the Application for Final Payment.

13.5.2 Payment

As a condition to its obligation to make payment to the DB Contractor based on the Application for Final Payment, the District shall have received an Affidavit Regarding Settlement of Claims from the DB Contractor, releasing and waiving any Claims against the Indemnified Parties and those matters identified in any PCO Notices listed as outstanding in the Application for Final Payment, and otherwise satisfactory in form and content to the District.

The Settlement of Claims Affidavit shall include, as a minimum, a certification by the DB Contractor that:

1. It has resolved any Claims made by Subcontractors, Utility Companies, and others against the DB Contractor or the Project.
2. It has no reason to believe that any Person has a valid Claim, against the DB Contractor or the Project, which has not been communicated in writing by the DB Contractor to the District as of the date of the certificate.
3. All guarantees and Warranties are in full force and effect.

The Settlement of Claims Affidavit shall survive Final Payment. The payment amount will be reduced by any amounts deductible under this Section 13.5.

All prior partial estimates and payments shall be subject to correction in the Final Payment. The DB Contractor's acceptance of Final Payment shall constitute a waiver of affirmative Claims by the DB Contractor except those previously made in writing and identified as unsettled at the time of Final Payment.

13.6 Prompt Payment to Subcontractors

The DB Contractor shall ensure that all Subcontractors and suppliers at every tier are promptly paid in accordance with D.C. Code §2-221.02. The DB Contractor shall include in all subcontracts a provision that this requirement for prompt payment to the Subcontractors and suppliers must be included in all subcontracts at every tier. If the DB Contractor fails to comply with this requirement, the District may withhold the amount due from any monthly progress payment until the required payment(s) have been made.

13.7 Disputes

Subject to the District's right to withhold from progress payments any amounts in dispute, and except as expressly stated otherwise in this Section, any disagreement between the District and the DB Contractor relating to this Section 13 shall be subject to Section 21. Failure by the District to pay any amount in dispute shall not alleviate, diminish, or modify in any respect the DB Contractor's obligation to perform under the Contract Documents, including the DB Contractor's obligation to achieve Final Acceptance in accordance with the Contract Documents. The DB Contractor shall not cease or slow down performance under the

Contract Documents on account of any such amount in dispute. The DB Contractor shall proceed as directed by the District pending resolution of the Dispute. Upon resolution of such Dispute, each party shall promptly pay to the other any amount owing.

14 Change Orders

14.1 Time and Money Changes

The DB Contractor may request a Change Order, subject to the limitations set forth in Section 15 and Exhibit L - Appendix 2, for increased costs and/or additional time for Completion Deadlines only for the following:

1. Additional costs and/or time directly attributable to additional Work resulting from District-Directed Changes.
2. Additional costs and/or time directly attributable to unavoidable delays arising from a suspension order pursuant to Section 16.1.
3. Additional costs and/or time directly attributable to failure or inability of the District to provide the DB Contractor with access to ROW identified on the ROW Drawings on or before the deadline for such access set forth in Volume II, Book II, Section 24.
4. Additional costs and/or time directly attributable to a delay in issuance of NTP1 to the extent provided in Sections 6.2.1 and 13.1.3.
5. Additional costs and/or time directly attributable to a delay in issuance of NTP2 or in providing reasons why the District was unable to do so to the extent provided in Section 6.2.2 (Approval of Quality Plan and Approved Baseline Schedule).
6. Additional costs and/or time directly attributable to Differing Site Conditions, to the extent provided in Section 15.8.
7. Certain additional costs or time relating to removal and disposal of Hazardous Materials as described in Section 15.9, to the extent provided therein.
8. Certain additional costs (in the case of added Utility Work as described in Section 8.2.5) or time relating to discovery of unknown Utilities or uncooperative Utilities, as described in Section 8.2.1, to the extent provided therein.
9. Certain additional costs and/or time relating to material errors in the ROW Drawings, as described in Section 15.10, to the extent provided therein.
10. Additional costs and/or time directly attributable to uncovering, removing, and restoring Work, to the extent provided in Section 7.4.3.
11. Additional costs and/or time directly attributable to the discovery at, near, or on the Site articles of historical, architectural, archaeological significance or species listed as threatened or endangered discovered within the ROW, provided that the existence of such articles or species was not disclosed in the RFP or discoverable through reasonable investigation prior to the Proposal Due Date.
12. Additional costs and/or time directly attributable to the suspension, termination, interruption, denial, failure to obtain, nonrenewal or amendment of any Environmental Approval or New Environmental Approval required to be obtained by the District, except as otherwise provided in Section 8.3.
13. Additional costs and/or time directly attributable to any change in a legal requirement, change in the judicial interpretation of a legal requirement, or adoption of any new legal requirement, which is materially inconsistent with legal requirements in effect on the Price Proposal Due Date (excluding any such change or new legal requirement which was passed or adopted as of the Price Proposal Due Date but has a defined future effective date) and which: (i) requires a material modification in the Project Work; (ii) requires the DB Contractor to obtain a major District or federal environmental approval not previously required for the Project; or (iii) specifically targets the Project or the DB Contractor.

14. Additional costs and/or time directly attributable to any lawsuit seeking to restrain, enjoin, challenge, or delay construction of the Project, except to the extent that the risk of such lawsuit has been assumed by the DB Contractor under Section 8.3; or the lawsuit otherwise arises out of any act, omission, or breach of obligation of Contractor, a Subcontractor or any person for whom Contractor is contractually or legally liable.
15. Additional time and/or money directly attributable to third party Hazardous Materials / Hazardous Material spills.

14.2 Time-Only Changes

The DB Contractor may request a Change Order for time extensions, subject to the limitations set forth in Section 15.6.3, for additional time for Completion Deadlines, only for the following:

1. Force Majeure Events as described in Section 18.2.
2. Failure or inability of the District to provide responses to proposed schedules, design submittals or other submittals and matters for which response by the District is required within the time periods indicated in the Contract Documents, so long as such schedules, design submittals, or other submittals and matters meet all of the applicable requirements of the Contract Documents.

15 Changes in the Work

This Section 15 sets forth the requirements for obtaining all Change Orders under the Contract. The DB Contractor hereby acknowledges and agrees that the Contract Price constitutes full compensation for performance of all Work, subject only to those exceptions specified in this Section 15, and that the District is subject to constraints which limit its ability to increase the Contract Price or extend the Completion Deadlines. The DB Contractor hereby waives the right to make any Claim for a time extension or for any monetary compensation in addition to the Contract Price and other compensation specified in the Contract, except as set forth in this Section 15.

15.1 Procedure for Change Order Requests

15.1.1 Change Orders

The term "Change Order" shall mean a written amendment to the terms and conditions of the Contract Documents issued in accordance with this Section 15. A Change Order shall not be effective for any purpose unless executed by the District. Change Orders may be requested by the DB Contractor only pursuant to Section 14. Change Orders may be issued for the following purposes (or combination thereof):

1. To modify the Work
2. To revise a Completion Deadline
3. To revise the Contract Price
4. To revise other terms and conditions of the Contract Documents

The CO will notify the DB Contractor of the determination whether or not an adjustment of the Contract is warranted. Upon the determination by the CO that an adjustment to the Contract is warranted, the District will execute the Change Order.

15.1.2 Issuance of Directive Letter

The District may, at any time, issue a Directive Letter to the DB Contractor in the event of any Dispute regarding the Work or for any desired change in the Work. The Directive Letter will state that it is issued under this Section 15, will describe the Work in question, and will state the basis for determining compensation, if any. The DB Contractor shall proceed immediately with the Work as directed in the letter, pending the execution of a formal Change Order or, if the letter states that the Work is within the original scope of the Work, the DB Contractor shall proceed with the Work as directed but shall have the right pursuant to Section 15 to request that the District issue a Change Order with respect thereto.

Receipt of a Directive Letter from the District is a condition precedent to the DB Contractor's right to claim that a District-Directed Change has occurred, provided that no Directive Letter shall be required for alleged District-Directed Changes directly attributable to delays caused by bad faith actions, active interference, gross negligence or comparable tortious conduct by the District. The fact that a Directive Letter was issued by the District shall not be considered evidence that in fact a District-Directed Change occurred. The determination as to whether a District-Directed Change in fact occurred shall be based on an analysis of the original Contract Document requirements and a determination whether the Directive Letter in fact constituted a change in those requirements. The foregoing requirements shall not imply that a Directive Letter would be required in order for the DB Contractor to have the right to receive compensation for Work within its original scope for which additional compensation is specifically allowed under this Section 15.

15.1.3 Performance of Changed or Extra Work

As a condition precedent to the DB Contractor's right to receive additional payment or an extension of a Completion Deadline for changed or extra work, the DB Contractor shall have received either a Directive Letter from the District stating that it is issued pursuant to Section 15 or a Change Order for such work executed by the District. To the extent that the DB Contractor undertakes any such work without receiving a

Directive Letter or Change Order executed by the District, the DB Contractor shall be deemed to have performed such work voluntarily and may not be entitled to a Change Order in connection therewith. In addition, the DB Contractor may be required to remove or otherwise undo any such work at its sole cost.

15.2 Value Engineering Change Proposals

DDOT desires the DB Contractor to have significant flexibility in determining how best to deliver the Project within the parameters established by the Contract Documents. The DB Contractor is encouraged to submit VECPs whenever it identifies potential savings. Notwithstanding the foregoing, DDOT's Approval is required with respect to any proposed changes in the requirements of the Contract Documents. DDOT may solicit comment from Project stakeholders including Commission of Fine Arts, National Capitol Planning Commission and DC State Historic Preservation Office, on District approval that applies to VECPs that modify Project visual quality. This Section 15.2 sets forth the requirements applicable to VECPs.

15.2.1 Definition of Value Engineering Change Proposal

A VECP is a proposal developed and documented by the DB Contractor requesting a change in the requirements of the Contract Documents that must decrease the Contract Price and maintain or improve the finished product's required function, such as service life, reliability, economy of operation, ease of maintenance, necessary standardized features, or appearance, and must not require an extension of the Contract Completion Deadlines.

15.2.2 Required Information

At a minimum, the following information shall be submitted by the DB Contractor with each VECP:

1. A statement that the submission is a VECP, a narrative description of the proposed change, the advantages and disadvantages of the proposed change and the justification for changes in function or characteristics and the effect the proposed change has on performance.
2. Drawings or visualizations that show how the VECP will affect aesthetics.
3. Identification of all Contract requirements (with reference to specific Sections) that must be changed if the VECP is Approved.
4. A description of any previous use or tests of the proposal and the conditions and results.
5. Date or time by which a Change Order adopting the VECP must be issued in order to obtain the maximum cost reduction, noting any effect on the Contract Schedule.
6. A complete cost analysis including current pricing for the existing Contract requirements compared to the DB Contractor's cost estimate of the proposed changes.

The DB Contractor shall provide any additional information requested by the District in a timely manner. Additional information could include results of field investigations and surveys, design computations, and field change sheets.

15.2.3 District Review and Approval or Rejection

Upon receipt of a VECP, the District will process it but will not be liable for any delay in acting upon any proposal submitted pursuant to this Section 15.2. The DB Contractor may withdraw all or part of any VECP at any time prior to Approval by the District. Until and unless the VECP is approved, the DB Contractor shall comply with the Contract Documents.

The District may approve, in its sole discretion, in whole or in part, by Change Order, any VECP submitted. Until a Change Order is issued on a VECP, the DB Contractor shall remain obligated to perform in accordance with the Contract Documents. The decision of the District as to rejection or Approval of any VECP shall be at the sole discretion of the District and shall be final and not subject to partnering, Dispute resolution, or appeal. The DB Contractor shall have no Claim for any additional costs or delays resulting from the rejection

of a VECP, including but not limited to development costs, loss of anticipated profit, or increased material or labor costs.

15.2.4 Contract Price Adjustment

If the District Approves a VECP submitted by the DB Contractor pursuant to this Section 15.2, the Contract Price shall be adjusted in accordance with the following:

1. The term "estimated net savings," as used in this Section 15.2, shall mean: (i) the difference between the cost of performing the Work according to the Contract Documents using current estimates, including DB Contractor's labor, material, equipment, overhead and profit, and the actual cost to perform it according to the proposed change and in accordance with allowable costs under the Contract Documents; less (ii) the costs of studying and preparing the VECP as proven by the DB Contractor and Approved by the District in accordance with the Change Order procedures set forth herein; less (iii) any additional costs incurred by the District (including, without limitation, costs relating to any Relocations and ROW and implementation costs) resulting from the VECP.
2. Except as specified in Section 15.2.4, the DB Contractor is not entitled to share in either collateral or future contract savings. The term "collateral savings" means those measurable net reductions in the District's costs resulting from the VECP, including costs of maintenance by the District, logistics, and the District-furnished property. The term "future contract savings" shall mean reductions in the cost of performance of future construction contracts resulting from a VECP submitted by the DB Contractor.
3. Subject to Section 15.2.4, the Contract Price shall be reduced by an amount equal to the sum of (i) 100 percent of any additional costs incurred by the District resulting from the VECP; plus (ii) 50 percent of the estimated net savings.
4. In a case where a VECP involves an adjustment to the ROW Plans (such as a proposal that additional real property be purchased to reduce construction costs), the VECP shall compare the following:
    a. The incremental reduction in costs (such as for not designing and building a wall)
    b. The costs involved in adjusting the ROW Drawings and Environmental Approvals (which shall be based on the DB Contractor's additional costs, such as for providing real property acquisition support services, including profit; plus the District's additional costs, including land acquisition, appraisals, negotiation, relocation, condemnation, closing, property management, and environmental permitting, specifically including allocated costs of the District personnel involved in the acquisition)
    c. or (as appropriate) shall compare:
        i. The incremental reduction in costs (if any) for not acquiring the unnecessary real property
        ii. The additional construction costs to be incurred

Refer to Exhibit H for a sample calculation.

15.2.5 Use of Value Engineering Changes by the District

All Approved VECPs and negotiated changes will become the property of the District and shall contain no restrictions imposed by the DB Contractor on their use or disclosure. The District retains the right to use, duplicate, and disclose in whole or in part any data necessary for the utilization of the Approved VECP or negotiated change proposal on any other or subsequent projects without any obligation to the DB Contractor. This provision is not intended to deny rights provided by law with respect to patented materials or processes.

15.3 Lump Sum Change Orders

The preferred approach by both parties is that Change Orders will be paid on a lump sum payment basis, if the parties can agree on a lump sum amount. If the parties cannot agree on a lump sum amount for Change Orders, the Change Orders will be paid as Force Account Change Orders described in Section 15.4.

The DB Contractor is responsible for the DBE goal. Change Orders and modifications that eliminate work that was intended for DBE subcontractors does not absolve the DB Contractor responsibility under 49 CFR part 26 to meet the DBE goal.

15.3.1 Procedure for District-Initiated Lump Sum Change Orders

This Section 15.3.1 concerns Change Orders requested by the District.

15.3.1.1 Issuance of Request for Change Proposal

If the District desires to evaluate whether to initiate such a change, the District may, at its discretion, issue a Request for Change Proposal (RCP).

Within seven (7) Days after the DB Contractor's receipt of an RCP, the District and the DB Contractor shall consult to define the proposed scope of the change. Within seven (7) Days after the initial consultation, the District and the DB Contractor shall consult concerning an estimated rough order of magnitude (ROM) cost and time impacts, if any. The DB Contractor shall prepare the ROM at its cost. The DB Contractor shall provide data regarding such matters as requested by the District.

Within seven (7) Days after the ROM consultation meeting and provision of any data requested by the District, the District shall notify the DB Contractor whether the District:

1. Wishes to request the DB Contractor to prepare a Change Order form as discussed at the meeting.
2. No longer wishes to issue a Change Order.

The District may at any time, in its sole discretion, require the DB Contractor to provide two alternative change Order forms, one of which shall provide for a time extension if applicable and any additional costs permitted hereunder, and the other of which shall show all Acceleration Costs associated with meeting the original Completion Deadlines, as well as any additional costs permitted hereunder.

If requested by the District, the DB Contractor shall, within 21 Days after receipt of the notification, prepare and submit to the District for Approval a Change Order form for the requested change, complying with all applicable requirements of Section 15.3, and incorporating all requests made by the District. The DB Contractor shall bear the cost of developing the Change Order form, including any modifications thereto requested by the District, except costs of design and engineering Work required for preparation of plans or exhibits necessary to the Change Order form and pre-authorized by the District shall be included in the Change Order as reimbursable items. If the Change Order is approved, the design and engineering costs will be included within the Change Order. If the Change Order is not approved, the DB Contractor shall be separately reimbursed for the design and engineering costs through a separate Change Order.

If the District and the DB Contractor agree that a change in the requirements relating to the Work has occurred but disagree as to whether the change justifies additional compensation or time or disagree as to the amount of any change to be made to the Contract Price or a Completion Deadline, the District may, in its sole discretion, order the DB Contractor to proceed with the performance of the Work in question notwithstanding such disagreement. Such order may, at the District's option, be in one of the following forms:

1. Force Account Change Order
2. Directive Letter

15.3.2 Procedures for Contractor-Initiated Lump Sum Change Orders

The DB Contractor's entitlement to a Change Order for eligible changes is subject to the procedure, restrictions, and limitations contained in this Section 15.3.2.

15.3.2.1 Conditions Precedent

The requirements set forth in this Section 15.3.2.1 constitute conditions precedent to the DB Contractor's entitlement to request and receive a Change Order in all circumstances. The DB Contractor agrees that the filing of a PCO Notice and subsequent filing of a Request for Change Order (RCO) with the District pursuant to this Section are necessary in order to begin the administrative process for Contractor-requested Change Orders. The DB Contractor understands that it shall be forever barred from recovering against the District under Section 15 if it fails to give notice of any act, or failure to act, by the District or any of its representatives or the happening of any event, thing, or occurrence pursuant to a proper PCO Notice and thereafter complies with the remaining requirements of this Section.

The DB Contractor shall deliver to the District a PCO Notice stating that an event or situation has occurred and shall state whether it is entitled to additional time or money. The first notice shall be labeled "PCO No. 1," and subsequent notices shall be numbered sequentially.

Each PCO Notice shall be delivered as promptly as possible after the occurrence of such event or situation. If any PCO Notice is delivered later than 10 Days after the DB Contractor first discovered, or should have discovered in the exercise of reasonable prudence, the occurrence which is described therein, the DB Contractor shall be deemed to have waived the right to collect any and all costs incurred prior to the date of delivery of the PCO Notice and shall be deemed to have waived the right to see an extension of any Completion Deadline with respect to any delay in the Critical Path that accrued prior to the date of delivery of the written notice. Furthermore, if any PCO Notice concerns any condition or material described in Section 7.3, the DB Contractor shall be deemed to have waived the right to collect any and all costs incurred in connection therewith to the extent that the District is not afforded the opportunity to inspect such material or condition before it is disturbed. The DB Contractor's failure to provide a PCO Notice within 10 Days after the DB Contractor first discovered, or should have discovered in the exercise of reasonable prudence, the occurrence of a given event or situation shall preclude the DB Contractor from any relief. A PCO Notice shall be deemed delivered only if it fully conforms to the requirements of Section 15.

The PCO Notice shall (i) state in detail the facts underlying the potential Change Order, the reasons why the DB Contractor believes additional compensation or time will or may be due, and the date of occurrence; (ii) state in detail the basis that the work is not required by the Contract, if applicable; (iii) identify particular elements of Contract performance for which additional compensation may be sought under Section 15; (vi) identify any potential Critical Path impacts affecting a Completion Deadline; and (v) provide an estimate of the time within which a response to the notice is required to minimize cost, delay, or disruption of performance.

Any adjustments made to the Contract shall not include increased costs or time extensions for delay resulting from the DB Contractor's failure to provide requested additional information under this Section.

The DB Contractor shall deliver all RCOs under Section 15 to the District within 30 Days after delivery of the PCO Notice. The District may require design and construction costs to be covered by separate Change Order requests. If the DB Contractor requests a time extension, then the District, in its sole discretion, may require the DB Contractor to provide two (2) alternative Change Order requests, one of which shall provide for a time extension and any additional costs permitted hereunder, and the other of which shall show all Acceleration Costs associated with meeting the original Completion Deadlines, as well as any additional costs permitted hereunder.

The DB Contractor acknowledges and agrees that, due to the limited availability of funds for the Project, timely delivery of notification of such events, situations, RCOs, and updates thereto are of vital importance to the District. The District is relying on the DB Contractor to evaluate promptly upon the occurrence of any

event or situation, whether the event or situation will affect schedule or costs and, if so, whether the DB Contractor believes a time extension and/or price increase is required hereunder. If an event or situation occurs that may affect the Contract Price or a Completion Deadline, the District will evaluate the situation and determine whether it wishes to make any changes to the definition of the Project to bring it within the District's funding and time restraints.

Before the DB Contractor submits any PCO Notice or a RCO to the District that is based in whole or in part on a request by a Subcontractor to the DB Contractor for a price increase or time extension under its Subcontract, the DB Contractor shall have reviewed all Claims by the Subcontractor that constitute the basis for the RCO and determined in good faith that each such Claim is justified hereunder and that the DB Contractor is justified in requesting an increase in the Contract Price and/or change in Completion Deadlines in the amounts specified in the RCO. Each RCO involving Subcontractor Work shall include a sworn certification in a form acceptable to the District and signed by the DB Contractor's Project Manager stating that the DB Contractor has investigated the basis for the Subcontractor's Claims and has concluded that all such Claims are justified as to entitlement and the amount of money and/or time requested and has no reason to believe, and does not believe, that the factual basis for the Subcontractor's Claim is falsely represented. Any RCO involving Subcontractor Work shall be considered incomplete if it is not accompanied by such certification.

The District shall have 10 Days to investigate and respond to the DB Contractor's PCO Notice or RCO. If the District refuses to issue a Change Order based on the DB Contractor's request, the DB Contractor shall nevertheless perform all work as specified in an appropriate Directive Letter, with the right to submit the issue of entitlement to a Change Order to Dispute resolution in accordance with Section 21. The DB Contractor shall maintain and deliver to the District, upon request, contemporaneous records meeting the requirements of Section 15.5 for all work performed that the DB Contractor believes constitutes extra work, until all Disputes regarding entitlement or cost of such work are resolved.

15.4 Force Account Change Orders

The District may at its discretion issue a Force Account Change Order whenever the parties cannot agree to a Lump Sum Change Order or the District concludes that a Force Account Change Order is advisable. The Force Account Change Order shall instruct the DB Contractor to perform the Work, indicating expressly the intention to treat the items as changes in the Work and setting forth the kind, character, and limits of the Work as far as they can be ascertained; the terms under which changes to the Contract Price will be calculated; and the estimated total change in the Contract Price anticipated there under. Upon final calculation of the allowable costs, the District shall issue a modified Change Order setting forth the final adjustment to the Contract Price. The costs and additional amounts allowed in Section 15 (and no others) shall be used for calculating the change in the Contract Price. No direct compensation will be allowed for other miscellaneous costs for which no specific allowance is provided in Section 15.5.

The District and the DB Contractor may agree to negotiate unit prices for a Force Account Change Order. Measurement of any unit-priced quantities will be as specified in the Change Order. Unit prices shall be deemed to include all costs for labor, material, overhead, and profit; and shall not be subject to change regardless of any change in the estimated quantities. Upon final determination of the quantities, the District will issue a modified Change Order setting forth the final adjustment to the Contract Price.

15.4.1 Force Account Records

The DB Contractor shall maintain its records in a manner that provides a clear distinction between: (i) the direct cost of Work for which it is entitled (or for which it believes it is entitled) to an increase in the Contract Price; and (ii) the costs of other operations. The DB Contractor shall contemporaneously collect, record in writing, segregate, and preserve: (i) all data necessary to identify the costs described in Section 15.4 with respect to all Work that is the subject of a Change Order or a requested Change Order, specifically including costs associated with design Work as well as Utility Relocations; and (ii) all data necessary to show

the actual impact (if any) of the change on the Critical Path affecting a Completion Deadline with respect to all Work that is the subject of a Change Order or a proposed Change Order, if the impact on the Critical Path affecting a Completion Deadline is in dispute. Such data shall be provided on forms Approved by the District. The cost of furnishing such reports is included in the DB Contractor's predetermined overhead and profit.

The DB Contractor shall furnish daily, on forms Approved by the District, reports of Force Account Change Order Work. The cost of furnishing such reports shall not be recovered as part of the Change Order. The reports shall include the following:

1. Name, classification, date, daily hours, total hours, rate, and extension for each worker (including both construction and non-construction personnel) and foreman.
2. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
3. Quantities of materials, prices, and extensions.
4. Transportation costs of materials, machinery, and equipment.
5. Invoices for materials used and transportation charges.

The reports shall also state the total costs to date for the Force Account Change Order Work.

If materials used on the Force Account Change Order Work are not specifically purchased for the Work but are taken from the DB Contractor's stock, the DB Contractor shall furnish an affidavit certifying that such materials were taken from the DB Contractor's stock, that the quantity claimed was actually used, and that the price and transportation costs claimed represent actual costs to the DB Contractor.

All Force Account Change Order reports shall be signed by the DB Contractor's Project Manager. The District will compare its records with the DB Contractor's reports, make the necessary adjustments, and compile the costs of Force Account Change Order Work. When such reports are agreed upon and signed by both parties, they will become the basis of payment but shall not preclude subsequent adjustment based on a later audit. The DB Contractor's (and each Subcontractor's) cost records pertaining to Work paid for on a Force Account basis shall be open, during all regular business hours, to inspection or audit by representatives of the District during the life of the Contract and for a period of not less than 7 years after Final Acceptance; and the DB Contractor (and each Subcontractor) shall retain such records for that period. If an audit is to be initiated more than 60 Days after Final Acceptance, the DB Contractor will be given a 20-day notice of the time when such audit is to begin.

15.5 Contents of Change Orders

The DB Contractor shall prepare a scope of work, cost estimate in the form attached as Exhibit I, impacted delay analysis, if any, and other information as required by this Section for each Change Order form and RCO:

Scope of Work: The scope of work shall describe in detail, satisfactory to the District, all Activities associated with the Change Order, including a description of additions, deletions, and modifications to the existing Contract requirements.

Cost Estimate: The cost estimate shall set out the estimated costs in such a way that a fair evaluation can be made. It shall include a breakdown for labor, materials, equipment, overhead (which includes all indirect costs) and profit, unless the District agrees otherwise. The estimate shall include costs allowable under Section 15, if any. If the work is to be performed by Subcontractors and is sufficiently defined to obtain Subcontractor quotes, the DB Contractor shall obtain quotes with breakdowns showing cost of labor, materials, equipment, overhead, and profit on the Subcontractor's stationery and shall include such quotes

as backup for the DB Contractor's estimate. No additional payment shall be allowed except as provided in Section 15.

DBE Requirements: The DB Contractor shall ensure that DBEs have full and equal opportunity to compete fairly in the performance of Change Orders. All requests for change orders shall include a DBE impact analysis.

Impacted Delay Analysis: If the DB Contractor claims that such event, situation, or change affects the Critical Path affecting the Completion Deadline, it shall provide an impacted delay analysis indicating all Activities represented or affected by the change with Activity numbers, durations, predecessor and successor Activities, resources and cost, and with a narrative report, in a form satisfactory to the District, which compares the proposed new schedule to the Original Baseline Schedule or Revised Baseline Schedule, as appropriate. Except as otherwise provided in this Section, the impacted delay analysis shall only modify the Activities that have been impacted by the event and that justify the requested extension. The DB Contractor may reschedule Activities not otherwise affected by the event in order to take advantage of additional float available as a result of the requested time extension. Any such rescheduling shall be reflected in the impacted delay analysis.

Other Supporting Documentation: The DB Contractor shall provide such other supporting documentation as may be required by the District.

15.5.1 Justification

All requests for Change Orders shall include a narrative justification therefor, detailing all causes of the proposed change, making specific reference to the applicable provisions of Sections 14 and 15 that permit a Change Order to be issued, and describing the data and documents that establish the necessity of such proposed change.

15.5.2 Contractor Representation

DB Contractor (or Subcontractor, if applicable) shall submit a Cost Certification in the form of Exhibit J that the amount of time and/or compensation requested includes all known and anticipated impacts or amounts, direct, indirect, and consequential, that may be incurred as a result of the event or matter giving rise to such proposed change and that the DB Contractor has no reason to believe and does not believe that the factual basis for the Change Order is falsely represented.

15.5.3 Incomplete Change Orders

Each RCO provided under Section 15 shall meet all requirements set forth in Section 15.5, provided that if any such requirements cannot be met due to the nature of the occurrence, the DB Contractor shall provide an incomplete RCO, which shall meet the following criteria:

1. Comply with all requirements capable of being met.
2. Include a list of requirements that are not fulfilled, together with an explanation reasonably satisfactory to the District stating why such requirements cannot be met.
3. Provide such information regarding projected impact on the Critical Path affecting a Completion Deadline as requested by the District.
4. In all events include sufficient detail to ascertain the basis for the proposed Change Order and any price increase associated therewith, to the extent such amount is then ascertainable.

The DB Contractor shall furnish, when requested by the District, such further information and details as may be required to determine the facts or contentions involved. The DB Contractor agrees that it shall give the District access to any and all of the DB Contractor's books, records, and other materials relating to the Work, and shall cause its Subcontractors to do the same, so that the District can investigate the basis for such proposed Change Order. The DB Contractor shall provide the District with a monthly update to all outstanding incomplete requests for Change Order, describing the status of all previously unfulfilled

requirements and stating any changes in projections previously delivered to the District, time expenditures to date, and time anticipated for completion of the Activities for which the time extension is claimed. The District may reject the DB Contractor's Claim at any point in the process. Once a complete RCO is provided, the District's failure to respond thereto within 14 Days of delivery of the request shall be deemed a rejection of such request. Although the District intends to review incomplete Change Orders for the purposes of timely delivery described in Section 15.5.3, the District shall have no obligation to review the backup associated with any RCO until a complete RCO is provided.

15.5.4 Phased Change Orders

The District and DB Contractor may mutually agree to use a multiple-step process involving issuance of a Change Order that includes an estimated design cost and that provides for a revised Change Order to be issued after a certain design level has been reached, thus allowing a refinement and definition of the estimated construction cost.

15.6 Certain Limitations for all Change Orders

15.6.1 Limitation on Contract Price Increases

Any increase in the Contract Price allowed hereunder shall exclude the following:

1. Costs caused by the breach of Contract or fault or negligence, or failure to act of any DB Contractor-Related Entity.
2. Costs that could reasonably have been avoided by the DB Contractor, including by re-sequencing, reallocating, or redeploying its forces to other portions of the Work or to other activities unrelated to the Work, including any additional costs reasonably incurred in connection with such reallocation or redeployment.
3. Costs for any rejected Work that failed to meet the requirements of the Contract Documents and any necessary remedial Work.

15.6.2 Limitation on Acceleration Costs; Delay and Disruption Damages

Limitations on Acceleration Costs, Delay and Disruption Damages, and other limitations include the following:

Acceleration Costs; Delay and Disruption Damages: Acceleration Costs shall be compensable hereunder only with respect to Change Orders issued by the District as an alternative to allowing an extension of a Completion Deadline as contemplated by Section 14. Delay and disruption damages shall be compensable hereunder only in the case of a delay pursuant to Section 14 to the extent that it entitles the DB Contractor to an extension of a Completion Deadline. Costs of rearranging the DB Contractor's work plan not associated with an extension of a Completion Deadline shall not be compensable hereunder.

Other Limitations: Delay and disruption damages shall be limited to direct costs directly attributable to the delays described in this Section and overhead and profit thereon, in accordance with Section 15.7.6, and any additional field office and jobsite overhead costs incurred by the DB Contractor directly attributable to such delays and allowable under Section 17.5.1. In addition, before the DB Contractor may obtain any increase in the Contract Price to compensate for any delay and disruption damages or Acceleration Costs, the DB Contractor shall have demonstrated to the District's satisfaction that:

1. Its schedule, which defines the affected Critical Path, in fact, sets forth a reasonable method for completion of the Work.
2. The change in the Work or other event or situation, which is the subject of the requested Change Order, has caused or will result in an identifiable and measurable disruption of the Work, which affected the Critical Path, in turn affecting a Completion Deadline.

3. The delay or disruption damage was not due to any breach of contract or fault or negligence, or act or failure to act by any DB Contractor-Related Entity and could not reasonably have been avoided by the DB Contractor, including by re-sequencing, reallocating, or redeploying its forces to other portions of the Work or other activities unrelated to the Work subject to reimbursement for additional costs reasonably incurred in connection with such reallocation or redeployment.
4. The delay for which compensation is sought is not concurrent with any delay attributable to DB Contractor.
5. The DB Contractor has suffered or will suffer actual costs due to such delay, each of which costs shall be documented in a manner satisfactory to the District.

The failure of the DB Contractor to achieve Substantial Completion earlier than the contractually agreed-upon date for Substantial Completion shall not be the basis of a claim for damages for delay.

15.6.3 Limitation on Time Extensions

Any extension of a Completion Deadline allowed hereunder shall exclude any delay to the extent that it:

1. Did not impact the Critical Path affecting a Completion Deadline.
2. Was due to the fault or negligence, or act or failure to act of any Contractor-Related Entity.
3. Could reasonably have been avoided by the DB Contractor, including by re-sequencing, reallocating or redeploying its forces to other portions of the Work provided that if the request for extension involves a District-caused delay, the District shall have agreed, if requested to do so, to reimburse the DB Contractor for its costs incurred, if any, in re-sequencing, reallocating, or redeploying its forces.

The DB Contractor shall demonstrate to the District's satisfaction that the change in the Work or other event or situation, which is the subject of the RCO seeking a change in a Completion Deadline, has caused or will result in an identifiable and measurable disruption of the Work, which has affected the Critical Path Activity affecting a Completion Deadline.

15.7 Pricing of Change Orders

The District and the DB Contractor, on its own behalf and on behalf of its Subcontractors, shall endeavor to negotiate, in good faith, a reasonable cost for each Change Order. Subject to the foregoing exceptions, in general, the price of a Change Order shall be negotiated in accordance with this Section 15.7 or shall be based on Force Account records pursuant to Section 15.4.

15.7.1 Scope Development Risk

Risk associated with the Work described in the Change Order, defined as scope development risk, may be included in a Change Order through an additional amount agreed to by the District and the DB Contractor. For any such request, the DB Contractor shall include a justification detailing why the requested change order should be considered a scope development risk.

15.7.2 Labor Costs

The cost of labor shall be separated into construction-related Work and non-construction-related Work as described below. The use of a labor classification that would increase the extra work cost will not be permitted unless the DB Contractor establishes the necessity for such additional costs. The cost of labor shall be calculated based on straight time for all hours worked, unless the DB Contractor obtains the District's prior Approval for overtime.

Construction Labor: The cost of labor for workers used in the actual and direct performance of construction-related Work, including Lead Workers, whether provided by the DB Contractor or a Subcontractor, will equal the sum of the following: (i) actual unburdened wages (the base wage paid to the employee exclusive of any fringe benefits); plus (ii) the actual costs paid to, or on behalf of, employees for liability and worker's

compensation insurance premiums, unemployment insurance contributions and social security taxes, health and welfare benefits, pension fund benefits or other benefits, if such amounts are required by the collective bargaining agreement or employment contract, applicable to the classes of labor employed on the work; plus (iii) 15 percent overhead and profit of the sum of the above items.

Non-Construction Labor: The cost of labor for non-construction-related Work, whether provided by the DB Contractor or a Subcontractor, will equal the sum of the following: (i) actual wages (the base wage paid to the employee exclusive of any fringe benefits); plus (ii) an overhead based on the audited Federal Acquisition Regulations (FAR) field rates not to exceed 145 percent, or if a company has no FAR rate, an overhead of 145 percent. Contractor will also be paid for profit on non-construction labor of 10 percent of labor costs plus overhead.

15.7.3 Material Costs

Material costs will be addressed as described below:

Materials: Payment for cost of required materials will be free on board (North American Usage) to the Project site (or Delivered At Place (DAP) to the Project Site for international shipments [Incoterms, 2010]) with an allowance of up to 15 percent to cover overhead and profit. For landscape plantings, up to 25 percent will be allowed to cover overhead and profit.

Rented Equipment: The current edition of the *Rental Rate Blue Book for Construction Equipment* published by Data Quest shall be used to calculate the equipment rental rates.

Contractor's Equipment: Payment for required equipment owned by the DB Contractor or an Affiliate of the DB Contractor will be based solely on an hourly rate derived by dividing the current appropriate monthly rate from the *Rental Rate Blue Book for Construction Equipment* published by Data Quest by 176 hours. No additional or separate payment will be made under any circumstance for repair cost, freight and fuel, lubricants, insurance, any other costs and expenses, or overhead and profit. Payment for such equipment made idle by delays attributable to the District will be based on one-half the derived hourly rate described in this subsection. Approved transportation charges will be paid (one way) from the nearest source if the equipment is brought to the Project specifically for use on the Change Order Work and is not to be used on any other Work.

Aggregate rental charges for an item of Contractor-owned equipment shall not exceed the fair market purchase price for such equipment at the time of its commitment to the Work. The original purchase price and date of purchase of the equipment will be documented with a copy of the purchase invoice and submitted to the District along with a proposed fair market value. The fair market values to be used for purposes of this contract clause will be subject to advance approval of the District. Such aggregate limitations will apply and no further rentals shall be charged even if a piece of equipment is later replaced by a similar piece of equipment.

Liability Insurance: When additional liability insurance is required, the payment for the additional insurance will be based on the additional premiums, up to which 3 percent of additional premium will be allotted to cover handling.

15.7.4 Permit Fees

The DB Contractor will be reimbursed for the cost of any additional permit fees payable as the result of a change in the Work requiring additional permit fees. Backup documentation supporting each cost item for this category shall be provided by the DB Contractor and Approved by the District prior to any payment authorization being granted.

The DB Contractor will be paid an additional 5 percent for overhead and profit.

15.7.5 Subcontracted Work

For administration and all overhead costs in connection with Subcontract Work, the DB Contractor will receive an amount equal to 3 percent of the cost of the Subcontracted Work. This shall fully compensate the DB Contractor for administration, general superintendence, overhead, profit, and expenses not otherwise recoverable with respect to subcontracted Work. This shall not apply to the following: (i) Subcontracts with Affiliates; or (ii) Subcontracts with Suppliers.

15.7.6 Overhead and Profit

Overhead and profit costs will be addressed as described below:

Items included in Overhead and Profit: Unless otherwise indicated in this Section 15, any overhead and profit and labor surcharges described herein are full and complete compensation for all indirect costs of the added or changed Work, as well as for profit thereon. The DB Contractor's overhead and profit percentages and labor surcharges as described in this Section 15 shall be considered to include, among other costs, salary and expenses of executive officers, supervising officers or supervising employees, and clerical employees; charges for minor equipment, such as small tools, and other miscellaneous supplies and services; incidental job burdens; bonuses not otherwise covered; field, jobsite, and general home office expenses of all types (including timekeepers, bookkeepers, and other general office help); supervisory expenses of all types (excluding only direct supervision of force account work); and all other overhead, general condition and indirect costs and expenses, and profit. With respect to non-construction-related labor costs, overhead is included as part of the labor surcharge calculated in accordance with Section 15 and includes accessories such as computer-assisted drafting and design systems, computers, facsimile transmission machines, scanners, plotters, etc.

Payment of Overhead and Profit: The foregoing overhead and profit and labor surcharges will be paid to the DB Contractor only for Work it performs; in the case of Work that is subcontracted, the additional payment for Subcontract administration will be allowed to the DB Contractor as described in Section 15.7.5; and all other overhead and profit and labor surcharges will be allowed to the Subcontractor who actually performs the Work.

Materials and Equipment: No overhead, profit or other surcharges will be paid to the DB Contractor for any materials or equipment furnished by the District.

Credit Items: Where the DB Contractor's or any Subcontractor's portion of a change involves credit items, or the proposed change is a net deductive change, the DB Contractor shall include all DB Contractor's and Subcontractor's overhead and profit in computing the value of the credit.

15.7.7 Compliance with Federal Acquisition Regulations

Reimbursable expenses shall be limited to and comply with the FARs. Expenses excluded by the FARs shall not be reimbursed.

15.8 Differing Site Conditions

15.8.1 Cost Compensation

Upon the DB Contractor's fulfillment of all applicable requirements of Sections 7.3 and 15, and subject to the limitations contained therein and listed above, the District shall be responsible for, and agrees to Approve Change Orders to compensate the DB Contractor for their (i) additional costs directly attributable to changes in the Work arising from Differing Site Conditions, and (ii) extension of the Completion Deadlines as a result of any delay in the Critical Path affecting the Completion Deadlines.

15.8.2 Burden of Proof

The DB Contractor shall bear the burden of proof that a Differing Site Condition exists and that it could not reasonably have worked around the Differing Site Condition to avoid additional cost. Each request for a

Change Order relating to a Differing Site Condition shall be accompanied by a statement signed by a qualified professional setting forth all relevant assumptions made by the DB Contractor with respect to the condition of the Site, justifying the basis for such assumptions, explaining exactly how the existing conditions are eligible for a Change Order under the terms of this DBA, and stating the efforts undertaken by the DB Contractor to find alternative design or construction solutions to eliminate or minimize the problem and the associated costs.

15.9 Removal and Disposal of Hazardous Materials

15.9.1 Hazardous Materials

The DB Contractor will be reimbursed for the remediation of Hazardous Materials within the project ROW in accordance with the provisions of Volume II, Book II, Section 8, via a Hazardous Materials Allowance. The amount of the allowance is $3,800,000. If the remediation of Hazardous Material costs exceed the established Hazardous Materials Allowance, then the Hazardous Materials Allowance will be adjusted in accordance with Section 15. Expenditure against the Hazardous Materials Allowance, if any, will be clearly itemized in each monthly invoice showing costs for that month and total expenditure to date.

The DB Contractor is entitled to an extension of Completion Deadlines if the Hazardous Materials discovery results in delays to the Critical Path.

The DB Contractor is not entitled to an increase in price for remediation costs resulting from its own acts or omissions, or Hazardous Materials brought onto the Site by the DB Contractor.

The DB Contractor is not entitled to payment under the Hazardous Materials Allowance or time with respect to: (a) Hazardous Materials that could have been avoided by reasonable design modifications or construction techniques, (b) costs that could have been avoided, (c) Hazardous Materials on additional properties outside of the Right of Way, or (d) improperly documented labor, material and other costs as a result of the DB Contractor failing to submit complete and accurate records in accordance with the requirements of, at minimum, Force Account Change Orders Section 15.4, or as otherwise directed by the District.

15.9.2 Limitations on Change Orders

All Change Orders authorized by this Section shall be subject to the restrictions, limitations, and procedures set forth herein. Allowable costs shall be limited to the incremental costs associated with the fact that Hazardous Materials subject to removal and disposal compensable under Section 15.9 are present. The DB Contractor shall take all reasonable steps to minimize any such costs. In addition, compensation for removal and disposal of Hazardous Materials compensable under Section 15.9 will not be allowed unless the DB Contractor demonstrates to the District's satisfaction that: (i) the removal and disposal of Hazardous Materials could not have been avoided by reasonable design modifications or construction techniques; and (ii) the DB Contractor's plan for removal and disposal of Hazardous Materials represents the approach most beneficial to the Project and the District. The DB Contractor shall provide the District with such information, analyses, and certificates as may be requested by the District in order to enable a determination regarding eligibility for payment.

15.10 Material Errors in ROW Drawings

Upon the DB Contractor's fulfillment of all applicable requirements of this Section 15, and subject to the limitations contained herein, the District shall be responsible for and agrees to issue Change Orders: (i) to compensate the DB Contractor for additional costs directly attributable to material errors in the ROW limits indicated in the ROW Drawings; and (ii) to extend the Completion Deadlines as the result of any delay in the Critical Path affecting the Completion Deadlines caused by any such errors. The DB Contractor shall provide written notice to the District immediately upon discovery of any such material error. The District, in the District's sole discretion, shall have the right to cure any such error, such as by acquiring additional property.

15.11 Waiver

The DB Contractor hereby expressly waives all rights to assert any and all Claims based on any change in the Work, delay or acceleration including any change, delay, suspension or acceleration that, but for the express terms of the Contract Documents, could be inferred or implied at law for which the DB Contractor failed to provide proper and timely notice or failed to provide a timely RCO, and agrees that the DB Contractor shall be entitled to no compensation or damages whatsoever in connection with the Work except to the extent that the Contract Documents expressly specify that the DB Contractor is entitled to a Change Order or other compensation or damages.

15.12 Disputes

If the District and the DB Contractor agree that a request to increase the Contract Price and/or extend any Completion Deadlines by the DB Contractor has merit, but are unable to agree as to the amount of such price increase and/or time extension, the Dispute shall be subject to the provisions of Section 21.2.

The DB Contractor shall proceed with the performance of work in accordance with the provisions of Section 15.4 while negotiations or the Dispute resolution process is ongoing.

15.13 No Release or Waiver

15.13.1 Extension of Time for Performance

No extension of time granted hereunder shall release the DB Contractor's Surety from its obligations. The District shall not be deemed to have waived any rights under the Contract, including its right to abrogate the Contract for abandonment or for failure to complete within the time specified, or to impose and deduct damages as may be provided herein as the result of any grant of an extension of time beyond the date fixed for the completion of any part of the Work, any acceptance of performance of any part of the Work after a Completion Deadline, or the making of any payments to the DB Contractor after such date.

15.13.2 No Change Order Based on Course of Conduct Order by Unauthorized Person

No course of conduct or dealings between the parties, or express or implied acceptance of alterations or additions to the Work, and no Claim that the District has been unjustly enriched shall be the basis for any Claim, request for additional compensation, or extension of a Completion Deadline. Further, the DB Contractor shall undertake, at its risk, work included in any written or oral request, order, or other authorization issued by a Person in excess of that Person's authority as provided herein. The DB Contractor shall be deemed to have performed such work as a volunteer and at its sole cost. In addition, the District may require the DB Contractor to remove or otherwise undo any such work at the DB Contractor's sole cost.

16 Suspension of Work

16.1 Suspension for Convenience

The District may, at any time and for any reason by written notice, order the DB Contractor to suspend all or any part of the Work required under the Contract Documents for the period of time that the District deems appropriate for the convenience of the District. Such suspension for convenience will be considered a District-Directed Change. The DB Contractor shall promptly comply with any such written suspension order. The DB Contractor shall promptly recommence the Work upon receipt of written notice from the District directing the DB Contractor to resume Work.

16.2 Suspension for Cause

The District has the authority by written order to suspend the Work without liability to the District wholly or in part for the DB Contractor's failure to:

1. Correct conditions unsafe for the Project personnel or general public.
2. Comply with any Governmental Approval, legal requirement, or otherwise carry out the requirements of the Contract.
3. Carry out orders of the District.
4. Comply with environmental requirements.
5. Comply with the requirements for developing and implementing the Project Management Plan.

The DB Contractor shall promptly comply with any such written suspension order. The DB Contractor shall promptly recommence the Work upon receipt of written notice from the District directing the DB Contractor to resume Work.

16.3 DB Contractor Responsibilities during Suspension

During periods that Work is suspended by the District, the DB Contractor shall prevent damage or injury to the Project and other facilities; protect and secure materials stored both on-site and off-site; provide for drainage; obtain and maintain compliance with all Governmental Approvals; maintain all Contractor-provided insurance and bonds; and erect necessary temporary structures, signs or other facilities required to maintain the Project and other facilities in the Project vicinity. During any suspension period, unless otherwise directed by the District, the DB Contractor shall continue to be responsible for maintenance of traffic in accordance with Volume II, Book II, Section 22, Maintenance of Traffic, and for maintenance during construction in accordance with Volume II, Book II, Section 29, Maintenance During Construction. If the suspension is for the District's convenience, the additional work performed by the DB Contractor during the suspension period shall be considered a District-Directed Change.

17 Termination for Convenience

17.1 Notice of Termination

The District may terminate the Contract and the performance of the Work by the DB Contractor in whole, or in part, if the District determines, in its sole discretion that a termination is in the best interest of the District. The District shall notify the DB Contractor of its decision to terminate by delivering to the DB Contractor a written Notice of Termination specifying the extent of termination and its effective date. Termination (or partial termination) of the Contract shall not relieve any Surety of its obligation for any Claims arising out of the Work performed.

17.2 DB Contractor Responsibilities upon Termination

After receipt of a Notice of Termination, and except as otherwise directed by the District, the DB Contractor shall immediately proceed as follows, regardless of any delay in determining or adjusting any amounts due under this Section 17:

1. Stop Work as specified in the notice.
2. Communicate such notice to all affected Subcontractors that their Subcontracts are not to be further performed unless otherwise authorized in writing by the District.
3. Place no further Subcontracts or orders for materials, services or facilities, except as necessary to complete the continued portion of the Work, if any, or for mitigation of damages.
4. Terminate all Subcontracts to the extent that they relate to the Work terminated.
5. Assign to the District in the manner, at the times, and to the extent directed by the District, all of the right, title, and interest of the DB Contractor under the Subcontracts so terminated, in which case the District will have the right, in its sole discretion, to accept performance, settle, or pay any or all Claims arising out of the termination of such Subcontracts.
6. Settle all outstanding liabilities and Claims arising out of such termination of Subcontracts, with the Approval of the District, to the extent it may be required, which Approval shall be final.
7. Provide the District with an inventory list of all materials previously produced, purchased, or ordered from Suppliers for use in the Work and not yet used in the Work, including its storage location, as well as any documentation or other property required to be delivered hereunder, which is either in the process of development or previously completed but not yet delivered to the District, and such other information as the District may request; and transfer title and deliver to the District, in the manner, at the times, and to the extent, if any, directed by the District: (i) fabricated or un-fabricated parts, the Work in process, completed Work, supplies and other material produced or acquired for the Work terminated; and (ii) the Design Documents, Construction Documents, and all other completed or partially completed drawings (including plans, elevations, sections, details, and diagrams), specifications, records, samples, information, and other property that would have been required to be furnished to the District if the Work had been completed.
8. Complete performance in accordance with the Contract Documents of all Work not terminated.
9. Take all action that may be reasonably necessary, or that the District may direct, for the safety, protection and preservation of: (i) the public, including public and private vehicular movement; (ii) the Work; and (iii) the equipment, machinery, materials, and property related to the Contract Documents that is in the possession of the DB Contractor and in which the District has or may acquire an interest.
10. As authorized by the District in writing, use its best efforts to sell, in a manner, at the times, to the extent, and at the price or prices directed or authorized by the District, any property of the types

referred to in Section 17.2(7), except for Design Documents, Construction Documents, other completed or partially completed drawings (including plans, elevations, sections, details, and diagrams), specifications, records, samples, and information; provided, however, that the DB Contractor: (i) is not required to extend credit to any purchaser; and (ii) may acquire the property under the conditions prescribed and at prices Approved by the District. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the District under the Contract Documents or paid in any other manner directed by the District.

11. If requested by the District, withdraw from the portions of the Site designated by the District and remove such materials, equipment, tools, and instruments used by, and any debris or waste materials generated by, the DB Contractor and any Subcontractor in the performance of the Work as the District may direct.
12. Take other actions directed by the District.

17.3 Responsibility After Notice of Termination

The DB Contractor shall continue to be responsible for damage to materials after issuance of the Notice of Termination, except as follows:

1. The DB Contractor's responsibility for damage to materials, for which partial payment has been made as provided herein, shall terminate when the District certifies that those materials have been stored in the manner and at the locations directed by the District.
2. The DB Contractor's responsibility for damage to materials purchased by the District subsequent to the issuance of the notice that the Contract is to be terminated shall terminate when title and delivery of those materials has been taken by the District.

Immediately after the District determines that the DB Contractor has completed the Work directed to be completed prior to termination and such other work as may have been ordered to secure the Project for termination, the DB Contractor will not be required to provide for continuing safety, security, and maintenance at the Site. Subsequent to the determination that all materials have been stored in the manner and at the locations directed by the District, further handling of such materials shall be the responsibility of the District.

17.4 Negotiated Termination Settlement

17.4.1 Settlement Proposal

After receipt of a Notice of Termination, the DB Contractor shall submit a final termination settlement proposal to the District in the form and with the certification prescribed by the District. The DB Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless the DB Contractor has requested a time extension in writing within such period and the District has agreed in writing to allow such an extension. The District will then review the DB Contractor's termination settlement proposal and will act upon it, return it with comments or reject it. If the DB Contractor fails to submit the proposal within the time allowed, the District may determine, on the basis of information available to it, the amount, if any, due to the DB Contractor because of the termination and shall pay the DB Contractor the amount so determined.

17.4.2 Negotiated Settlement Amount

The DB Contractor and the District may agree, as provided in Section 17.4.1, upon the whole or any part of the amount or amounts to be paid to the DB Contractor by reason of the total or partial termination of Work pursuant to this Section 17. Such negotiated settlement may include a reasonable allowance for profit solely on Work which has been completed as of the termination date and subsequently accepted by the District. Such agreed amount(s), exclusive of settlement costs, shall not exceed the total Contract Price as reduced by the amount of payments otherwise made and as further reduced by the Contract Price of Work

not terminated. Upon calculation of the settlement amount, the Contract will be amended accordingly; and the DB Contractor will be paid the agreed amount. Nothing in Section 17.5, prescribing the amount to be paid to the DB Contractor in the event that the DB Contractor and the District fail to agree upon the whole amount to be paid to the DB Contractor by reason of the termination of Work pursuant to this Section 17, shall be deemed to limit, restrict, or otherwise determine or affect the amount(s) which may be agreed upon to be paid to the DB Contractor pursuant to this Section 17.4. Unless otherwise agreed to by the parties as a part of a negotiated settlement, the District's execution and delivery of any settlement agreement shall not affect any of its rights under the Contract Documents with respect to completed Work, relieve the DB Contractor from its obligations with respect thereto, including Warranties, or affect the District's rights of payment or performance under the Payment and Performance Bond as to such completed or non-terminated Work.

17.5 Determination of Settlement Amount if Negotiations Fail

If the DB Contractor and the District fail to agree, as provided in Section 17.4.2, upon the whole amount to be paid to the DB Contractor by reason of the termination of Work pursuant to this Section 17, the amount payable (exclusive of interest charges) shall be calculated by the District in accordance with the following, but without duplication of any amounts agreed upon in accordance with Section 17.4.

17.5.1 Payment Amount

The District will pay the DB Contractor the sum of the following amounts for Work performed prior to the effective date of the Notice of Termination, as such amounts are calculated by the District:

1. The DB Contractor's actual reasonable out-of-pocket cost without profit and including equipment costs only to the extent permitted by Section 15 for all Work performed, including mobilization, demobilization, and work done to secure the Project for termination, including reasonable overhead and accounting for any refunds payable with respect to insurance premiums, deposits, or similar items, as established to the District's satisfaction. In calculating the reasonable cost, deductions will be made for the cost of materials to be retained by the DB Contractor and amounts realized by the sale of materials and for other appropriate credits. Deductions will also be made for the cost of damaged materials. When, in the opinion of the District, the cost of an item of Work is excessively high due to costs incurred to remedy or replace defective or rejected Work, the reasonable cost to be allowed will be the estimated reasonable cost of performing that Work in compliance with the requirements of the Contract Documents, and the excessive actual cost will be disallowed. Reasonable out of pocket costs and overhead for the purposes of this Section 17.5.1.1, to the extent not already reimbursed, paid, or payable, or provided for in Section 15, shall be limited to the following:

    a. Additional costs of professional services at rates in effect under the DB Agreement or otherwise previously in use for the Project, or if not in effect or in use, then according to reasonable and customary rates of the profession in the locality of the Project. Costs associated with pre-proposal costs will be limited to $1,000,000 if Termination occurs prior to NTP2.

    b. Costs of labor, including social security, unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance.

    c. Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed subject to the provisions of this subsection. Costs of transportation, storage, installation, maintenance, dismantling and removal of materials, supplies, temporary facilities, machinery, equipment and hand tools not customarily owned by construction workers that are provided by the DB Contractor at the site and fully consumed in the performance of the Work. Costs of materials, supplies, temporary facilities, machinery, equipment and tools that are not fully consumed shall be based on the cost or value of the item at the time it is first used on the Project site less the value of the item when it is no longer used at the Project site. Costs for items not fully consumed by the DB Contractor shall mean fair market value.

d. Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the DB Contractor or others, all provided at the site by DB Contractor, all so long as the District has approved such items and the rental rates in advance in writing; and if tools, machinery or construction equipment are rented from the DB Contractor, the rental rate, including freight and delivery costs and all operating expenses except labor, shall be approved in advance by the District and shall be in accordance with the "Rental Rate Blue Book for Construction Mobilization Costs" published by Primedia, latest edition ("Blue Book"), but no higher than the prevailing competitive rates for rental of similar equipment in the Project vicinity. For tools, machinery, or construction equipment that is required to be on standby, the Blue Book rental rate shall be reduced by fifty percent (50%). Standby time should not exceed 8 hours per day, 40 hours per week, or the annual usage hours as established by the rate guide. If the Blue Book is used to calculate rental costs for periods of less than one month, then hourly rates will be developed by dividing the Blue Book monthly rental rate by 176 (or such other factor as was used by the publisher for defining the number of hours in a month). If equipment can be purchased for an amount comparable to the aggregate rental cost of said equipment, then DB Contractor shall purchase such equipment and turn it over to the District upon final completion of the Work, or, at the District's option, credit to the District with the amount of the fair market resale value.

e. Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work.

f. Additional costs of supervision and field office personnel directly attributable to the change or termination.

g. With the District's prior written approval, wages or salaries of the DB Contractor's supervisory and administrative personnel when stationed at the site.

h. Wages and salaries of the DB Contractor's supervisory or administrative personnel engaged at factories, workshops or on the road, in expediting the production or transportation of materials or equipment required for the Work, but only for that portion of their time required for the Work.

i. Bonuses, profit sharing, incentive compensation and any other discretionary payments paid to anyone hired by the DB Contractor or paid to the Engineer or any Consultant, Contractor or supplier, with the District's prior written approval.

j. Payments made by the DB Contractor to the Engineer, Architect, Landscape Architect, Consultants, Subcontractors and suppliers in accordance with the requirements of their subcontracts.

k. Costs of materials described in Section 17.5.1 in excess of those actually installed to allow for reasonable waste and spoilage. Unused excess materials, if any, shall become the District's property upon termination or, at the District's, shall be sold by the DB Contractor. Any amounts realized from such sales shall be credited to the District as a deduction from the amount payable due to termination.

l. Costs of removal of debris from the site of the Work and its proper and legal disposal.

m. Costs of materials and equipment suitably stored off the site at a mutually acceptable location, with the District's prior written approval subject to the requirements of the DB Agreement with respect to "stockpiling."

n. Premiums for that portion of insurance and bonds required by the Contract Documents that can be directly attributed to the DB Agreement. With the District's prior approval self-insurance for either full or partial amounts of the coverages required by the Contract Documents.

o. Sales, use or similar taxes imposed by a governmental authority that are related to the Work and for which the DB Contractor is liable, except for a tax on the net income of DB Contractor. The District may be exempt from the payment of sales taxes for materials incorporated into improvements to

real property, depending on the laws of the jurisdiction where the Project is located. DB Contractor shall use such exemptions fully to the extent available.

p. Fees and assessments for the building permit and for other permits, licenses and inspections for which the DB Contractor is required by the Contract Documents to pay.

q. Fees of laboratories for tests required by the Contract Documents, except those related to defective or nonconforming Work for which reimbursement is hereby excluded.

r. Royalties and license fees paid for the use of a particular design, process or product required by the Contract Documents; the cost of defending suits or claims for infringement of patent rights arising from such requirement of the Contract Documents; and payments made in accordance with legal judgments against the DB Contractor resulting from such suits or claims and payments of settlements made with the District's prior written consent.

s. With the District's prior written approval, costs for electronic equipment and software directly related to the Work.

t. Deposits lost for causes other than the DB Contractor's negligence or failure to fulfill a specific responsibility in the Contract Documents.

u. With the District’s prior written approval, expenses incurred in accordance with the DB Contractor's standard written personnel policy for relocation, and temporary living allowances of, the DB Contractor's personnel required for the Work.

v. That portion of the reasonable expenses of the DB Contractor's supervisory or administrative personnel incurred while traveling in discharge of duties connected with the Work.

2. Costs Not to Be Reimbursed Upon Termination as Part of this Contract

a. Salaries and other compensation of the DB Contractor's personnel stationed at the DB Contractor's principal office or offices other than the site office;

b. Expenses of the DB Contractor's principal office and offices other than the site office;

c. Overhead and general expenses, except as may be expressly included in Section 17.5.1;

d. The DB Contractor's capital expenses, including interest on the DB Contractor's capital employed for the Work;

e. Costs due to the negligence or failure of the DB Contractor, Subcontractors and suppliers or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable to fulfill a specific responsibility of the Design-Build Agreement;

f. Any cost not specifically and expressly described in Section 17.5.1;

g. Costs including, but not limited to, the failure to perform of any DB Contractor related entity or Subcontractor or the bankruptcy or insolvency of any DB Contractor related entity or Subcontractor.

h. Legal and administrative costs to review and negotiate the DB Agreement and the other Contract Documents.

i. Travel and subsistence expense of DB Contractor, its officers or employees incurred while traveling between the Project and DB Contractor's principal or branch offices, and travel in the metropolitan area of the Project.

j. Fines, penalties, sanctions or impositions assessed or imposed by any governmental body, instrumentality or tribunal arising from the fault of DB Contractor.

k. Costs incurred by DB Contractor resulting from the failure of DB Contractor or its Subcontractors to coordinate their work with that of the District and its contractors, and third parties including,

without limitation, utility companies, if any, after agreeing to the schedules therefor, or failure of DB Contractor to comply with directives of the District not in conflict with said schedules.

l. Costs resulting from the failure of DB Contractor or any Subcontractor to procure and maintain insurance as and to the extent required by the Contract Documents.

m. Any and all personnel costs, including, without limitation, wages, salaries, and benefits, except for personnel based at the site office and only as specifically provided herein.

n. Any and all overhead expense, or office expense at any location, except site office expense to the extent specifically included herein.

o. Costs related to DB Contractor's indemnification obligations pursuant to the terms of the executed Design Build Agreement.

p. The cost of capital, including, without limitation, interest on capital, regardless of whether it is related to the Project.

q. Any cost arising out of the fault or negligence of DB Contractor, its Subcontractors, or any person or entity for whom they may be liable, including, without limitation, costs related to defective, rejected, or nonconforming work, materials or equipment, and damage to persons or property.

r. Liquidated or actual damages imposed by the District.

s. Any and all costs not specifically authorized herein, including, without limitation, any cost which would cause the Contract Price allocable to the satisfactorily completed and accepted Work to be exceeded.

3. As profit on 17.5.1(1), a sum determined by the District to be fair and reasonable, provided, however, that if it appears that the DB Contractor would have sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed under this Section 17.5.1; and an appropriate adjustment shall be made by reducing the amount of the settlement to reflect the indicated rate of loss.

4. The cost of settling and paying Claims arising out of the termination of Work under Subcontracts as provided in Section 17.2(6), exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the Subcontractor prior to the effective date of the Notice of Termination under the Contract, shall be included in the cost as defined in 17.5.1(1).

17.5.2 Maximum Compensation

The DB Contractor acknowledges and agrees that it shall not be entitled to any compensation in excess of the value of the Work performed as calculated and provided in Section 17.5.1, plus its settlement costs. Items such as lost or anticipated profit, unabsorbed overhead, and opportunity costs shall not be recoverable by the DB Contractor upon termination of the Contract. However, the total amount to be paid to the DB Contractor, exclusive of costs described in Sections 17.5.1(3), may not exceed the total Contract Price less the amount of payments previously made and less the Contract Price of any Work not terminated. Furthermore, if any refund is payable with respect to insurance or bond premiums, deposits or similar items, which were previously passed through to the District by the DB Contractor, such refund shall be paid directly to the District or otherwise credited to the District. Notwithstanding anything to the contrary contained herein, if a termination occurs prior to issuance of NTP2, the total amount payable to the DB Contractor shall in no event exceed the NTP1 Payment Cap and previously made insurance or bond payments.

17.5.3 Excluded Items

Except for normal spoilage and to the extent that the District will have otherwise expressly assumed the risk of loss, the amounts payable to the DB Contractor under Section 17.5.1 will exclude the fair value, as determined by the District, of equipment, machinery, materials, and property that are destroyed, lost, stolen, or damaged so as to become undeliverable to the District, or to a buyer pursuant to Section 17.2(10).

The amount set forth in the Proposal by the DB Contractor for the Work terminated shall be a factor to be analyzed in determining the value of the Work terminated.

17.5.4 Payment of Termination Amount

Upon determination of the amount of the termination payment, the Contract shall be amended to reflect the agreed termination payment, and the DB Contractor shall be paid the agreed amount.

17.6 Partial Termination

If a termination hereunder is partial, the Contract Price for the remainder of the Work shall be adjusted as appropriate to account for the change in the overall scope of the Project.

17.7 Reduction in Amount Due to DB Contractor

The amount otherwise due the DB Contractor under this Section 17 shall be reduced by the following: (i) all unliquidated advance or other payments made to or on behalf of the DB Contractor applicable to the terminated portion of the Contract; (ii) the amount of any Claim which the District may have against any Contractor-Related Entity in connection with the Contract; (iii) the agreed price for, or the proceeds of the sale of, any property, materials, supplies or other things acquired by the DB Contractor or sold, pursuant to the provisions of this Section 17, and not otherwise recovered by or credited to the District; (iv) amounts that the District deems advisable, in its sole discretion, to retain to cover any existing or threatened Claims, Liens, and stop notices relating to the Project, including Claims by Utility Companies; (v) the cost of repairing any Nonconforming Work; and (vi) any amounts due or payable by the DB Contractor to the District.

17.8 Partial Payments

The District may, from time to time, under such terms and conditions as it may prescribe and in its sole discretion, make partial payments on account against costs incurred by the DB Contractor in connection with the terminated portion of the Contract, whenever in the opinion of the District the aggregate of such payments shall be within the amount to which the DB Contractor will be entitled under this Section 17. If the total of such payments is in excess of the final amount agreed or determined to be due under this Section 17, such excess shall be payable by the DB Contractor to the District upon demand, together with interest at a rate equal to the average rate at the time being received from the investment of state funds, as determined by the District Treasurer, for the period from the date such excess payment is received by the DB Contractor to the date on which such excess is repaid to the District. However, no interest will be charged with respect to any such excess payment attributable to a reduction in the DB Contractor's Claim by reason of retention or other disposition of termination inventory until 10 Days after the date of such retention or disposition, or such later date as determined by the District by reason of the circumstances.

17.9 Inclusion in Subcontracts

The DB Contractor shall insert in all Subcontracts a requirement that the Subcontractor shall stop Work on the date and to the extent specified in a Notice of Termination from the District in accordance with this Section 17 and shall require Subcontractors to insert the same provision in each Subcontract on all tiers.

17.10 Limitation on Payments to Subcontractor

For the purposes of Sections 17.4.2 and 17.5, upon termination under Section 17.2(4) of Work under any Subcontract, the DB Contractor will not be entitled to reimbursement for that portion of the termination settlement with any such Subcontractor, which constitutes anticipatory or unearned profit on Work not performed or which constitutes consequential damages on account of the termination or partial termination.

17.11 No Unearned Profit or Consequential Damages

Under no circumstances shall the DB Contractor be entitled to anticipatory or unearned profit or consequential or other damages as a result of a termination or partial termination under this Section 17. The payment to the DB Contractor calculated in accordance with this Section 17 constitutes the DB Contractor's sole and exclusive remedy for a termination under this Section 17.

17.12 No Waiver

Anything contained in the Contract to the contrary notwithstanding, a termination under this Section 17 shall not waive any right or claim to damages, which the District may have; and the District may pursue any cause of action, which it may have at law or in equity or under the Contract.

17.13 Dispute Resolution

The failure of the parties to agree on amounts due under this Section 17 shall be a Dispute to be resolved in accordance with Section 21.

17.14 Allowability of Costs

All costs claimed by the DB Contractor under this Section 17 shall, at a minimum, be allowable, allocable, and reasonable in accordance with the cost principles and procedures of 48 CFR Part 31.

17.15 Suspension of Work

In the event of any suspension of Work by the District occurring for more than 180 consecutive Days after suspension, the DB Contractor shall have the right to consider the Contract to have been terminated for convenience under this Section 17. The DB Contractor shall notify the District of such election by delivering to the District a written Notice of Termination due to such suspension specifying its effective date. Upon delivery by the DB Contractor to the District of a Notice of Termination due to suspension, the provisions of this Section 17 shall apply.

18 Default and Force Majeure Events

18.1 Default

1. The District may, subject to the provisions of paragraph (3) of this clause, by written notice of default to the DB Contractor, terminate the whole or any part of the Contract in any one of the following circumstances:

   a. If the Contractor fails to make delivery of the supplies or to perform the Work within the time specified in the Contract or any extension thereof; or

   b. If the DB Contractor fails to perform any of the other provisions of the Contract, or so fails to make progress as to endanger performance of the Contract in accordance with its terms, and in either of these two circumstances does not cure such failure within a period of ten (10) Days (or such longer period as the CO may authorize in writing) after receipt of notice from the CO specifying such failure.

2. In the event the District terminates the Contract in whole or in part as provided in paragraph (1) of this clause, the District may procure, upon such terms and in such manner as the CO may deem appropriate, supplies or Work similar to those so terminated, and the DB Contractor shall be liable to the District for any excess costs for similar supplies or Work; provided, that the DB Contractor shall continue the performance of the Contract to the extent not terminated under the provisions of this clause.

3. Except with respect to Defaults of subcontractors, the DB Contractor shall not be liable for any excess costs if the failure to perform the Contract arises out of causes beyond the control and without the fault or negligence of the DB Contractor. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the District or federal government in either their sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without fault or negligence of the DB Contractor. If the failure to perform is caused by the Default of a subcontractor, and if such Default arises out of causes beyond the control of both the DB Contractor and the subcontractor, and without the fault or negligence of either of them, the DB Contractor shall not be liable for any excess cost for failure to perform, unless the supplies or the Work to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the DB Contractor to meet the required delivery schedule. The term “subcontractor(s)” means subcontractor(s) at any tier.

4. If the Contract is terminated as provided in paragraph (1) of this clause, the District, in addition to any other rights provided in this clause, may require the DB Contractor to transfer title and deliver to the District, in the manner and to the extent directed by the CO, (a) completed supplies and Work, and (b) such partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and Contract rights (hereinafter collectively called “manufacturing materials”) that the DB Contractor has specifically produced or specifically acquired for the performance of such part of the Contract as has been terminated; and the DB Contractor shall, upon direction of the CO, protect and preserve property in possession of the DB Contractor in which the District has an interest. Payment for completed supplies and Work delivered to and accepted by the District will be at the applicable Contract Price. Payment for manufacturing materials delivered to and accepted by the District and for the protection and preservation of property shall be in amounts agreed upon by the DB Contractor and CO; failure to agree to such amount shall be a dispute. The District may withhold from amounts otherwise due the DB Contractor for such completed supplies, Work or manufacturing materials such sum as the CO determines to be necessary to protect the District against loss because of outstanding liens or claims of former lien holders.

5. If, after termination of the Contract under the provisions of this clause, it is determined for any reason that the DB Contractor was not in Default under the provisions of this clause, or that the default was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the Contract contains a clause providing for termination of convenience of the District, be the same as if the notice of termination had been issued pursuant to such clause. See Section 17 - Termination for Convenience.
6. The rights and remedies of the District provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under the contract.

18.2 Force Majeure

In addition to any other rights provided under the Contract to terminate the Contract, DDOT reserves the right to terminate the Contract if the District believes it is necessary due to a Force Majeure Event. If DDOT chooses not to terminate the Contract pursuant to this Section 18.2, the DB Contractor will be entitled to one additional day of contract time for each day of non-concurrent delay caused by the specified causes; the extension of time is the DB Contractor's sole remedy provided they are beyond the DB Contractor's control and not due to an act or omission by the DB Contractor or its Subcontractors, that materially and adversely affect the DB Contractor's obligations and could not have been avoided by the exercise of caution, due diligence, or reasonable efforts by DB Contractor, including:

1. Any earthquake, tornado, hurricane, flood, or other natural disaster causing direct physical damage to the Project.
2. Any epidemic in the Project area
3. Any freight embargo
4. Industry-wide strikes, unless caused by the DB Contractor
5. Any blockade, rebellion, war, riot, act of sabotage or civil commotion that causes direct physical damage to the Project
6. Matters related to national security
7. Material change in law, except as provided in Section 14.1.13.
8. Issuance of a Temporary Restraining Order or other form of injunction by a court that prohibits prosecution of a material portion of the Work, except as provided in Section 14.1.14.

19 Damages

19.1 Liquidated Damages

19.1.1 Failure to Meet Contract Requirements

The DB Contractor understands and agrees that if the DB Contractor fails to complete the Work in accordance with the Contract Documents, the District will suffer substantial losses and damages. The DB Contractor agrees that it shall be liable for all such losses and damages. The DB Contractor acknowledges and agrees that because of the unique nature of the Project, the fact that it is an essential part of the South Capitol Street Corridor Project, and the fact that inconvenience to the local and regional traffic, especially commuters entering or leaving Washington, DC, will be one of the significant impacts of any completion delay, it is impracticable and extremely difficult to ascertain and calculate the actual damages which would accrue to the District and the public in the event of the DB Contractor's failure to achieve Substantial Completion and Final Completion by the applicable Project Completion Deadlines. Therefore, the DB Contractor and the District have agreed to stipulate the amount payable by the DB Contractor in the event of its failure to meet the Completion Deadlines. The DB Contractor acknowledges and agrees that such Liquidated Damages are intended to compensate the District solely for the DB Contractor's failure to meet these Contract Document requirements, and not as a penalty, and shall not excuse the DB Contractor from liability from any other breach of Contract requirements, including any failure of the Work to conform to applicable requirements.

19.1.1.1 Failure to Meet Substantial Completion Deadline

If the DB Contractor fails to achieve the Substantial Completion Deadline, the DB Contractor agrees to pay the District Liquidated Damages in the following amount: $33,000 per Day or portion of a Day for the DB Contractor's failure to achieve Substantial Completion by the Substantial Completion Deadline if not the fault of the District, and the DB Contractor agrees and acknowledges that such amount is an accurate estimate of the actual damages the District would incur in the event of such a delay.

19.1.1.2 Failure to Meet Final Completion Deadline

Following Substantial Completion, if the DB Contractor fails to achieve the Final Completion Deadline, the DB Contractor agrees to pay the District Liquidated Damages in the following amount: $20,000 per Day or portion of a Day for the DB Contractor's failure to achieve Final Completion by the Final Completion Deadline if not the fault of the District, and the DB Contractor agrees and acknowledges that such amount is an accurate estimate of the actual damages the District would incur in the event of such a delay.

19.1.1.3 Maximum Damage Amounts/Consequential Damages

There is no maximum cap on Cumulative Liquidated Damages under Section 19.1.1. Both the DB Contractor and the District agree that they are not entitled to consequential damages.

19.2 Offset/Waiver

19.2.1 Offset

The DB Contractor hereby agrees that the District may use all or any portion of any consideration or refund due the DB Contractor under the present contract to satisfy, in whole or in part, any debt due the District.

19.2.2 No Waiver

Permitting or requiring the DB Contractor to continue and finish the Work or any part thereof after a Completion Deadline shall not act as a waiver of the District's right to receive Liquidated Damages hereunder or any rights or remedies otherwise available to the District.

19.3 Payment of Liquidated Damages

To the extent Liquidated Damages are not deducted in a monthly progress report payment from any amount owed to the District by the DB Contractor, the District may send the DB Contractor an invoice, and the Liquidated Damages shall be payable by the DB Contractor to the District within 10 Days after the DB Contractor's receipt of the invoice.

20 Indemnification

20.1 Indemnifications by Contractor

1. The DB Contractor agrees to defend, indemnify and hold harmless the District, its officers, agencies, departments, agents, and employees (collectively the "District") from and against any and all claims, losses, liabilities, penalties, fines, forfeitures, demands, causes of action, suits, costs and expenses incidental thereto (including reasonable cost of defense and attorneys' fees), (collectively "Claims"), resulting from, arising out of, or in any way connected to activities or work performed by the DB Contractor, the DB Contractor's officers, employees, agents, servants, subcontractors, or any other person acting for or by permission of the DB Contractor in performance of this Contract. The DB Contractor assumes all risks for direct and indirect damage or injury to the property or persons used or employed in performance of this Contract. The DB Contractor shall also repair or replace any District property that is damaged by the DB Contractor, DB Contractor's officers, employees, agents, servants, subcontractors, or any other person acting for or by permission of the DB Contractor while performing work hereunder.
2. The indemnification obligation under this section shall not be limited by the existence of any insurance policy or by any limitation on the amount or type of damages, compensation or benefits payable by or for DB Contractor or any subcontractor, and shall survive the termination of this Contract. The District agrees to give the DB Contractor written notice of any claim of indemnity under this section. Additionally, DB Contractor shall have the right and sole authority to control the defense or settlement of such claim, provided that no contribution or action by the District is required in connection with the settlement. Monies due or to become due to the DB Contractor under the contract may be retained by the District as necessary to satisfy any outstanding claim which the District may have against the DB Contractor.

20.2 Responsibility of the District for Certain Hazardous Materials

20.2.1 Pre-existing Site Contamination

Except for Hazardous Materials for which the DB Contractor is responsible as described in Section 15.9.1 and, without contradiction of any assertion by the District of third-party liability, for purposes of the Contract only:

1. The DB Contractor shall not be required to execute any hazardous waste manifests as a "generator."
2. Hazardous Materials encountered in the performance of the Work shall be disposed of, if at all, using a U.S. Environmental Protection Agency Identification Number or other appropriate legal device obtained by, and carried in the name of, the District or another Person designated by the District. The DB Contractor is responsible for contacting DDOE and obtaining all permits and approvals associated with Hazardous Materials removal and disposal.

20.2.2 No Effect on Other Rights

The foregoing obligations shall not be construed to negate, abridge, or reduce other rights or obligations that would otherwise exist in favor of a party hereunder.

20.3 Comprehensive Environmental Response, Compensation, and Liability Act Agreement

Without limiting their generality, the indemnities set forth in Section 20.1 are intended to operate as agreements pursuant to Section 107(e) of the Comprehensive Environmental Response, Compensation and Liability Act, 42 USC Section 9607(e), to insure, protect, hold harmless, and indemnify the parties indemnified in said Section 20.1.

21 Partnering; Claims for Adjustment and Disputes

21.1 Partnering

DDOT requires the use of partnering principles on this Project. The DB Contractor shall coordinate and manage the partnering process. DDOT is committed to developing a partnering relationship with the DB Contractor, the FHWA, other federal agencies, Utilities, and other key stakeholders as a means to effectively manage the Project for the mutual benefit and achievement of goals of all parties for the successful delivery of this Project to the District of Columbia.

All costs associated with partnering, including the hiring of a professional facilitator who shall be an independent and impartial third party, providing partnering facilities, and other miscellaneous costs shall be included in Proposer's Contract Price.

21.1.1 Partnering Workshops

The Parties to the Contract shall engage in professionally facilitated partnering workshops to include at a minimum:

1. Initial partnering workshop for project executives and project-management-level personnel of key parties to the Contract, together with representatives from key stakeholders (normally this will result in a project charter—mission statement and charter objectives, together with issue resolution process and agreement as to partnering evaluation process)
2. Design team partnering workshop to be conducted after initial project executive workshop to include project-management-level personnel and discipline leads (from design side of the house, and to the extent that they are named and available, construction managers from parties to the Contract), as well as other key stakeholders
3. Construction team partnering workshop to be conducted prior to initiation of construction, with representation from design and from key stakeholders
4. Periodic (not less than quarterly) facilitated partnering workshops/meetings of project executives and project-management-level personnel of parties to the Contract, plus key stakeholder representatives (include lessons learned in the agenda of at least the last such meeting)
5. Other facilitated meetings as agreed by parties to the Contract to address specific issues outside of the meetings and workshops outlined above
6. Fact finding and preparation for the meeting by the facilitator will occur prior to any such meetings
7. Meeting summaries will be compiled and distributed to the parties by the facilitator

21.1.2 Partnering Evaluations

The partnering process shall be evaluated by means of anonymous surveys of members of parties to the Contract and key stakeholders no less often than the executive partnering workshops occur. Survey reports will be distributed to the executive group prior to each workshop, and survey results will be used by the facilitator during partnering sessions.

21.1.3 Partnering Issue Resolution

Parties to the Contract shall adopt and follow an issue resolution process, the intent of which is to avoid as much as is practicable litigated claims and disputes by addressing issues at the lowest level possible. An issue escalation ladder will be created and will be updated as personnel changes occur.

21.1.4 Partnering Dispute Resolution

It is the intent of the parties that the Claims and Dispute provisions contained in Section 21.2 shall apply only in the event that the normal DDOT-DB Contractor issue resolution efforts through partnering are not successful. The Dispute resolution provisions set forth in Section 21.2 shall apply to all Disputes arising out of the Work that are not resolved by the parties through the partnering process, except as expressly provided to the contrary in the Contract Documents.

Partnering meetings for Dispute resolution, conducted by a mutually agreed upon facilitator, are to include Key Personnel and executives of both parties. A non-binding Dispute Resolution Board will be established upon request of either party to seek to resolve issues in a mutually beneficial manner. The Dispute Resolution Board will be comprised of three individuals. One individual selected by the DDOT, one individual selected by the DB Contractor, and one individual mutually selected by the former two individuals. If partnering and the non-binding Dispute Resolution Board fails to resolve an issue and the DB Contractor elects to pursue a formal Dispute with DDOT, the Dispute shall be resolved in accordance with Section 21.2 and Section 103, Article 7 of DDOT's *Standard Specifications for Highways and Structures*.

21.2 Claims for Adjustment and Disputes

All Disputes arising under or relating to this Contract shall be resolved as provided herein.

Decisions of the CO shall be final and not subject to review unless the DB Contractor timely commences an administrative appeal for review of the decision, by filing a complaint with the Contract Appeals Board, as authorized by D.C. Official Code § 2-360.04.

Pending final decision of an appeal, action, or final settlement, the DB Contractor shall proceed diligently with performance of the contract in accordance with the decision of the CO.

21.2.1 Claims by the DB Contractor against the District

Claim, as used in this Section, means a written assertion by the DB Contractor seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. A Claim arising under a contract, unlike a Claim relating to that contract, is a Claim that can be resolved under a contract clause that provides for the relief sought by the claimant.

1. All Claims by the DB Contractor against the District arising under or relating to a contract shall be in writing and shall be submitted to the CO for a decision. The DB Contractor's Claim shall include at least the following:
    a. A description of the Claim and the amount in Dispute;
    b. Data or other information in support of the Claim;
    c. A brief description of the DB Contractor's efforts to resolve the Dispute prior to filing the Claim; and
    d. The DB Contractor's request for relief or other action by the CO.
2. The CO may meet with the DB Contractor in a further attempt to resolve the Claim by agreement.
3. The CO shall issue a decision on any Claim within 120 Days after receipt of the Claim. Whenever possible, the CO shall take into account factors such as the size and complexity of the Claim and the adequacy of the information in support of the Claim provided by the DB Contractor.
4. The CO's written decision shall do the following:
    a. Provide a description of the Claim or Dispute;
    b. Refer to pertinent Contract terms;
    c. State the factual areas of agreement and disagreement;

d. State the reasons for the decision, including any specific findings of fact, although specific findings of fact are not required and, if made, shall not be binding in any subsequent proceeding;

e. If all or any part of the Claim is determined to be valid, determine the amount of monetary settlement, the Contract adjustment to be made, or other relief to be granted;

f. Indicate that the written document is the CO's final decision; and

g. Inform the DB Contractor of the right to seek further redress by appealing the decision to the Contract Appeals Board.

5. Failure by the CO to issue a decision on a Contract Claim within 120 Days of receipt of the Claim will be deemed to be a denial of the Claim, and will authorize the commencement of an appeal to the Contract Appeals Board, as provided by D.C. Official Code § 2-360.04.

   a. If the DB Contractor is unable to support any part of its Claim and it is determined that the inability is attributable to a material misrepresentation of fact or fraud on the part of the DB Contractor, the DB Contractor shall be liable to the District for an amount equal to the unsupported part of the Claim in addition to all costs to the District attributable to the cost of reviewing that part of the DB Contractor's Claim.

   b. Liability under paragraph (5)(a) shall be determined within six (6) years of the commission of the misrepresentation of fact or fraud.

6. Pending final decision of an appeal, action, or final settlement, the DB Contractor shall proceed diligently with performance of the Contract in accordance with the decision of the CO.

21.2.2 Claims by the District against a Contractor

Claim, as used in this Section, means a written demand or written assertion by the District seeking, as a matter of right, the payment of money in a sum certain, the adjustment of contract terms, or other relief arising under or relating to this contract. A Claim arising under a contract, unlike a Claim relating to that contract, is a Claim that can be resolved under a contract clause that provides for the relief sought by the claimant.

1. The CO shall decide all Claims by the District against the DB Contractor arising under or relating to the Contract.

2. The CO shall send written notice of the Claim to the DB Contractor. The CO's written decision shall do the following:

   a. Provide a description of the Claim or Dispute.

   b. Refer to the pertinent Contract terms.

   c. State the factual areas of agreement and disagreement.

   d. State the reasons for the decision, including any specific findings of fact, although specific findings of fact are not required and, if made, shall not be binding in any subsequent proceeding.

   e. If all or any part of the Claim is determined to be valid, determine the amount of monetary settlement, the Contract adjustment to be made, or other relief to be granted.

   f. Indicate that the written document is the CO's final decision; and

   g. Inform the DB Contractor of the right to seek further redress by appealing the decision to the Contract Appeals Board.

3. The CO shall support the decision by reasons and shall inform the DB Contractor its rights as provided herein.

4. Before or after issuing the decision, the CO may meet with the DB Contractor to attempt to resolve the claim by agreement.
5. The authority contained in this clause shall not apply to a Claim or Dispute for penalties or forfeitures prescribed by statute or regulation which another District agency is specifically authorized to administer, settle, or determine.
6. This clause shall not authorize the CO to settle, compromise, pay, or otherwise adjust any Claim involving fraud.

22 Acceptance of Project

22.1 Substantial Completion

As a prerequisite to Substantial Completion, the DB Contractor shall provide written notice to the District when all of the following have occurred with respect to the Project:

1. The District and the DB Contractor have agreed upon a Punch List for Substantial Completion.
2. The DB Contractor has completed all Work except for Punch List items, final cleanup, and other items only included in the requirements for Final Acceptance.
3. The DB Contractor has ensured that the Work in connection with Substantial Completion has been performed in accordance with the requirements of the Contract Documents.
4. The DB Contractor has ensured that the Project may be operated safely without injury to any Person or damage to the Project or any other property on or off the Site.
5. The DB Contractor has ensured that the Project is ready to be opened for all traffic and that no further Work is required that would involve any lane, shoulder or sidewalk closure except as necessary to complete Punch List items.
6. The DB Contractor has received all applicable Governmental Approvals required for the Project.
7. The DB Contractor has furnished to the District certifications from the DB Contractor's Design Manager, in form and substance satisfactory to the District, certifying that the Design Documents meet the requirements of the Contract Documents.
8. The DB Contractor has furnished to the District certifications from the DB Contractor's Project Manager, in form and substance satisfactory to the District, certifying that the construction meets the requirements of the Contract Documents.
9. The DB Contractor has obtained all applicable third-party Approvals relating to the Work, and all third parties have completed all Work that involves obligations by the DB Contractor.

22.2 Notice of Substantial Completion

Upon receipt of the DB Contractor's notice under Section 22.1, the District, in addition to the requirements set forth in Section 108.09 of the *DDOT Standard Specifications for Highways and Structures*, will verify that the following have occurred:

1. All Nonconforming Work identified as prerequisites to Substantial Completion has been corrected.
2. All Punch List items identified as prerequisites to Substantial Completion have been completed.
3. All other requirements identified as prerequisites to Substantial Completion have been met.

If any Work does not meet the requirements of the Contract Documents or Work has not been completed, the District will promptly advise the DB Contractor as to Nonconforming Work or incomplete Work necessary to be corrected as a condition to Substantial Completion. Upon correction of the Nonconforming Work excluding Punch List items identified for Final Acceptance, the DB Contractor shall provide written notification to the District; and the District will verify that all prerequisites to Substantial Completion have been met and will issue a Notice of Substantial Completion.

22.3 Affidavit of Final Completion

The DB Contractor shall provide to the District an executed sworn Affidavit of Final Completion in accordance with this Section 22.3 when all of the following have occurred:

1. The District has received all Released for Construction Documents, Design Documents, As-Built Documents, ROW record maps, surveys, test data, and other deliverables required under the Contract Documents for the Project, whichever is applicable. The DB Contractor has furnished to the District alignment points as part of the As-Built Documents.
2. All special tools, equipment, furnishings, and supplies purchased by and/or used by the DB Contractor, as provided in the Contract Documents, have been delivered to the District free and clear of Liens and all Warranties have been transferred and assigned to the District.
3. All of the DB Contractor's and Subcontractors' personnel, supplies, equipment, waste materials, rubbish, and temporary facilities have been removed from the Site. The DB Contractor has restored and repaired all damage or injury arising from such removal to the satisfaction of the District, and the Site is in good working order and condition.
4. The DB Contractor has furnished to the District certifications from the DB Contractor's Quality Control Manager, in form and substance satisfactory to the District, certifying that there are no outstanding Nonconforming Work or Punch List items.
5. All of the DB Contractor's other obligations under the Contract Documents and other than obligations, which by their nature are required to be performed after Final Acceptance as determined by the District, have been satisfied in full or waived in writing by the District.

The Affidavit of Final Completion shall include the following statement:

To the best of the DB Contractor's knowledge and belief, the Work under the Contract has been completed in strict accordance with the Contract Documents, no lawful debts for labor or materials are outstanding and no federal excise tax has been included in the Contract Price; all requests for funds for undisputed Work under the Contract, including changes in the Work, and all billings of whatsoever nature are accurate, complete and final and no additional compensation over and above the final payment will be requested or is due under the Contract or under any adjustment issued for said undisputed Work; there are no outstanding Claims, Liens or stop notices relating to the Project, including Claims by Utility Companies; there is no existing default by the DB Contractor under any Utility Agreement, and no event has occurred which, with the passing of time or giving of notice or both, would lead to a Claim relating to the Work or event of default under any Utility Agreement; and upon receipt of final payment, the DB Contractor and Subcontractors acknowledge that the District and any and all employees of the District and their authorized representatives will thereby be released, discharged and acquitted from any and all Claims or liability for additional sums on account of undisputed Work performed under the Contract.

If the DB Contractor is unable to provide the affidavit in the above form, the affidavit shall certify that all such outstanding matters are set forth in an attached list that shall describe the outstanding matters in such detail as may be requested by the District. The affidavit shall include a representation of the DB Contractor that it is diligently and in good faith contesting all such matters by appropriate legal proceedings and shall provide a status report regarding the same, including an estimate of the maximum payable with respect to each such matter.

22.4 Notice of Final Acceptance

Upon the District's receipt of the Affidavit of Final Completion, the District will verify that the following have occurred:

1. All Nonconforming Work has been corrected other than obligations that by their nature are required to be performed after Final Acceptance as determined by the District.
2. All Punch List items have been completed other than obligations which by their nature are required to be performed after Final Acceptance as determined by the District.

3. All other requirements identified as prerequisites to Final Acceptance have been met.

If any Work does not meet the requirements of the Contract Documents or Work has not been completed, the District will promptly advise the DB Contractor as to Nonconforming Work or incomplete Work necessary to be corrected as a condition to Final Acceptance. Upon correction of the Nonconforming Work, including incomplete Work, the DB Contractor shall provide written notification to the District and the District will verify that all prerequisites to Final Acceptance have been met and will issue a Notice of Final Acceptance.

22.5 Overpayments; No Relief from Continuing Obligations

Final Acceptance will not prevent the District from correcting any measurement, estimate or certificate made before or after completion of the Work, or from recovering from the DB Contractor, the Surety(ies) or both, the amount of any overpayment sustained due to failure of the DB Contractor to fulfill the obligations under the Contract. A waiver on the part of the District of any breach by the DB Contractor shall not be held to be a waiver of any other or subsequent breach. Final Acceptance shall not relieve the DB Contractor from any of its continuing obligations hereunder, or constitute any assumption of liability by the District.

22.6 Opening of Sections of Project to Traffic

Opening of portions of the Project to traffic prior to Substantial Completion or Final Acceptance does not constitute Acceptance of the Work or a waiver of any provisions of the Contract Documents. Partial acceptance of portions of the Work will not be considered.

22.7 Assignment of Causes of Action

The DB Contractor hereby offers and agrees to assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 USC Section 15), arising from purchases of goods, services, or materials pursuant to the Contract or any Subcontract. The assignment shall be made and become effective at the time the District tenders final payment to the DB Contractor, without further acknowledgment by the parties.

23 Warranties

23.1 Warranties by Contractor

23.1.1 Project Warranties

The DB Contractor warrants the following:

1. When applicable law requires that services be performed by licensed professionals, the DB Contractor shall provide those services ("Professional Design Work") through qualified, licensed professionals. DB Contractor shall be responsible to the District for the professional negligence, errors and omissions, of such professionals.
2. DB Contractor agrees to use its best efforts to perform, or cause to be performed, all Professional Design Work (i) in accordance with the usual and customary professional standards of care, skill and diligence consistent with good professional design practices for professional design firms in the Washington, D.C. metropolitan area that provide professional design services for projects that are similar in size, scope, and budget to the Project, and (ii) in compliance with all applicable federal and District of Columbia laws, regulations, codes, ordinances, orders and with those of any other body having jurisdiction. There are no obligations, commitments, or impediments of any kind known to the DB Contractor that will limit or prevent performance by the DB Contractor of its Professional Design Work. DB Contractor hereby agrees to correct, at its own cost, any of its Professional Design Work, and the services of its professional design consultants, that do not meet the standard of care.
3. DB Contractor warrants to the District the sufficiency and completeness of all Professional Design Work, and that all Professional Design Work including, without limitation, all drawings, specifications, and other information furnished or provided by DB Contractor, shall be reasonably accurate and free from any material errors or omissions. Neither acceptance nor approval of DB Contractor's Professional Design Work by the District shall relieve DB Contractor of any of its duties or release it from any liability with respect to Professional Design Work, it being understood that the District is, at all times, relying upon DB Contractor for its skill and knowledge in performing DB Contractor's Professional Design Work. The District shall have the right to reject any of DB Contractor's Work because of any fault, damage, or defect in the Work due to any material errors or omissions in the plans, drawings, specifications, and other Professional Design Work prepared or furnished by DB Contractor. Upon notice of any such errors or omissions, DB Contractor shall promptly provide any and all services necessary to correct or remedy them at no additional cost to the District. Should the DB Contractor refuse or neglect to correct any such damage or defect within a reasonable time after notice, the District may cause the damage or defect to be corrected and withhold payment or collect monetary damages equal to the cost of replacing or repairing the defective Work. DB Contractor's obligation to correct its errors and omissions is in addition to, and not in substitution for, any other remedy for defective services or Work which the District may have at law or in equity, or both.
4. The construction Work furnished pursuant to the Contract Documents shall be performed in a good, workmanlike manner and shall conform to the standards of care and diligence normally practiced by recognized construction firms performing construction of a similar nature in the District.
5. Materials and equipment furnished under the Contract Documents shall be of good quality and, when installed, shall be new, or as allowed under this Contract, recycled materials shall be in good condition and shall meet all contractual requirements.
6. The Work shall meet all of the requirements of the Contract Documents.
7. The specifications and/or drawings selected or prepared for use during construction are appropriate for their intended use.

8. The Project shall be fit for use for the intended purpose.

23.1.2 Transfer of Title

The DB Contractor warrants that it owns, or will own, and has, or will have, good and marketable title to all materials, equipment, tools and supplies furnished, or to be furnished, by it and its Subcontractors that become part of the Project or are purchased for the District for the operation, maintenance, or repair thereof, free and clear of all Liens. Title to all of such materials, equipment, tools and supplies, which shall have been delivered to the Site, shall pass to the District, free and clear of all Liens, upon the sooner of: (i) incorporation into the Project; or (ii) payment by the District to the DB Contractor of invoiced amounts pertaining thereto. Notwithstanding any such passage of title, the DB Contractor shall retain sole care, custody and control of such materials, equipment, tools and supplies, and shall exercise due care with respect thereto as part of the Work until Final Acceptance or until the DB Contractor is removed from the Project.

23.1.3 Project Warranty Term

The Warranty term shall commence upon Final Acceptance by the District. Warranties regarding all elements of the Project shall remain in effect until two (2) years after Final Acceptance, provided that the Warranty term for elements of the Project that will be owned by Persons other than the District (such as Utility Companies) shall remain in effect for such a term as may be required under any applicable agreement (such as Utility Agreements). If the District concludes that any of the Work has not met the standards set forth in Section 23.1 at any time within the Warranty period, then the DB Contractor shall correct such Work as specified below within the 2-year Warranty term.

Warranties for installed equipment such as traffic signals, electronic message boards, lighting, and related facilities provided by manufacturers shall be transferred to or assigned to the District in accordance with the Standard Specifications.

The Warranties apply notwithstanding maintenance work performed by DDOT or the Maintenance Contractor during the Warranty period.

23.1.4 Corrective Work

Within seven (7) Days of receipt by the DB Contractor of notice from the District specifying a failure of any of the Work to satisfy the DB Contractor's Warranties, or of any Subcontractor representation, Warranty, guarantee, or obligation that the DB Contractor is responsible to enforce, the DB Contractor and the District shall mutually agree when and how the DB Contractor shall remedy such violation; provided, however, that in case of an emergency as indicated by the District in its notice requiring immediate curative action, the DB Contractor and the District shall agree on a remedy immediately upon notice by the District of such emergency. If the DB Contractor does not use its best efforts to proceed to effectuate such remedy within the agreed time, or if the DB Contractor and the District fail to reach such an agreement within such 7-Day period or immediately, in the case of emergency conditions, then the District, after notice to the DB Contractor, shall have the right to perform or have performed by third parties the necessary remedy, and the costs thereof shall be borne by the DB Contractor. The DB Contractor shall reimburse the District for such costs within 30 Days after the DB Contractor's receipt of the invoice. The District may agree to accept Nonconforming Work in accordance with Section 7.6.

The District and the DB Contractor shall conduct a walkthrough of the Site prior to expiration of the Warranty period and shall produce a Punch List of those items requiring Warranty Work.

23.1.5 Contractor's Costs of Correction of Work

All costs of correcting such rejected Work, including additional testing and inspections, shall be deemed included in the Contract Price. The DB Contractor shall reimburse the District and pay the District's expenses made necessary thereby within 30 Days after the DB Contractor's receipt of invoice The

DB Contractor shall be responsible for obtaining any required Governmental Approvals or other consents from any other Person in connection with the Warranty Work.

23.2 Subcontractor Warranties

23.2.1 Assignment

Without in any way derogating the DB Contractor's own representations and Warranties and other obligations with respect to all Work, the DB Contractor shall obtain from all Subcontractors and cause to be extended to the District, appropriate representations, Warranties, guarantees and obligations with respect to the design, materials, workmanship, equipment, tools and supplies furnished by such Subcontractors, including all such representations, Warranties, guarantees, and obligations required to be furnished by Subcontractors pursuant to the Contract Documents. All representations, Warranties, guarantees, and obligations of Subcontractors shall: (i) be written so as to survive the entire District and the DB Contractor inspections, tests, and approvals; and (ii) run directly to and be enforceable by the DB Contractor and/or the District and their respective successors and assigns. The DB Contractor hereby assigns to the District all of the DB Contractor's rights and interest in all extended Warranties for periods exceeding the applicable Warranty period that are received by the DB Contractor from any of its Subcontractors.

23.2.2 Enforcement

Upon receipt from the District of notice of a failure of any of the Work to satisfy any Subcontractor Warranty, representation, guarantee, or obligation, the DB Contractor shall enforce or perform any such representation, Warranty, guarantee, or obligation, in addition to the DB Contractor's other obligations hereunder. The District's rights under this Section 23.2.2 shall commence at the time such representation, warranty, guarantee, or obligation is furnished, and shall continue until the expiration of the DB Contractor's relevant Warranty. Until such expiration, the DB Contractor shall be responsible for the cost of any equipment, material, labor (including re-engineering), or shipping; and the DB Contractor shall be required to replace or repair defective equipment, material, or workmanship furnished by any Subcontractor.

23.3 No Limitation of Liability

The foregoing Warranties are in addition to all rights and remedies available under the Contract Documents or applicable law and shall not limit the DB Contractor's liability or responsibility imposed by the Contract Documents or applicable law with respect to the Work, including liability for design defects, latent construction defects, strict liability, negligence, or fraud.

23.4 Warranty Beneficiaries

In addition to benefiting the District and its successors and assigns, the Warranties and Subcontractor Warranties provided under this Section 23 shall inure to the benefit of, and shall be directly enforceable by, any local agencies and Utility Companies with respect to those portions of the Work owned or controlled by each such Person.

23.5 Remedies for Breach of Warranty

In addition to the District's other rights and remedies hereunder, at law or in equity, the DB Contractor shall be liable for actual damages resulting from its failure to provide corrective Work in accordance with Section 23.1.4 and any breach of an express Warranty or any defect in the Work.

23.6 Warranty Disputes

Any disagreement between the District and the DB Contractor relating to Section 23 shall be subject to the Dispute resolution provisions contained in Section 21, provided that the DB Contractor shall proceed as directed by the District pending resolution of the Dispute.

24 Documents and Records

24.1 Project Records

24.1.1 Maintenance of Records

The DB Contractor shall maintain at the DB Contractor's Project Manager's office in the District a complete set of all books, records, and documents prepared or employed by the DB Contractor with respect to the Project. The project records and documentation shall be maintained in a manner that meets or exceeds DDOT and Federal Requirements.

24.1.2 Audit and Inspection Rights

The DB Contractor shall grant to the District, FHWA and their respective authorized representatives such audit and inspection rights and allow such Persons such access to and the right to copy such books and records including all tax returns and supporting documentation filed with any Governmental Persons as such Persons may reasonably request from time to time in connection with the issuance of Change Orders, the resolution of Disputes, and such other matters as such Persons reasonably deem necessary for purposes of complying or verifying compliance with the Contract and legal requirements, including responding to requests pursuant to the D.C. Freedom of Information Act (FOIA).

24.1.3 Audit of Force Account Work

Where the payment method for any Work is on a Force Account basis, such examination and audit rights shall include all books, records, documents, and other evidence and accounting principles and practices sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred and anticipated to be incurred for the performance of such Work. If an audit indicates the DB Contractor has been over-credited under a previous progress report or progress payment, that over-credit will be credited against current progress reports or payments.

24.1.4 Change Order Pricing Data

For cost and pricing data submitted in connection with pricing Change Orders, unless such pricing is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the public, or prices set by law or regulation, DDOT has the right to examine all books, records, documents, and other Contractor data related to the negotiation of or performance of Work under such Change Orders for the purpose of evaluating the accuracy, completeness and currency of the cost or pricing data submitted. The right of examination shall extend to all documents deemed necessary by such Persons to permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein.

24.1.5 Claims Audits

All Claims filed against the District shall be subject to audit at any time following the filing of the Claim. The audit may be performed by employees of the District or by an auditor under contract with the District. No notice is required for any audit beginning before 60 Days after Final Acceptance. Thereafter, the District shall provide a 20-Day notice to the DB Contractor, any Subcontractors, or their respective agents before beginning an audit. The DB Contractor, Subcontractors, or their agents shall provide adequate facilities, acceptable to the District, for the audit during normal business hours. The DB Contractor, Subcontractors, and their agents shall cooperate with the auditors. Failure of the DB Contractor, Subcontractors, or their agents to maintain and retain sufficient records to allow the auditors to verify all or a portion of the Claim or to permit the auditors access to the books and records of the DB Contractor, Subcontractors, or their agents shall constitute a waiver of the Claim and shall bar any recovery thereunder. At a minimum, the auditors shall have available to them the following documents:

1. Daily time sheets, superintendent's log books, and supervisor's daily reports
2. Union agreements
3. Insurance, welfare, and benefits records
4. Payroll registers
5. Earnings records
6. Payroll tax forms
7. Material invoices and requisitions
8. Material cost distribution worksheet
9. Equipment records (such as lists of company equipment and/or rates)
10. Subcontractors' (including Suppliers) and agents' invoices
11. Subcontractors' and agents' payment certificates
12. Canceled checks (payroll and Suppliers)
13. Job cost report
14. Job payroll ledger
15. General ledger
16. Cash disbursements journal
17. Email, letters, and correspondence
18. Network servers, data storage devices, backup media
19. All documents that relate to each and every Claim, together with all documents that support the amount of damages as to each Claim.
20. Work sheets used to prepare the Claim establishing the cost components for items of the Claim including labor, benefits and insurance, materials, equipment, and Subcontractors; and all documents that establish the time periods, individuals involved, and the hours worked and the rates for the individuals.

Full compliance by the DB Contractor with the provisions of this Section 24.1.5 is a contractual condition precedent to the DB Contractor's right to seek relief under Section 21. The DB Contractor represents and warrants the completeness and accuracy of all information it or its agents provides in connection with this Section 24.

24.1.6 Ownership of Documents

All data, sketches, charts, calculations, plans, specifications, electronic files, correspondence and other documents created or collected under the terms of the DBA Documents ("Work Materials") shall be considered "works made for hire" for which the District owns the copyright. If the Work Materials do not constitute works made for hire as a matter of law, then DB Contractor hereby transfers and assigns all rights in the Work Materials to the District. The DB Contractor shall provide any further documentation of this transfer that the District requests. The DB Contractor shall secure the same agreement from all Subcontractors performing services in connection with the DB Contractor's performance under this DBA. Design Documents shall become DDOT's property upon preparation; Construction Documents shall become DDOT's property upon delivery to DDOT; and other documents prepared or obtained by DB Contractor in connection with the performance of its obligations under the DBA Documents, including studies, manuals, Record Drawings, technical and other reports and the like, shall become the property of DDOT upon DB Contractor's preparation or receipt thereof. Copies of all Design Documents and Construction Documents

shall be furnished to DDOT upon preparation or receipt thereof by DB Contractor. DB Contractor shall maintain all other documents described in this Section 24.1.6 in accordance with the requirements of Section 24.1 and shall deliver copies to DDOT as required by the DBA Documents or upon request if not otherwise required to be delivered, with an indexed set delivered to DDOT as a condition to Final Acceptance.

24.2 Retention of Records

The DB Contractor shall establish and maintain all books, records and documents (including electronic storage media) relating to the Contract, in accordance with generally accepted accounting principles and practices which sufficiently and properly reflect all revenues and expenditures of funds provided by the District under the Contract.

The DB Contractor shall retain all records, financial records, supporting documents, statistical records, and any other documents (including electronic storage media), collectively referred to as “Records”, pertinent to the contract until three years after the earlier to occur of: (i) the date Final Acceptance is achieved; or (ii) the termination date. If any audit, litigation, or claim, or other action involving the records has been started before the end of the three-year period, the DB Contractor must retain the Records until completion of the litigation, claim, audit, or other action and resolution of all issues which arise from it, or until the end of the three-year period, whichever is later.

The DB Contractor shall make these Records available, at the DB Contractor’s office and at all reasonable times, for inspection, review, or audit by the CO, federal, District, or other personnel duly authorized by the CO. The DB Contractor shall make such Records available, without charge, and shall allow such Persons to make copies of such Records at no expense to the District.

The requirements of this section further apply to any Subcontractor or any agents of the DB Contractor or any Subcontractor.

24.3 District of Columbia Freedom of Information Act

24.3.1 Applicability of Law

The DB Contractor acknowledges and agrees that all records, documents, drawings, plans, specifications, and other materials in the DB Contractor’s or the District's possession directly related to the Project, including materials submitted to the District by the DB Contractor, are subject to the provisions of the D.C. FOIA. The DB Contractor shall be solely responsible for all determinations made by it under such act and for clearly and prominently marking each and every page or sheet of its materials with trade secret, privileged information, or confidential commercial, financial, geological, or geophysical data as it determines to be appropriate. The DB Contractor is advised to contact legal counsel concerning such act and its application to the DB Contractor.

24.3.2 Confidential Materials

If any of the materials submitted by the DB Contractor to the District are clearly and prominently labeled as trade secret, privileged information, or confidential commercial, financial, geological, or geophysical data by the DB Contractor, the District will endeavor to advise the DB Contractor of any request for the disclosure of such materials prior to making any such disclosure. Under no circumstances, however, will the District be responsible or liable to the DB Contractor or any other Person for the disclosure of any such labeled materials, whether the disclosure is required by law or by court order or occurs through inadvertence, mistake, or negligence on the part of the District, except for any disclosure of trade secrets or proprietary information except for such disclosures (i) as permitted or required by law or order of a court or other governmental body, (ii) of information that entered the public domain subsequent to the time it was communicated to the District by the DB Contractor through no fault of the District, and (iii) of information obtained by third parties which was lawfully and rightfully transmitted to the District free of any obligations subsequent to the time it was communicated to the District by the DB Contractor.

24.3.3 Contractor to Defend Against Disclosure Request

In the event of litigation concerning the disclosure of any material submitted by the DB Contractor to the District, the District's sole involvement will be as a Stakeholder retaining the material until otherwise ordered by a court, and the DB Contractor shall be fully responsible for otherwise prosecuting or defending any action concerning the materials at its sole expense and risk.

24.3.4 Cooperation with the District Regarding D.C. FOIA Requests

The District of Columbia Freedom of Information Act, at D.C. Official Code §2-352(a-3), requires the District to make available for inspection and copying any record produced or collected pursuant to a District contract with a private contractor to perform a public function, to the same extent as if the record were maintained by the agency on whose behalf the contract is made. If the DB Contractor receives a request for such information, the DB Contractor shall immediately send the request to the CA who will provide the request for the FOIA Officer for the agency with programmatic responsibility in accordance with the D.C. Freedom of Information Act. If the agency with programmatic responsibility receives a request for a record maintained by the DB Contractor pursuant to the contract, the CA will forward a copy to the DB Contractor. In either event, the DB Contractor is required by law to provide all responsive records to the CA within the timeframe designated by the CA. The FOIA officer for the agency with programmatic responsibility will determine the releasability of the records. The District will reimburse the DB Contractor for the costs of searching and copying the records in accordance with D.C. Official Code §2-352 and Chapter 4 of Title 1 of the D.C. Municipal Regulations.

25 Cooperation and Coordination with Others

25.1 Cooperation with Other Contractors

The District and other agencies may undertake or award other contracts for additional work on or near the Site. The DB Contractor shall cooperate and coordinate with the District and such other Projects, contractors and stakeholders to the extent reasonably necessary for the performance by the District and such other Projects, contractors and stakeholders of their work and shall cause its employees, agents, officers, and Subcontractors and other Persons for whom the DB Contractor may be contractually or legally responsible to so cooperate. If other separate contracts are awarded by the District that affect the Work, the DB Contractor shall conduct its Work without interfering with or hindering the progress or completion of the work being performed by others.

25.2 Interference by Other Contractors

If the DB Contractor asserts that any of the District's other contractors have hindered or interfered with the progress or completion of the Work, then the DB Contractor will use its best efforts to settle disputes with other contractors. The DB Contractor shall have the right to request the CO to resolve such dispute as a Dispute pursuant to Section 21, provided the other contractor and its sureties have agreed to submit the Dispute to the CO and that such proceeding shall be conducted at no cost to the District.

26 Miscellaneous Provisions

26.1 Amendments

The Contract may be amended by a written instrument duly executed by the parties or their respective successors or assigns, or by unilateral change order issued by the CO.

26.2 Waiver

26.2.1 No Waiver of Subsequent Rights

Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions, or other provisions of the Contract Documents at any time shall not in any way limit or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision, any course of dealing or custom of the trade notwithstanding. Furthermore, if the parties make and implement any interpretation of the Contract Documents without documenting such interpretation by an instrument in writing signed by both parties, such interpretation and implementation thereof will not be binding in the event of any future Disputes. The consent by one party to any act by the other party requiring such consent shall not be deemed to render unnecessary the obtaining of consent to any subsequent act for which consent is required, regardless of whether similar to the act for which consent is given.

26.2.2 Custom Does not Constitute Waiver

No act, delay, or omission done, suffered, or permitted by one party or its agents shall be deemed to waive, exhaust, or impair any right, remedy, or power of such party under the Contract Documents, or to relieve the other party from the full performance of its obligations under the Contract Documents. No custom or practice between the parties in the administration of the terms of the Contract Documents shall be construed to waive or lessen the right of a party to insist upon performance by the other party in strict compliance with the terms of the Contract Documents.

26.2.3 Waivers Must be in Writing

No waiver of any term, covenant, or condition of the Contract Documents shall be valid unless in writing and signed by the party providing the waiver.

26.3 DB Contractor

The DB Contractor is an independent contractor, and nothing contained in the Contract Documents shall be construed as constituting any relationship with the District other than that of an independent contractor. In no event shall the relationship between the District and the DB Contractor be construed as creating any relationship whatsoever between the District and any of the DB Contractor's employees. Neither the DB Contractor nor any of its employees is or shall be deemed to be an employee of the District. Except as otherwise specified in the Contract Documents, the DB Contractor has sole authority and responsibility to employ, discharge, and otherwise control its employees and has complete and sole responsibility as a principal for its agents, for all Subcontractors, and for all other Persons whom the DB Contractor or any Subcontractor hires or engages to perform or assist in performing the Work.

26.4 Successors and Assigns

The Contract Documents shall be binding upon and inure to the benefit of the District and the DB Contractor and their permitted successors, assigns, and legal representatives.

26.4.1 Assignment by the District

The District may assign all or part of its right, title and interest in and to the Contract, including rights with respect to the Surety bonds required hereunder and any other performance security provided, to any Person, with the prior written approval of the DB Contractor.

26.4.2 Assignment by DB Contractor

The DB Contractor may assign its rights to receive payment under the Contract Documents and may Subcontract Work in accordance with the Approved Subcontracting and DBE Plan and in compliance with the requirements of the Contract Documents. The DB Contractor shall not otherwise sublet, transfer, assign or dispose of any portion of the Contract, or delegate any of its duties hereunder, except with the District's prior written Approval, at the Districts sole option and discretion. The DB Contractor's assignment or delegation of any of its Work under the Contract Documents shall be ineffective to relieve the DB Contractor of its responsibility for the Work assigned or delegated, unless the District, in its sole discretion, has approved such relief from responsibility.

26.5 Designation of and Cooperation with Representatives

26.5.1 Designation of Representatives

Concurrently with execution hereof, the District and the DB Contractor shall each designate an individual or individuals, who shall be authorized to make decisions and bind the parties on matters relating to the Contract Documents. Such designations may be changed by a subsequent writing delivered to the other party in accordance with Section 26.10. The parties may also designate technical representatives, who shall be authorized to investigate and report on matters relating to the construction of the Project and negotiate on behalf of each of the parties but who do not have the authority to bind the District or the DB Contractor.

26.5.2 Cooperation

The DB Contractor shall cooperate with the District and all representatives of the District designated as described above.

26.6 Gratuities and Conflicts of Interest

Neither the DB Contractor nor any of its employees, agents, or representatives shall offer or give to an officer, official, or employee of the District of Columbia gifts, entertainment, payments, loans, or gratuities. The DB Contractor represents and warrants that it has not previously offered or given any gifts, entertainment, payments, loans, or gratuities in violation of such prohibitions.

26.7 Survival

The Dispute resolution provisions contained in Section 21, and all other provisions, which by their inherent character should survive termination of the Contract, shall survive the termination of the Contract.

26.8 Limitation on Third-Party Beneficiaries

It is not intended by any of the provisions of the Contract Documents to create any third-party beneficiary hereunder, or to authorize anyone not a party hereto to maintain a suit for personal injury or property damage pursuant to the terms or provisions hereof, except to the extent that specific provisions (such as the Warranty and indemnity provisions) identify third parties and state that they are entitled to benefits hereunder. The duties, obligations, and responsibilities of the parties to the Contract Documents with respect to such third parties shall remain as imposed by law. The Contract Documents shall not be construed to create a contractual relationship of any kind between the District and a Subcontractor or any other Person except the DB Contractor.

26.9 No Personal Liability

The District's authorized representatives are acting solely as agents and representatives of the District when carrying out the provisions of or exercising the power or authority granted to them under the Contract Documents. They shall not be liable either personally or as employees of the District for actions in their ordinary course of employment.

26.10 Notices and Communications

26.10.1 Delivery of Notices

Notices under the Contract Documents shall be in writing and: (i) delivered personally; (ii) sent by certified mail, return receipt requested; (iii) sent by a recognized overnight mail or courier service, with delivery receipt requested; or (iv) sent by email communication, followed by a hard copy or with receipt confirmed by telephone, to the following addresses or to such other address as may from time to time be specified in writing by such Person:

All correspondence with the DB Contractor shall be sent to the DB Contractor's Project Manager or as otherwise directed by such Project Manager.

All communications to the District shall be marked with the District's Project identification number and shall be delivered to the District's Contracting Officer, with copies to such additional Persons as may be designated by the District's CO, at the address set forth below:

Mr. Steven Wishod
District Contracting Officer
District Department of Transportation
Office of Contracting and Procurement
55 M St SE 7th floor
Washington, DC 20003

DDOT has designated an employee to act as the Contracting Administrator (CA) for the Project. The CA is responsible for general administration of the Contract and advising the CO as to the DB Contractor's compliance or noncompliance with the Contract. The CA has the responsibility of ensuring the Work conforms to the requirements of the Contract and such other responsibilities and authorities as may be specified in the Contract. These include:

1. Keeping the CO fully informed of any technical or contractual difficulties encountered during the term of the DBA and advising the CO of any potential problem areas under the Contract.
2. Coordinating site entry for Contractor personnel, if applicable.
3. Reviewing invoices for completed work and recommending approval by the CO if the DB Contractor's costs are consistent with the negotiated amounts and progress is satisfactory and commensurate with the rate of expenditure.
4. Reviewing and approving invoices for deliverables to ensure receipt of goods and services. This includes the timely processing of invoices and vouchers in accordance with the District's payment provisions.
5. Maintaining a file that includes all Contract correspondence, modifications, records of inspections (site, data, and equipment) and invoices or vouchers.

The CA shall NOT have the authority to:

1. Award, agree to, or sign any contract, delivery order, or task order. Only the CO shall make contractual agreements, commitments, or modifications.
2. Grant deviations from or waive any of the terms and conditions of the Contract.

3. Increase the dollar limit of the Contract or authorize work beyond the dollar limit of the Contract.
4. Authorize the expenditure of funds by the DB Contractor.
5. Change the period of performance.
6. Authorize the use of District property, except as specified under the Contract.

The DB Contractor shall be fully responsible for any changes not authorized in advance, in writing, by the CO, may be denied compensation or other relief for any additional Work performed that is not so authorized, and may also be required, at no additional cost to the District of Columbia, to take all corrective action necessitated by reason of the unauthorized changes.

The CA shall be:

Mr. Delmar Lytle, P.E.
District Contracting Officer's Representative
District Department of Transportation
55 M St SE 4th floor
Washington, DC 20003

26.10.2 Receipt of Notices

Notices shall be deemed received when actually received in the office of the addressee (or by the addressee if personally delivered) or when delivery is refused, as shown on the receipt of the U. S. Postal Service, private carrier, or other Person making the delivery. Notwithstanding the foregoing, notices sent by email after 4:00 p.m. Eastern Time and all other notices received after 5:00 p.m. Eastern Time (as applicable) shall be deemed received on the first Business Day following delivery—that is, in order for an email to be deemed received on the same Day, the email must have been received before 4:00 p.m.

26.10.3 Copies of Correspondence to the District

The DB Contractor shall copy the District on all written correspondence pertaining to the Contract between the DB Contractor and any Person other than the DB Contractor's Subcontractors, consultants and attorneys.

26.11 Further Assurances

The DB Contractor shall promptly execute and deliver to the District all such instruments and other documents and assurances as are reasonably requested by the District to further evidence the obligations of the DB Contractor hereunder, including assurances regarding assignments of Subcontractors contained herein.

26.12 Severability

If any clause, provision, Section, or part of the Contract is ruled invalid under Section 21 or otherwise by a court of competent jurisdiction, then the parties shall: (i) promptly meet and negotiate a substitute for such clause, provision, Section, or part, which shall, to the greatest extent legally permissible, effect the original intent of the parties, including an equitable adjustment to the Contract Price to account for any change in the Work resulting from such invalidated portion; and (ii) if necessary or desirable, apply to the court or other decision maker (as applicable) that declared such invalidity for an interpretation of the invalidated portion to guide the negotiations. The invalidity or unenforceability of any such clause, provision, Section, or part shall not affect the validity or enforceability of the balance of the Contract, which shall be construed and enforced as if the Contract did not contain such invalid or unenforceable clause, provision, Section, or part.

26.13 Headings

The captions of the Sections of the Contract Documents are for convenience only and shall not be deemed part of the Contract or considered in construing the Contract.

26.14 Governing Law

The Contract Documents shall be governed by and construed in accordance with the law of the District of Columbia.

26.15 Entire Agreement

The Contract Documents contain the entire understanding of the parties with respect to the subject matter hereof and supersede all prior agreements, understandings, statements, representations, and negotiations between the parties with respect to its subject matter.

26.16 Incorporation by Reference

All of the Documents and Exhibits thereto listed below are hereby incorporated by reference into the DBA and made a part hereof.

1. Volume II, Book I, Design-Build Agreement
   - A Acronyms and Definitions
   - B Completion Deadlines
   - C Federal Requirements
   - D Disadvantaged Business Enterprise Program
   - E Key Personnel
   - F Performance Bond
   - G Payment Bond
   - H VECP Sample Calculation
   - I Cost Analysis for Request for Change Order
   - J Cost and Pricing Data Certification
   - K Subcontractor Approval Form
   - L DB Contractor's Proposal Commitments, ATCs, and Schematics
   - M Project Labor Agreement
2. Volume II, Book II, Technical Provisions
3. Volume II, Book III, Contract Data and Reports
4. The Proposal Documents

26.17 Counterparts

This instrument may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed the Contract as of the date and year first set forth above.

DISTRICT OF COLUMBIA

DISTRICT CONTRACTING OFFICER:
Date: _____, 201___
By: _____
Mr. Steven Wishod

DESIGN BUILD CONTRACTOR

[DB Contractor's name]

By: [DB Contractor's name]
By:_____
Name: [DB Contractor's Authorized Representative]
Title:_____
Date: _____, 201___

Exhibit A
Acronyms and Definitions

ACRONYMS

Abbreviation	Title or Description
ATC	Alternative Technical Concept
CA	Contract Administrator
CFR	Code of Federal Regulations
CPM	Critical Path Method
DB	Design-Build
DBA	Design-Build Agreement
DBE	Disadvantaged Business Enterprise
D.C. or DC	District of Columbia
DDOT	District Department of Transportation
DOL	Department of Labor
EEO	Equal Employment Opportunity
FAPA	Fuel and Asphalt Price Adjustment
FAR	Federal Acquisition Regulation
FOIA	Freedom of Information Act
ITP	Instructions to Proposers
ITS	Intelligent Transportation Systems
MWUCP	Metropolitan Washington Uniform Certification Program
NTP1	First Notice to Proceed
NTP2	Second Notice to Proceed
OCR	Office of Civil Rights (DDOT)
PCO	Potential Change Order
PPI	Producers Price Index
QA	quality assurance
QC	quality control
RCO	Request for Change Order
RCP	Request for Change Proposal
RCRA	Resource Conservation and Recovery Act
RFP	Request for Proposal
RIDs	Reference Information Documents
ROM	Rough Order of Magnitude
ROW	right-of-way
USDOT	U.S. Department of Transportation
VECP	Value Engineering Change Proposal

DEFINITIONS

Term	Meaning
Abandonment	After a Utility Company has decommissioned a Utility, the Work necessary for each Utility (including appurtenances) for a Utility that is not removed, using proper Utility Company and/or industry procedures (e.g., flushing, capping, filling with grout or sand) or other procedures Approved by the District. Contractor is responsible to coordinate with the Utility Company when it is necessary for the Utility Company to be involved in decommission of a Utility (including appurtenances).
Acceleration Costs	Those fully documented increased costs reasonably incurred by the DB Contractor otherwise allowable by the Contract; (i.e., costs over and above what the DB Contractor would otherwise have incurred) that are directly attributable to increasing the performance level of the Work in an attempt to complete necessary Activities of the Work earlier than otherwise anticipated, such as for additional equipment, additional crews, lost productivity, overtime and shift premiums, increased supervision, and any unexpected movement of materials, equipment, or crews necessary for re-sequencing in connection with acceleration efforts.
Activity	Parts of the Work, including finished products or functional processes required as subcomponents of the Work Breakdown Structure as defined by the DB Contractor.
Addendum	Change in Contract Documents issued in writing prior to the opening of Proposals.
Affected Area	As related to mined land reclamation, the total disturbed surface of a pit or quarry such as sand, gravel, topsoil, or borrow, that is being mined or will be mined. The area includes, but is not limited to, the excavation area, plant, and stockpile areas, parking and storage areas, and the haul roads.
Affidavit of Final Completion	The meaning set forth in Volume II, Book I, Section 22.
Affiliate	(1) Any Person who directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with the: (i) DB Contractor or (ii) any Major Participant; and (2) Any Person for which 10% or more of the equity interest in such Person is held directly or indirectly, beneficially, or of record by the: (i) DB Contractor, (ii) any Major Participant, or (iii) any Affiliate of the DB Contractor under Part (1) of this definition. For purposes of this definition, the term "control" means the possession, directly or indirectly, of the power to cause the direction of the management of a Person, whether through voting securities, by contract, family relationship, or otherwise.
Alternative Technical Concepts	The meaning set forth in Section 3 of the Instructions to Proposers. The Approved Alternative Technical Concepts are set forth in Exhibit L, Appendix 2.

DEFINITIONS

Term	Meaning
Applicable Standards	The standards included in Volume II, Book II, including Additional Applicable Standards submitted by the DB Contractor and accepted by the District.
Application for Final Payment	The application described in Volume II, Book I, Section 13.5.1.
Approve or Approval	Formal conditional determination in writing by the District that a particular matter or item is good or satisfactory for the Project. Such determination may be based on requirements beyond those set forth in the Contract Documents and may reflect preferences of the District.
Architectural and Engineering Services	All Work relating to the design, including preparation and interpretation of architectural and engineering plans and specifications, development of design solutions for conformance with all codes and public safety requirements and other design-related decision-making, and any other activities, collectively, which are required to be practiced by an architect or engineer in accordance with the laws of the District of Columbia.
As-Built Documents	The documents to be provided by the DB Contractor as described in Volume II Book II, Section 12.
Award	The Acceptance of the Proposal by the Contracting Officer (with the understanding that the order of priority of the various Contract Documents shall be as set forth in Volume II, Book I, Section 3.3, and that the Contracting Officer shall have the right to require compliance with the requirements of the Contract Documents, even though it may necessitate performance of Work by the DB Contractor not contemplated in the Proposal Documents).
Backfill	Material used to replace or the act of replacing material removed during construction.
Baseline Schedule	The meaning set forth in Volume II Book II, Section 26.
Betterment	As related to Utilities, a betterment is generally defined as the upgrading; (e.g. increase in capacity) of a Utility being relocated that is not attributable to the construction of the Project or is made solely for the benefit of and at the election of the Utility Company (not including a technological improvement which is able to achieve such upgrade at a cost equal to or less than the cost of a "like for like" replacement or relocation). The use of new materials or compliance with current standards in the performance of the Utility Work is not considered a Betterment.
Bridge Roadway Width	The clear width of the superstructure measured along the center of the roadway between the bottom of curbs or, if curbs are not used, between the inner faces of parapet or railing.
Business Day	A day that DDOT is open for business, excluding holidays, Saturdays and Sundays.

DEFINITIONS

Term	Meaning
Calendar Day	Each and every day shown on the calendar, including Saturdays and Sundays, beginning and ending at midnight.
Certified Invoice	Any invoice or billing endorsed by the DB Contractor, certifying that material, specialty work, subcontract work, rental, lease, services, etc. were acquired for the Project and that the invoiced or billed amount represents the actual costs.
Certified Test Report	A test report from the manufacturer or an independent testing laboratory, including a signature by a person having legal authority to act for the manufacturer or the independent testing laboratory, stating that the test results show that the product or assembly to be incorporated into the Project has been sampled and tested and the samples have passed all specified tests.
Change Order	The meaning set forth in Volume II, Book I, Sections 14 and 15.
Claim	The meaning set forth in Volume II, Book I, Section 21.
Commercial Vehicle(s)	A vehicle used on highways, in interstate commerce, that meets one of the following criteria: (i) has a Gross Vehicle Weight Rating or Gross Combination Weight Rating, or gross vehicle weight or gross combination weight of 10,001 pounds or more, whichever is greater; (ii) is designed to transport more than eight passengers (including the driver) for compensation; (iii) is designed to transport 16 or more people, including the driver, and is not used to transport passengers for compensation; (iv) functions to transport hazardous materials in quantities requiring the vehicle to be placarded.
Completion Deadline	Any or all of the following deadlines, depending on the context: the Substantial Completion Deadline and/or Final Completion Deadline.
Conceptual Design Plans	Means those plans provided as reference information.
Contaminated Soils and Materials	Soils or other materials that may contain Hazardous Materials but do not contain levels of Hazardous Materials that cause the soils or other materials to be disposed of as hazardous waste in a hazardous waste facility pursuant to the Resource Conservation and Recovery Act (RCRA). Contaminated Soils and Materials include those that may require disposal as a solid waste pursuant to RCRA but are not required to be treated as hazardous waste.
Contract	Depending on the context: (i) the Design-Build Agreement, or (ii) collectively, the Contract Documents, which establish the rights and obligations of the District and the DB Contractor.
Contract Documents	The meaning set forth in Volume II, Book I, Section 3.2.
Contract Price	The meaning set forth in Volume II, Book I, Section 13.1.1.
Contract Schedule	The meaning set forth in Volume II, Book I, Section 4 and Section 6.
Contracting Officer	The Contracting Officer designated in Volume II, Book I, Section 26.10.1.

DEFINITIONS

Term	Meaning
Contractor Specifications	The specifications describing the Work that are developed by the DB Contractor.
Contractor's Engineer	A professional engineer registered in the District of Columbia who is responsible for engineering and administrative supervision of the Project on behalf of the DB Contractor, who is either an employee of the DB Contractor, or a consulting engineer under contract to the DB Contractor.
Cost	The actual cost incurred, as distinguished from forecasted cost and determined in accordance with prevailing principles applicable to public contracts including Contract Cost Principles and Procedures, 48 CFR, Part 31 and Government Auditing Standards, as published by the Comptroller General of the United States.
Critical Path	The longest sequence of activities in a project plan which must be completed on time for the project to complete on schedule.
Day	The meaning set forth in Volume II, Book I, Section 3.8.
DB Contractor	The meaning set forth in Volume II, Book I, Section 2.
DB Contractor-Related Entity or Related Entity	(a) DB Contractor, (b) DB Contractor's shareholders, partners, joint venture partners and/or members, (c) Subcontractors (including Suppliers), (d) any other Persons performing any of the Work, (e) any other Persons for whom DB Contractor may be legally or contractually responsible, and (f) the employees, agents, officers, directors, shareholders, representatives, consultants, successors, assigns and invitees of any of the foregoing.
Defect or Defective Condition	Nonconforming Work.
Delay and Disruption Damages	The meaning set forth in Volume II, Book I, Section 15.6.2.
Department	The District Department of Transportation.
Design-Build Agreement	The Design-Build Agreement South Capitol Street Corridor Phase I Project (to which this Exhibit A is attached), and any and all amendments thereof.
Design Documents	All drawings (including plans, elevations, sections, details, and diagrams), specifications, reports, calculations and records, at any stage of development or revision necessary for design of the Project in accordance with the Contract Documents.

DEFINITIONS

Term	Meaning
Differing Site Conditions	"Differing Site Conditions" shall mean (a) subsurface or latent conditions encountered at the exact boring holes identified in the geotechnical data reports included in Volume II, Book III, which differ materially from those conditions indicated in the geotechnical data reports for such boring holes, or (b) physical conditions of an unusual nature, differing materially from those ordinarily encountered in the area and generally recognized as inherent in the type of work provided for in the Contract. The term shall specifically exclude all such conditions of which Contractor had actual or constructive knowledge as of the Proposal Due Date. The foregoing definition specifically excludes (v) unexploded ordnance, (w) Utility facilities, (x) Hazardous Materials, (y) non-contaminated water and (z) any conditions which constitute or are caused by a compensable event listed in Volume II, Book I, Section 14.
Directive Letter	A written order issued by the CO directing the DB Contractor to modify the Work within the general scope of the Contract as described in Volume II, Book I, Section 15.1.2.
Disadvantaged Business	Means a small business concern, (a) which is at least fifty-one percent (51%) owned by one or more socially and economically disadvantaged individuals or in the case of any publicly owned business, at least fifty-one percent (51%) of the stock of which is owned by one or more socially and economically disadvantages individuals; and (b) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.
Dispute	Means any claim, disagreement, or controversy between DDOT and DB Contractor concerning their respective rights and obligations under the Contract Documents including any alleged breach of Contract or failure to perform and remedies.
District	The District of Columbia and any of its agencies.
District-Directed Changes	Any changes in the Work (including changes in the standards applicable to the Work), which the District has directed the DB Contractor to perform as described in Volume II, Book I, Section 15.1.2.
Divided Highway	A highway with separated traveled ways for traffic in opposite directions. Traveled ways separated by painted medians will not be considered divided.
Drainage Ditch	An open depression constructed for the purpose of carrying off surface water.
Effective Date	The date shown in Volume II, Book I, Section 2 upon which the Design-Build Agreement (DBA) is entered into.

DEFINITIONS

Term	Meaning
Eligible Surety	A surety company rated in the top two (2) categories by two (2) major rating agencies or at least A-/VIII or better according to A.M. Best's Financial Strength Rating and Financial Size, Licensed by the District of Columbia and listed on the US Treasury Circular 570
Engineer	Shall be defined as the "Contractor's Engineer of Record." The DB Contractor acknowledges and agrees that the District will be responsible for certain oversight and other matters with respect to the Project, and that as a result certain rights in favor of the Engineer may be exercised by and inure to the benefit of the District rather than the DB Contractor's Engineer. In the event any question arises regarding whether any such rights are applicable to the District or how to apply such rights, the District's interpretation regarding such matter shall control.
Environmental Laws	All legal requirements now or hereafter in effect relating to the environment or to emissions, discharges, releases, or threatened releases of Hazardous Materials into the environment, including into the air, surface water or groundwater, or onto land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport, or handling of Hazardous Materials or otherwise relating to the protection of public health, public welfare, or the natural environmental (including protection of nonhuman forms of life, land, surface water, groundwater, and air), including the statutes listed in the definition of Hazardous Materials; the National Environmental Policy Act, 42 USC §§ 4321 et seq.; the Occupational Safety and Health Act, 29 USC §§ 651 et seq.; and the Hazardous Materials Transportation Act, 49 App. USC §§ 1801; the Endangered Species Act, 16 USC §§ 1531 et seq.; the Clean Water Act, 33 USC §§ 1251, et seq.; the Safe Drinking Water Act, 42 USC §§ 300f, et seq.; the Migratory Bird Treaty Act, 16 USC §§ 703 et seq.; and the Eagle Protection Act, 16 USC § 668.
Equipment	All machinery, tools, and apparatus together with supplies for upkeep and maintenance, necessary for the proper construction/design and acceptable completion of the Work.
Error	An error, omission, inconsistency, inaccuracy, or deficiency.
Federal Requirements	All legal requirements applicable to Work financed with federal funds and the provisions required to be included in FHWA-assisted contracts, including the provisions set forth in Volume II, Book I, Exhibit C.
Final Completion	Final Completion of the Project as described in Volume II, Book I, Section 22.3.
Final Acceptance	Acceptance of the Project as described in Volume II, Book I, Section 22.4.
First Notice to Proceed (NTP1)	The meaning as described in Volume II, Book I, Section 6.2.

DEFINITIONS

Term	Meaning
Force Account Change Order	The meaning set forth in Volume II, Book I, Section 15.4.
Governmental Approval	Any approval, authorization, certification, consent, decision, exemption, filing, lease, license, permit, agreement, concession, grant, franchise, registration or ruling, required by or with any Governmental Person in order to design and construct the Project.
Governmental Person	Any federal, state, local or foreign government and any political subdivision or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or entity. The term includes the District of Columbia and agencies and subdivisions thereof, other than the District Department of Transportation.
Hazardous Materials	Any of the following: (a) Substance, product, waste or other material of any nature whatsoever which is or becomes listed, regulated, or addressed pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 USC Section 9601, et seq.; the Hazardous Materials Transportation Act, 49 USC Section 1801, et seq.; the Resource Conservation and Recovery Act, 42 USC Section 6901 et seq. ("RCRA"); the Toxic Substances Control Act, 15 USC Sections 2601 et seq.; the Clean Water Act, 33 USC Sections 1251 et seq.; the Clean Air Act, 42 USC Sections 7401 et seq.; or any other federal, state or local statute, law, ordinance, resolution, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic or dangerous waste, substance or material, as now or at any time hereafter in effect, (b) Any substance, product, waste or other material of any nature whatsoever which may give rise to liability under any of the above statutes or under any statutory or common law theory based on negligence, trespass, intentional tort, nuisance or strict liability or under any reported decisions of a state or federal court, (c) Petroleum or crude oil excluding de minimis amounts and excluding petroleum and petroleum products contained within regularly operated motor vehicles, and (d) Asbestos or asbestos-containing materials in structures and or other improvements on or in the Site (other than mineral asbestos naturally occurring in the ground).

DEFINITIONS

Term	Meaning
Holidays	New Year's Day Inauguration Day Martin Luther King Jr. Birthday Presidents' Day Memorial Day Emancipation Day Independence Day Labor Day Columbus Day Veterans Day Thanksgiving Day Christmas Day. When any of the above holidays falls on Sunday, the holiday will be observed on the following Monday; when any of the above holidays falls on a Saturday; the holiday will be observed on the immediately preceding Friday. If Approved in writing by the District, the DB Contractor may work on holidays.
Including, or, include, includes, included	All references in the Contract Documents to "including," "include," "includes," or "included" shall mean "including, but not limited to."
Incremental Costs	Those costs, if any, which the DB Contractor incurs as a result of a particular circumstance, which the DB Contractor would not have incurred but for the circumstance. In determining such costs, one would determine the total cost that the DB Contractor would have incurred had the circumstance not occurred, and subtract such amount from the costs actually incurred; the difference is the "increment." (For example, if the DB Contractor originally has to relocate three water lines, and a fourth water line is discovered in the same general area which can be relocated by the same crew, then if the DB Contractor is entitled (pursuant to Volume II, Book I, Section 15) to a Change Order increasing the Contract Price on account of such newly discovered water line, the District will be charged with only the costs of keeping the crew working the additional time to relocate the fourth water line and will not be charged any portion of the expense of moving the crew to the site in the first place.)
Indemnified Parties	The meaning set forth in Volume II, Book I, Section 20.
Informational Documents	The RFP Documents designated as Reference Information Documents.
Initial Baseline Schedule	The meaning set forth in Volume II, Book II, Section 26.

DEFINITIONS

Term	Meaning
Inspection	The act of viewing or looking carefully at construction, manufacturing, design, and maintenance practices, processes, and products, including document control and shop drawing review, to ensure that the practices, processes, and products comply with the quality requirements contained in the Contract Documents.
Inspector	The DB Contractor's authorized representative assigned to perform inspection of Contract performance.
Instructions to Proposers	The RFP Document identified as Instructions to Proposers.
ITS Work	All elements of the Work necessary for completion of the ITS Elements, including providing equipment to meet specified performance measures, development of computer software, installation of equipment, testing and acceptance of equipment and software, integration of newly installed components with existing ITS infrastructure and maintenance of ITS components.
Key Personnel	The persons listed on Contract Exhibit E, subject to revision in accordance with the Contract Documents.
Laboratory	The testing laboratory of the DB Contractor or any other certified testing laboratory.
Lead Workers	Hourly employees in direct charge of the specific operations on a project. Formerly referred to as the foremen.
Lien	Any pledge, lien, security interest, mortgage, deed of trust or other charge or encumbrance of any kind, or any other type of preferential arrangement (including any agreement to give any of the foregoing, any conditional sale or other title retention agreement, any lease in the nature of a security instrument, and the filing of or agreement to file any financing statement or other instrument intended to perfect a security interest).
Liquidated Damages	The damages described in Volume II, Book I, Section 19.1.
Localized Damage	Damage caused by a blast, impact, or other means which is contained/limited to the local area of origination, allowing the structural system as a whole to remain stable.
Lump Sum Change Order	The meaning set forth in Volume II, Book I, Section 15.3.
Major Participant	Any of the following entities: (1) All general partners or joint venture members of the Submitter; all individuals, persons, partnerships, limited liability partnerships, corporations, limited liability companies, business associations, or other legal entities, however organized, directly or indirectly holding a 15 percent or greater interest in the Submitter; (2) the lead engineering/design firm(s); (3) each Subcontractor that will perform Work valued at 10 percent or more of the construction Work; and (4) each Subconsultant that will perform 20 percent or more of the design Work.

DEFINITIONS

Term	Meaning
Materials	All components required for use in the construction of the Project.
Median	The portion of a divided highway separating the traveled ways for traffic in opposite directions.
Monthly Progress Schedule	The meaning set forth in Volume II, Book II, Section 26.
New Environmental Approval	Any of the following: (a) A new Governmental Approval of the same type as an Environmental Approval; and (b) A renewal, revision, modification or amendment to one or more of the Environmental Approvals.
Nonconforming Work	Work performed that does not meet the requirements of the Contract Documents.
Notice	The meaning set forth in Volume II, Book I, Section 26.10.
Notice of Final Acceptance	The notice delivered to the DB Contractor under Volume II, Book I, Section 22.4 stating that Final Acceptance of the Project has occurred.
Notice of Termination (or Partial Termination)	A notice issued by the District to terminate the Contract and the performance of Work by the DB Contractor, either in whole or in part, pursuant to Volume II, Book I, Section 17.1.
Overburden	Any material that overlays material designated for road or bridge construction.
Payment Bond	The payment bond described in Volume II, Book I, Section 10.2
PCO Notice	The potential change order notice described in Volume II, Book I, Section 15.3.
Performance Bond	The performance bond described in Volume II, Book I, Section 10.1.
Person	Any individual, corporation, company, voluntary association, partnership, trust, unincorporated organization, or Governmental Person, including the District.
Price Proposal	The Price Proposal, as described in Section 4.3 of the ITP.
Profile Grade	The trace of a vertical plane usually intersecting the top surface of the proposed rail or wearing surface and usually along the longitudinal centerline of the roadbed. Profile grade means either elevation or gradient of such trace according to the context.
Project	The South Capitol Street Corridor Phase I Design-Build Project as described by the Contract Documents within the Project Limits provided by the DB Contractor in the Proposal Documents.

DEFINITIONS

Term	Meaning
Project Design Appearance Goals	The Project Design Appearance Goals are established by the Project's visual design goals described in Section 2.4 of the SFEIS.
Project Limits	Defined as per the Technical Provisions.
Project Management Plan	The meaning set forth in Volume II, Book II, Section 27.
Proposal or Proposal Documents	Those documents constituting the DB Contractor's Proposal in response to the RFP, including any best and final offers or supplements to Proposals as may have been requested by the District.
Proposal Due Date	The date the Technical Proposal and Price Proposal is due as specified in the Instructions to Proposers.
Proposer	An individual, firm, partnership, corporation, joint venture, or combination thereof that was shortlisted under the District's Request for Qualifications and that submits a Proposal in response to the RFP.
Punch List	The list of Work items with respect to the Project that remain to be completed prior to Final Acceptance.
Quality Assurance (QA)	All those planned and systematic actions necessary for the DB Contractor to certify to the District that all Work fully complies with the requirements of the Contract Documents and that all materials incorporated in the Work, all equipment used, and all elements of the Work will perform satisfactorily for the purpose(s) intended.
Quality Control (QC)	The Activities performed by the DB Contractor, designer, producer or manufacturer to ensure and document that a product meets the requirements of the Contract Documents. Activities may include checking, materials handling and construction procedures, calibrations and maintenance of equipment, shop drawing review, document control, production process control, and any sampling, testing, and inspection done for these purposes.
Recovery Schedule	The schedule described in Volume II, Book II, Section 26, and which Contractor is required to provide under Volume II, Book I, Section 6.5.
Reference Information Documents	The documents described in Volume II, Book I, Section 3.4.
Registered Professional Engineer	Registered Professional Engineer in the fields of civil, structural, mechanical or electrical engineering, whose registration is acceptable to the District's Board of Registration for Professional Engineers.
Released for Construction Documents	The documents described in Volume II, Book II, Section 5.

DEFINITIONS

Term	Meaning
Relocation or Relocate	As related to Utilities, each relocation, (including provision of temporary services as necessary) of any and all Utilities that is necessary or advisable in order to accommodate or permit construction of the Project.
Remediation Work	After identification by the DB Contractor that a Hazardous Substance(s) exists, sampling, treatment, and/or off-site disposal of Hazardous Materials and materials containing Hazardous Materials, as Approved by the District.
Request for Change Order (RCO)	A Contractor-initiated request for a change order under Volume II, Book I, Section 15.
Request for Change Proposal (RCP)	A proposal issued by the District under Volume II, Book I, Section 15.
Request for Proposals (RFP)	The Final Request for Proposals for the South Capitol Street Corridor Phase I Design-Build Project issued by the District, including all addenda thereto. The RFP includes the ITP, Contract Documents, Technical Provisions, and RIDs. The RFP is issued only to Proposers that have been shortlisted following SOQ review.
Revised Baseline Schedule	The meaning set forth in Volume II, Book II, Section 26.
RFP Documents	The documents listed in the ITP Section 1.
Right of Way	The parcels of land identified on the ROW Drawings.
Roadbed Material	Material in cuts, embankments, and in embankment foundations from the subgrade down that supports the pavement structure.
Roadside	A general term denoting the area adjoining the outer edge of the roadway. Extensive areas between the roadways of a divided highway may also be considered roadside.
Roadway	The portion of the right-of-way intended for vehicular use.
Salvable Material	Material that can be saved or salvaged. Unless otherwise specified in the Contract, all salvable material shall become the property of the DB Contractor.
Second Notice to Proceed (NTP2)	The meaning as described in Volume II, Book I, Section 6.2.
Service Line	As related to Utilities, a Utility line, the function of which is to directly connect the improvements on an individual property to another Utility line located off such property, which other Utility line connects more than one such individual line to a larger system. (The term "Service Line" also includes any Utility on public or private property that services structures located on such property.)

DEFINITIONS

Term	Meaning
Shall	When used in the Contract Documents, states a mandatory duty on the part of the DB Contractor.
Shop Drawings	Drawings prepared by the fabricator or supplier showing the layout and details of components fabricated in a shop for inclusion in the permanent facility (e.g., structural steel, reinforcing steel, railing, etc.).
Site	The parcels of ROW identified on the ROW Drawings or upon which the Project is to be constructed and installed as well as all other areas in the vicinity used by the DB Contractor for construction Work.
Small Business Concern	Means, with respect to firms seeking to participate as DBE's in DDOT-assisted contracts, a small business concern as defined pursuant to Section 3 of the Small Business Act and Small Business Administration regulations implementing it (13 CFR part 121) that also does not exceed the cap on average annual gross receipts specified in § 26.65(b).
Socially and Economically Disadvantaged Individual	Means any individual who is a citizen (or lawful admitted permanent residents) of the United States and who is: 1) Any individual whom the MWUCP finds to be a socially and economically disadvantaged individual on a case-by-case basis. 2) Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged: i. Native Americans — which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians; or ii. Asian-Pacific Americans — persons having origins from Japan, China, Taiwan, Korea, Burma, Vietnam, Laos, Cambodia, Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Territories of the Pacific Islands, the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong; or iii. Hispanic Americans — persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American or other Spanish or Portuguese culture or origin, regardless of race; or iv. Black Americans — persons having origins in any of the Black racial groups of Africa; or v. Subcontinent Asian Americans — persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka; vi. Women; vii. Any additional groups whose members are designated as socially and economically disadvantaged by the Small Business Administration, at such times as the Small Business Administration designation becomes effective.

DEFINITIONS

Term	Meaning
Specialty Item	Work requiring highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organization qualified and expected to bid on the Contract as a whole, and generally limited to minor components of the overall Contract.
Stakeholder	An individual or group whose interests may be impacted similarly (whether real or perceived) by the construction of the Project.
Stabilization	Modification of soils or aggregates by incorporating materials that increase load-bearing capacity, firmness, and resistance to weathering or displacement.
Standard Drawings	District of Columbia Department of Transportation Standard Drawings
Standards of the Industry	Practices, procedures, methods and standards that: (i) are consistent with current best industry practices established for, or employed by, leading Participants in the design, construction, operation, and maintenance industries; (ii) comply with applicable laws and applicable industry underwriters' and the fire and life safety codes and standards; and (iii) promote reliability, efficiency, safety, and security. Standards of the Industry include, without limitation, taking reasonable steps to assure that sufficient personnel are employed and available to perform the Work and that such personnel are adequately skilled, experienced, and trained to design, construct, install, operate, and maintain the Work properly and efficiently, and that appropriate coordination, monitoring, and testing is performed to assure that all elements of the Work are designed, constructed, and installed so as to function as required by the Contract Documents.
Stipend	The meaning set forth in Volume I, Section 6.3.
Street	A general term denoting a public way for purposes of vehicular travel, including the entire area within the ROW.
Subbase	Layer(s) of specified material thickness placed on a subgrade to support a base course.
Subcontract	Any subcontract to perform any part of the Work or provide any materials, equipment or supplies for any part of the Work between the DB Contractor and a Subcontractor, or between any Subcontractor and its lower tier Subcontractor, at any tier.
Subcontractor or Subconsultant	Any Person with whom the DB Contractor has entered into any Subcontract and any other Person with whom any Subcontractor has further subcontracted any part of the Work, at any tier.
Subgrade Treatment	Modification of roadbed material by stabilization.
Substantial Completion	Substantial Completion of the Project as described in Volume II, Book I, Section 22.1.

DEFINITIONS

Term	Meaning
Substructure	All of that part of a bridge below the bearings of simple or continuous spans and tops of footings of rigid frames, including backwalls.
Superstructure	All parts of a bridge structure not defined as substructure.
Supplier	Any Person other than employees of the DB Contractor not performing Work at the Site that supplies machinery, equipment, materials or systems to the DB Contractor or any Subcontractor in connection with the performance of the Work; Persons who merely transport, pick up, deliver, or carry materials, personnel, parts, or equipment or any other items or persons to or from the Site shall not be deemed to be performing Work at the Site.
Surety	A corporation, partnership or individual, other than the DB Contractor, authorized to do business in the District of Columbia, and which has issued one or more of the Payment and Performance Bonds.
Technical Proposal	The Technical Proposal, as described in Section 4.2 of the ITP.
Technical Provisions	Means, collectively, the documents that are set forth in Volume II Book II of the Project Documents, together with such documents as may be incorporated into Volume II by reference therein. The technical criteria described in Volume II, Book II, establish the minimum acceptable standards of quality, materials, and performance for the Work, which will be used as a basis for review and as a basis for Final Acceptance.
Temporary Structures	Structures required for the use of traffic while construction is in progress and not designated to remain a part of the permanent roadway.
Test	The procedure and method of acquiring and recording physical data and comparing it to set standards and submitting a statement to such conditions or operations as will lead to its Acceptance or rejection (deficiency, Defective Condition, Nonconformance) of the item.
Test-Based Acceptance	Acceptance based on each test meeting minimum requirements.
Test Procedure	Methods that detail the practice of acquiring the Test data.
Through Traffic	Traffic that has neither its origin nor its destination within the Limits of the Project.
Traveled Way	The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.
Tree Space	The portion of the public right-of-way used or reserved for trees.
Unit Price	The meaning set forth in Volume II, Book I, Section 15.4.

DEFINITIONS

Term	Meaning
United States Department of Transportation (USDOT)	United States Department of Transportation or any executive department or agency thereof, or as the context may require, the USDOT Secretary or other Person who may at the time be acting in the capacity of Secretary, or an authorized representative or any other Person otherwise authorized to perform the functions to be performed hereunder by USDOT.
United States of America	Any of the 50 states, the District of Columbia, Puerto Rico and any other territories and possessions of the United States of America.
Utility or Utilities	(i) A privately, publicly or cooperatively owned line, facility and/or system for producing, transmitting or distributing communications, power, cable television, electricity, light, heat, gas, oil, crude products, water, steam, waste, signal systems and other products that directly or indirectly serve the public; and/or (ii) a privately owned irrigation facility; and/or (iii) streetcar, WMATA and CSX owned or operated facilities. The necessary appurtenances to each utility facility shall be considered part of such utility including access hatches, vaults, fire hydrant feeds and rails. Without limitation, any Service Line connecting directly to a utility shall be considered an appurtenance to that utility, regardless of the ownership of such Service Line. The term "Utility" is sometimes also used to refer to the owner or operator of any such line, facility and/or system (a "Utility Company"). The term "Utility" shall specifically exclude existing storm water facilities, traffic signals and street lights, without regard to whether or not such items are included in the definition of "Utility" in the Utility Agreements.
Utility Company	The owner or operator of any Utility.
Utility Delay	The meaning set forth in Volume II, Book I, Section 8.2.1.
Utility Relocation	As related to Utilities, each relocation, (including provision of temporary services as necessary) of any and all Utilities that is necessary or advisable in order to accommodate or permit construction of the Project.
Utility Relocation Design	The meaning set forth in Volume II, Book II, Section 10.
Utility Work	The meaning set forth in Volume II, Book II, Section 10.
Value Engineering Change Proposal (VECP)	The meaning set forth in the Volume II, Book I, Section 15.2.
Verification/Verify	The act of testing or inspecting performed by qualified testing or inspecting personnel employed by the District or its designated agent to independently establish Conformity to the Contract.
Volume I	The Contract Document named "Instructions to Proposers" and designated as Volume I in the RFP.
Volume II, Book I	The Contract Document named "Design-Build Agreement" and designated as Volume II, Book I in the RFP.

DEFINITIONS

Term	Meaning
Volume II, Book II	The Contract Document named "Technical Provisions" and designated as Volume II, Book II in the RFP.
Volume II, Book III	The Contract Document named "Contract Data and Reports" and designated as Volume II, Book III in the RFP.
Warranty	Any warranty made by the DB Contractor in Volume II, Book I, Section 23.1.
Work	All duties and services to be furnished and provided by the DB Contractor as required by the Contract Documents, including but not limited to the administrative, design, engineering, quality control, quality assurance, Utility coordination, procurement, legal, professional, manufacturing, supply, installation, construction, demolition, supervision, management, testing, verification, labor, Materials, equipment, documentation and other efforts necessary or appropriate to achieve Final Acceptance except for those efforts which the Contract Documents specify will be performed by the District or other Persons. In certain cases, the term is also used to mean the products of the Work.
Work Breakdown Structure	A distinct activity ID for each work activity included in the Baseline Schedule.

Exhibit B
Completion Deadlines

EXHIBIT B

Completion Deadlines

Form O from the Proposal Documents is to be included with the executed contract.

FINAL COMPLETION SCHEDULE—Form O

Description	Completion Deadline
Proposal Commitment Date for Substantial Completion	DBA Execution Date plus _____ calendar days
Proposal Commitment Date for Final Completion	DBA Execution Date plus _____ calendar days

Exhibit C
Federal Requirements

EXHIBIT C

Federal Requirements

1. General.

The Work will be financed in whole or in part with federal funds, and the DB Contractor shall observe the federal laws, rules and regulations applicable to projects that are so funded, including the requirements set forth in this Exhibit C and all attachments hereto.

2. Federal Aid Participation.

The Work shall be subject to the inspection of the proper officials of the United States Government. Inspections made by authorized federal representatives shall not make the United States Government a party to this Contract and will not interfere with the rights of the Contract parties.

3. FHWA Buy America Requirements.

FHWA Federal-aid projects are subject to 23 CFR § 635.410, Buy America requirements.

4. Convict-produced Materials.

a. FHWA Federal-aid projects are subject to 23 CFR § 635.417, Convict produced materials.

b. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if such materials have been: (i) produced by convicts who are on parole, supervised release, or probation from a prison, or (ii) produced in a prison facility in which convicts, during the 12 month period ending July 1, 1987, produced materials for use in Federal-aid highway construction projects, and the cumulative annual production amount of such materials for use in Federal-aid highway construction does not exceed the amount of such materials produced in such facility for use in Federal-aid highway construction during the 12 month period ending July 1, 1987.

5. Performance of Previous Contract.

In addition to the provisions in Section II, "Nondiscrimination," and Section VI, "Subletting or Assigning the Contract," of the required contract provisions contained in FHWA Form 1273 (Attachment 1 to this Exhibit C), the DB Contractor shall comply with the following:

The DB Contractor has executed the "Certification of Compliance with Equal Employment Opportunity Clause Requirements" located in the proposal. No request for subcontracting any portion of the Contract in excess of $10,000 will be considered under Section VI of the required contract provisions contained in FHWA Form 1273 unless such request is accompanied by the form of Certification referred to above, executed by the proposed Subcontractor.

6. On-the-Job Special Training Requirement.

Attachment 2 to this Exhibit C.

7. Specific EEO Responsibilities.

Attachment 3 to this Exhibit C.

8. Monthly Employment Utilization Report.

Submission of Monthly Equal Employment Reports (Form AARU-102) to the CO is a requirement of this Contract. These reports are due on the last working day of each month.

Prime contractors are responsible for timely submission of these reports from all their subcontractors. Failure to comply with this requirement may delay partial payment voucher processing.

See Attachment 4 to this Exhibit C.

9. Service Contract Act Wage Rates.

Attachment 5 to this Exhibit C.

10. DB Wage Rates.

Attachment 6 to this Exhibit C.

11. Cargo Preference Act.

The requirements of the Cargo Preference Act of 1954, as implemented by 46 CFR 381, shall apply, including the provisions set forth in 46 CFR 381.7 (a)-(b).

Attachment 1
FHWA Form 1273

REQUIRED CONTRACT PROVISIONS

FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Government wide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this

contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training

positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further

to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside

in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are

employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of

the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA

approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction

was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

Attachment 2
On-the-Job Training Special Provision

ATTACHMENT 2

On-the-Job Training Special Provision

This Training Special Provision supersedes subparagraph 7b of the Special Provision entitled Specific Equal Employment Opportunity Responsibilities, (Appendix A), and is in implementation of 23 U.S.C. 140(a).

As part of the DB Contractors equal employment opportunity affirmative action program training shall be provided as follows:

The DB Contractor shall provide on-the-job training aimed at developing full journeyworkers in the type of trade or job classification involved.

The number of trainees required to be trained on this Project is 50, including:

QTY	OJT CLASSIFICATIONS	TRAINEE HOURS	TOTAL TRAINEE HOURS
DESIGN			
1	Computer Aid Drafting (CAD) Technician	2,000	2,000
1	Drainage Design Engineer	2,000	2,000
1	Environmental Engineer	4,000	4,000
1	Geotechnical Engineer	4,000	4,000
1	Roadway Design Technician	2,000	2,000
1	Structural Design Engineer	2,000	2,000
1	Traffic Engineer	2,000	2,000
1	Utility Engineer	4,000	4,000
1	Video Security System Designer I	2,000	2,000
9	**Total - DESIGN Related Hours**		**24,000**
CONSTRUCTION			
3	Bridge Constructor (Laborer)	1,040	3,120
2	Bridge Carpenter	1,040	2,080
2	Cement Mason	1,040	2,080
1	Concrete Technician	520	520
1	Drainage/Utility Inspector	4,000	4,000
2	Electrical Technician	520	1,040
1	Equipment Maintenance Tech	1,000	1,000
2	Equipment Operator	1,000	2,000
1	Estimator-Project Engineer	2,200	2,200
1	Field Office Record Keeper	800	800
1	Foreman Trainee - Bridge Construction	2,080	2,080
1	Foreman Trainee - Roadway/Utility (Pipe)	2,000	2,000
1	Instrument Engineer	520	520
2	Ironworker Structural/Steel Erector (Rebar)	1,040	2,080
2	Landscape Worker	1,040	2,080

QTY	OJT CLASSIFICATIONS	TRAINEE HOURS	TOTAL TRAINEE HOURS
1	Materials Inspector	4,000	4,000
1	Pile Driver	1,040	1,040
1	Pipe Layer	520	520
2	Power Tool Operator	720	1,440
1	Project Control (Cost & Schedule)	2,200	2,200
1	Quality Control Technician	1,000	1,000
1	Rodman/GPS Operator	520	520
1	Safety Specialist	1,300	1,300
1	Superintendent Trainee (Roadway)	2,000	2,000
3	Traffic Control (Flaggers)	1,040	3,120
1	Traffic Control Coordinator (MOT Inspector)	1,020	1,020
1	Truck Driver Heavy Duty - CDL	1,040	1,040
1	Truck Driver Multi-Rear Axle - CDL	1,040	1,040
1	Truck Driver - Single Rear Axle - CDL	520	520
1	Welder	1,040	1,040
41	**Subtotal - CONSTRUCTION Related Hours**	**38,840**	**49,400**
50	**TOTAL - Design and Construction Hours**		**73,400**

In the event that a DB Contractor subcontracts a portion of the contract work, he/she shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided, however, that the DB Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The DB Contractor shall also ensure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the DB Contractors' needs and the availability of journeyworkers in the various classifications with a reasonable area of recruitment. Prior to commencing construction, the DB Contractor shall submit to the State highway agency for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the DB Contractor shall specify the starting time for training in each of the classifications. The DB Contractor will be credited for each trainee employed by him/her on the contract work that is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyworker status is a primary objective of this Training Special Provision. Accordingly, the DB Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The DB Contractor will be responsible for demonstrating the steps that he/she has taken in pursuance thereof, prior to a determination as to whether the DB Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employee as a trainee in any classification in which he/she has successfully completed a training course leading to journeyworker status or in which he/she has been employed as a journeyworker. The DB Contractors should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the DB Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the DB Contractor and approved by the State highway agency and the Federal Highway Administration. The State highway agency and the Federal Highway Administration shall approve a program if is reasonably calculated to meet the equal employment opportunity obligations of the DB Contractor and to qualify the average trainee for journeyworker status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the US Department of Labor, Bureau of Apprenticeship and Training or with a State Apprenticeship Agency recognized by the Bureau and Training programs approved but not necessarily sponsored by the US Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training or oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some off-site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

The DB Contractor will be reimbursed in the amount indicated in the unit price column of the Pay Item Schedule in the Bid Form and Proposals for each hour of training given an employee on this contract in accordance with an approved training program. As verified by the engineer, reimbursement will be made even though the DB Contractor receives additional training program funds from other sources, provided such other does not specifically prohibit the DB Contractor from receiving other reimbursement. Reimbursement for off-site training indicated above may only be made to the DB Contractor where he/she does one or more of following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainees wages during the off-site training period.

No payment shall be made to the DB Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyworker, is caused by the DB Contractor and evidences a lack of good faith on the part of the DB Contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his/her training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his/her work classifications or until he/she has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A DB Contractor will have fulfilled his/her responsibilities under this Training Special Provision if he/she has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyworkers rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Department of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The DB Contractor shall furnish the trainee a copy of the program he/she will follow in providing the training. The DB Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The DB Contractor will provide for the maintenance of records and furnish period reports documenting his/her performance under this Training Special Provision.

(40 FR 28053, July 3, 1975. Correctly redesignated at 46 FR 21156, April 9, 1981.)

Revised 8/88

Attachment 3
Specific EEO Responsibilities

ATTACHMENT 3

Specific Equal Employment Opportunity Responsibilities

1. General

a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in Required Contract Provisions (FHWA –1273 or 1316, as appropriate) and these Special Provisions which are imposed pursuant to Section 140 of Title 23, U.S.C., as established by Section 22 of the Federal-Aid Highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.

b. The DB Contractor will work with the State highway agencies and the Federal Government in carrying out equal employment opportunity obligations and in the review of his/her activities under the contract.

c. The DB Contractor and all his/her subcontractors holding subcontracts not including material suppliers, of $10,000 or more, will comply with the following minimum specific requirement activities of equal employment opportunity: (The equal employment requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection 1 of the Federal-Aid Highway Program Manual, are applicable to material suppliers as well as contractors and subcontractors). The DB Contractor will include these requirements in every subcontract of $10,000 or more with such modification of language as is necessary to make then binding on the subcontractor.

2. Equal Employment Opportunity Policy

The DB Contractor will accept as his/her operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color or national origin. Such action shall include: employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training.

3. Equal Employment Opportunity Officer

The DB Contractor will designate and make known to the State highway agency contracting officers and equal employment opportunity officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

4. Dissemination of Policy

a. All members of the Contractor's staff who are authorized to hire, supervise, promote, and discharge employees or who recommend such action or who are substantially involve in such action, will be made fully cognizant of, and will implement, the Contractor's equal

employment in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

i. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the Contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

ii. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official, covering all major aspects of the Contractor's equal employment opportunity obligations within thirty days following their reporting for duty with the Contractor.

iii. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official in the Contractor's procedures for locating and hiring minority group employees.

b. In order to make the Contractor's equal employment opportunity policy know to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the DB Contractor will take the following actions:

i. Notices and posters setting forth the Contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

ii. The Contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbook, and other appropriate means.

5. Recruitment

a. When advertising for employees, the DB Contractor will include all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

b. The DB Contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the DB Contractor will, through his EEO Officer, identify sources of potential minority group applicants may be referred to the DB Contractor for employment consideration.

In the event the DB Contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the Contractor's compliance with equal employment opportunity contract provisions. (The US Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the Contractors to do the same, such implementation violates Executive Order 11246, as amended).

c. The DB Contractor will encourage his present employees to refer minority group

applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

6. Personnel Actions

Wages, working conditions, and employee benefits shall be established and administered and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex or national origin. The following procedures shall be followed:

a. The DB Contractor will conduct periodic inspections of project sites to ensure that working conditions and employees facilities do not indicate discriminatory treatment of project site personnel.

b. The DB Contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The DB Contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the DB Contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The DB Contractor will promptly investigate all complaints of alleged discrimination made to the DB Contractor in connection with his obligations under this contract, will attempt to resolve such some complaints, and will take appropriate corrective action within a persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the DB Contractor will inform every complainant of all of his avenues of appeal.

7. Training and Promotion

a. The DB Contractor will assist in locating, qualifying and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the Contractor's work force requirements and as permissible under Federal and State regulations, the DB Contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25% of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event the Training Special Provision is provided under this contract, this subparagraph will be superseded as indicated in Attachment 2.

c. The DB Contractor will advise employees and applicants for employment of available training programs and entrance requirements of each.

d. The DB Contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employee to apply for such training and promotion.

8. Unions

If the DB Contractor relies in whole or in part upon unions as a source of employees, the DB Contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such

unions of minority and female employees. Actions by the DB Contractor either directly or through a Contractor's association acting as agent will include the procedures set forth below:

a. The DB Contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The DB Contractor will use best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex or national origin.

c. The DB Contractor is to obtain information as to the referral practices and policies of the labor union except that the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the Contractor, the DB Contractor shall so certify to the State highway department and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the DB Contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the DB Contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex or national origin; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The US Department of Labor has held that it shall be no excuse that for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the DB Contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such DB Contractor shall immediately notify the State highway agency.

9. Subcontracting

a. The DB Contractor will use his best efforts to solicit bids from and to utilize minority group subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of minority-owned construction firms from State highway agency personnel.

b. The DB Contractor will use his best efforts to ensure subcontractor compliance with their equal employment opportunity obligations.

10. Records and Receipts

a. The DB Contractor will keep such records as are necessary to determine compliance with the Contractor's equal employment opportunity obligations. The records kept by the DB Contractor will be designed to indicate:

i. The number of minority and non-minority group members and women employed in each work classification on the project.

ii. The progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to Contractors who rely in whole or in part on unions as a source of their workforce).

iii. The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and

iv. The progress and efforts being made in securing the services of minority group subcontractors or subcontractors with meaningful minority and female representation

among their employees.

b. All such records must be retained for period of three (3) years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the State highway agency and the Federal Highway Administration.

c. The Contractors will submit an annual report to the State highway agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required on-the-job training is being required by "Training Special Provision", the DB Contractor will be required to furnish Form FHWA 1409.

(40 FR 28053, July 3, 1975, as amended at 43 FR 19386, May 5, 1978. Correctly redesignated at 46 FR 21156, April 9, 1981.)

Revised 8/88

Attachment 4
Monthly Employment Utilization Report

CONTRACT NO.

DISTRICT DEPARTMENT OF TRANSPORTATION
MONTHLY EQUAL EMPLOYMENT OPPORTUNITY REPORT

1. REPORTING PERIOD

FROM / / TO: / /

This report is required by the District Department of Transportation pursuant to Equal Employment Opportunity requirements of the referenced contract. Failure to report may result in suspension of payments under this contract.

2. PROJECT NAME, LOCATION AND % COMPLETED
WARD_____%_____

3. CONTRACTOR'S NAME:

MINORITY [ ] NON-MIN [ ]
SUB [ ] PRIME [ ]

4. **CONTRACT AMOUNT**

$_____

5. CONSTRUCTION TRADE	Classifications	6. WORK-HOUR OF EMPLOYMENT												9. TOTAL NUMBER OF EMPLOYEES		10. TOTAL NUMBER OF MINORITY EMPLOYEES	
		6a. TOTAL ALL EMPLOYEE BY TRADE		6b. BLACK (Not of Hispanic Origin)		6c. HISPANIC		6d. ASIAN OR PACIFIC ISLANDERS		6e. AMERICAN INDIAN OR ALASKAN NATIVE		7. MINORITY PERCENTAGE	8. FEMALE PERCENTAGE				
		M	F	M	F	M	F	M	F	M	F			M	F	M	F
	Journey Worker																
	APPRENTICE																
	Helper/Laborer																
	SUB-TOTAL																
	Journey Worker																
	APPRENTICE																
	Helper/Laborer																
	SUB-TOTAL																
	Journey Worker																
	APPRENTICE																
	Helper/Laborer																
	SUB-TOTAL																
	Journey Worker																
	APPRENTICE																
	Helper/Laborer																
	SUB-TOTAL																
	Journey Worker																
	APPRENTICE																
	Helper/Laborer																
	SUB-TOTAL																
TOTAL JOURNEY WORKERS																	
TOTAL APPRENTICES																	
TOTAL HELPERS/LABORERS																	
GRAND TOTAL																	

11. COMPANY OFFICIAL'S SIGNATURE AND TITLE	12. TELEPHONE NUMBER (Include area code)	13. DATE SIGNED	14. PAGE 1 OF 2

FORM AARU-102 (040484) R (Revised 07/02)

PLEASE TYPE OR LEGIBLY PRINT ALL INFORMATION

INSTRUCTIONS FOR FILING MONTHLY EMPLOYMENT UTILIZATION REPORT (AARU-102)

The Monthly Equal Employment Opportunity Report is to be completed by each subject contractor (both prime and sub) and signed by a responsible official of the company. The reports are filed by the 5th day of each month during the term of the contract, and they shall include the total work-hours for each employee classification in each trade in the covered area for the monthly reporting period. The prime contractor shall submit this report for each project work force and collect and submit reports for each subcontractor's project work force to the Contracting Officer, Department of Transportation. Additional copies of this form may be obtained from the Department of Transportation, Telephone No. 202/671-2270.

Compliance Agency		D. C. Government agency assigned responsibility for equal opportunity. (Secure this information from the contracting agency responsible for the construction project.)
Contracting Agency		D. C. Government agency funding project (in whole or in part). If more than one agency, list all.
Contractor		Any contractor who has a construction contract with D. C. Government or a contract funded in whole or in part with D. C. Government funds.
Minority	Includes Blacks, Hispanics, American Indians, Alaskan Natives, and Asian and Pacific Islanders--both men and women.	
1.	Reporting	Monthly, or as directed by the compliance agency, beginning with the effective date of the contract.
2.	Project	Project name, location(s), contract number and percent completed. List ward in which project is located.
3.	Contractor	Contractor's name and address. Check appropriate boxes--minority or non-minority, prime or sub.
4.	Contracting Agency	Name(s) of contracting agency(s) funding or supervising project. List contract amount for each contract.
5.	Construction Trade	Only those construction trades which contractor employs on this project.
6.	Work-Hours of Employment(a-e)	a: The total number of male hours and the total number of female hours worked by employees in each classification. b-e: The total number of male hours and the total number of female hours worked by each specified group of minority employees in each classification.
Classification		The level of accomplishment or status of the worker in the trade (Journey Worker, Apprentice, Helper/Laborer).
7.	Minority Percentage	The percentage of total minority work-hours of all work-hours (the sum of columns 6b, 6c, 6d, and 6e divided by column 6a; just one figure for each construction trade).
8.	Female Percentage	For each trade the number reported in 6a, (F divided by the sum of the number of reported in 6a M and F).
9.	Total Number of Employees	Total number of male and total number of female employees working in each classification of each trade in the contractor's project work force during reporting period.
10.	Total Number of Minority Employees	Total number of male minority employees and total number of female minority employees working in each classification in each trade in contractor's project work force during reporting period.

Attachment 5
Service Contract Wage Rates

WD 15-4281 (Rev.-2) was first posted on www.wdol.gov on 01/05/2016
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REGISTER OF WAGE DETERMINATIONS UNDER THE SERVICE CONTRACT ACT By direction of the Secretary of Labor	U.S. DEPARTMENT OF LABOR EMPLOYMENT STANDARDS ADMINISTRATION WAGE AND HOUR DIVISION WASHINGTON D.C. 20210
Daniel W. Simms Director — Division of Wage Determinations	Wage Determination No.: 2015-4281 Revision No.: 2 Date Of Revision: 12/29/2015

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.15 for calendar year 2016 applies to all contracts subject to the Service Contract Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

States: District of Columbia, Maryland, Virginia

Area: District of Columbia Statewide
Maryland Counties of Calvert, Charles, Prince George's
Virginia Counties of Alexandria, Arlington, Fairfax, Falls Church, Fauquier, Loudoun, Prince William, Stafford

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION CODE - TITLE	FOOTNOTE	RATE
01000 - Administrative Support And Clerical Occupations		
01011 - Accounting Clerk I		16.59
01012 - Accounting Clerk II		18.61
01013 - Accounting Clerk III		22.30
01020 - Administrative Assistant		31.41
01035 - Court Reporter		21.84
01041 - Customer Service Representative I		14.40
01042 - Customer Service Representative II		16.18
01043 - Customer Service Representative III		17.66
01051 - Data Entry Operator I		14.71
01052 - Data Entry Operator II		16.05
01060 - Dispatcher, Motor Vehicle		18.42
01070 - Document Preparation Clerk		14.70
01090 - Duplicating Machine Operator		14.70
01111 - General Clerk I		14.88
01112 - General Clerk II		16.24
01113 - General Clerk III		18.74
01120 - Housing Referral Assistant		25.29
01141 - Messenger Courier		14.98
01191 - Order Clerk I		15.12
01192 - Order Clerk II		16.50
01261 - Personnel Assistant (Employment) I		18.15
01262 - Personnel Assistant (Employment) II		20.32
01263 - Personnel Assistant (Employment) III		22.65
01270 - Production Control Clerk		24.23
01290 - Rental Clerk		16.55
01300 - Scheduler, Maintenance		18.07
01311 - Secretary I		18.07
01312 - Secretary II		20.18
01313 - Secretary III		25.29
01320 - Service Order Dispatcher		16.98
01410 - Supply Technician		31.41
01420 - Survey Worker		20.03
01460 - Switchboard Operator/Receptionist		14.43
01531 - Travel Clerk I		13.46
01532 - Travel Clerk II		14.46
01533 - Travel Clerk III		15.53
01611 - Word Processor I		15.63
01612 - Word Processor II		17.67
01613 - Word Processor III		19.95
05000 - Automotive Service Occupations		
05005 - Automobile Body Repairer, Fiberglass		27.70

05010 - Automotive Electrician	23.51
05040 - Automotive Glass Installer	22.15
05070 - Automotive Worker	22.15
05110 - Mobile Equipment Servicer	19.04
05130 - Motor Equipment Metal Mechanic	24.78
05160 - Motor Equipment Metal Worker	22.15
05190 - Motor Vehicle Mechanic	24.78
05220 - Motor Vehicle Mechanic Helper	18.49
05250 - Motor Vehicle Upholstery Worker	21.63
05280 - Motor Vehicle Wrecker	22.15
05310 - Painter, Automotive	23.51
05340 - Radiator Repair Specialist	22.15
05370 - Tire Repairer	14.44
05400 - Transmission Repair Specialist	24.78
07000 - Food Preparation And Service Occupations	
07010 - Baker	14.14
07041 - Cook I	13.81
07042 - Cook II	16.06
07070 - Dishwasher	10.11
07130 - Food Service Worker	10.66
07210 - Meat Cutter	19.19
07260 - Waiter/Waitress	9.70
09000 - Furniture Maintenance And Repair Occupations	
09010 - Electrostatic Spray Painter	19.86
09040 - Furniture Handler	14.06
09080 - Furniture Refinisher	20.23
09090 - Furniture Refinisher Helper	15.52
09110 - Furniture Repairer, Minor	17.94
09130 - Upholsterer	19.86
11000 - General Services And Support Occupations	
11030 - Cleaner, Vehicles	10.54
11060 - Elevator Operator	11.59
11090 - Gardener	17.52
11122 - Housekeeping Aide	12.23
11150 - Janitor	12.23
11210 - Laborer, Grounds Maintenance	13.07
11240 - Maid or Houseman	11.40
11260 - Pruner	11.58
11270 - Tractor Operator	16.04
11330 - Trail Maintenance Worker	13.07
11360 - Window Cleaner	13.80
12000 - Health Occupations	
12010 - Ambulance Driver	21.63
12011 - Breath Alcohol Technician	21.35
12012 - Certified Occupational Therapist Assistant	25.42
12015 - Certified Physical Therapist Assistant	23.57
12020 - Dental Assistant	17.98
12025 - Dental Hygienist	44.75
12030 - EKG Technician	30.44
12035 - Electroneurodiagnostic Technologist	30.44
12040 - Emergency Medical Technician	21.63
12071 - Licensed Practical Nurse I	19.07
12072 - Licensed Practical Nurse II	21.35
12073 - Licensed Practical Nurse III	24.13
12100 - Medical Assistant	16.36
12130 - Medical Laboratory Technician	18.08
12160 - Medical Record Clerk	18.80
12190 - Medical Record Technician	21.04
12195 - Medical Transcriptionist	20.12
12210 - Nuclear Medicine Technologist	37.60
12221 - Nursing Assistant I	11.74
12222 - Nursing Assistant II	13.19
12223 - Nursing Assistant III	14.40
12224 - Nursing Assistant IV	16.16
12235 - Optical Dispenser	20.17
12236 - Optical Technician	17.38
12250 - Pharmacy Technician	18.12
12280 - Phlebotomist	17.18
12305 - Radiologic Technologist	32.31
12311 - Registered Nurse I	27.64
12312 - Registered Nurse II	33.44
12313 - Registered Nurse II, Specialist	33.44
12314 - Registered Nurse III	40.13
12315 - Registered Nurse III, Anesthetist	40.13
12316 - Registered Nurse IV	48.10

12317 - Scheduler (Drug and Alcohol Testing)		23.90
12320 - Substance Abuse Treatment Counselor		27.04
13000 - Information And Arts Occupations		
13011 - Exhibits Specialist I		21.37
13012 - Exhibits Specialist II		26.46
13013 - Exhibits Specialist III		32.37
13041 - Illustrator I		20.48
13042 - Illustrator II		25.38
13043 - Illustrator III		31.03
13047 - Librarian		36.09
13050 - Library Aide/Clerk		14.86
13054 - Library Information Technology Systems Administrator		32.58
13058 - Library Technician		20.09
13061 - Media Specialist I		20.60
13062 - Media Specialist II		23.05
13063 - Media Specialist III		25.70
13071 - Photographer I		16.65
13072 - Photographer II		18.90
13073 - Photographer III		23.67
13074 - Photographer IV		28.65
13075 - Photographer V		33.76
13090 - Technical Order Library Clerk		18.67
13110 - Video Teleconference Technician		21.25
14000 - Information Technology Occupations		
14041 - Computer Operator I		18.92
14042 - Computer Operator II		21.18
14043 - Computer Operator III		23.60
14044 - Computer Operator IV		26.22
14045 - Computer Operator V		29.05
14071 - Computer Programmer I	(see 1)	26.36
14072 - Computer Programmer II	(see 1)	
14073 - Computer Programmer III	(see 1)	
14074 - Computer Programmer IV	(see 1)	
14101 - Computer Systems Analyst I	(see 1)	
14102 - Computer Systems Analyst II	(see 1)	
14103 - Computer Systems Analyst III	(see 1)	
14150 - Peripheral Equipment Operator		18.92
14160 - Personal Computer Support Technician		26.22
14170 - System Support Specialist		36.86
15000 - Instructional Occupations		
15010 - Aircrew Training Devices Instructor (Non-Rated)		36.47
15020 - Aircrew Training Devices Instructor (Rated)		44.06
15030 - Air Crew Training Devices Instructor (Pilot)		52.81
15050 - Computer Based Training Specialist / Instructor		36.47
15060 - Educational Technologist		35.31
15070 - Flight Instructor (Pilot)		52.81
15080 - Graphic Artist		29.48
15085 - Maintenance Test Pilot, Fixed, Jet/Prop		48.72
15086 - Maintenance Test Pilot, Rotary Wing		48.72
15088 - Non-Maintenance Test/Co-Pilot		48.72
15090 - Technical Instructor		27.59
15095 - Technical Instructor/Course Developer		33.74
15110 - Test Proctor		22.22
15120 - Tutor		22.22
16000 - Laundry, Dry-Cleaning, Pressing And Related Occupations		
16010 - Assembler		10.37
16030 - Counter Attendant		10.37
16040 - Dry Cleaner		13.33
16070 - Finisher, Flatwork, Machine		10.37
16090 - Presser, Hand		10.37
16110 - Presser, Machine, Drycleaning		10.37
16130 - Presser, Machine, Shirts		10.37
16160 - Presser, Machine, Wearing Apparel, Laundry		10.37
16190 - Sewing Machine Operator		14.28
16220 - Tailor		15.13
16250 - Washer, Machine		11.37
19000 - Machine Tool Operation And Repair Occupations		
19010 - Machine-Tool Operator (Tool Room)		23.25
19040 - Tool And Die Maker		25.72
21000 - Materials Handling And Packing Occupations		
21020 - Forklift Operator		18.02
21030 - Material Coordinator		24.23
21040 - Material Expediter		24.23
21050 - Material Handling Laborer		13.83

21071 - Order Filler	15.09
21080 - Production Line Worker (Food Processing)	18.02
21110 - Shipping Packer	16.20
21130 - Shipping/Receiving Clerk	16.20
21140 - Store Worker I	11.96
21150 - Stock Clerk	17.21
21210 - Tools And Parts Attendant	18.02
21410 - Warehouse Specialist	18.02
23000 - Mechanics And Maintenance And Repair Occupations	
23010 - Aerospace Structural Welder	29.93
23019 - Aircraft Logs and Records Technician	21.74
23021 - Aircraft Mechanic I	28.41
23022 - Aircraft Mechanic II	29.93
23023 - Aircraft Mechanic III	31.38
23040 - Aircraft Mechanic Helper	19.29
23050 - Aircraft, Painter	27.20
23060 - Aircraft Servicer	21.74
23070 - Aircraft Survival Flight Equipment Technician	27.20
23080 - Aircraft Worker	23.11
23091 - Aircrew Life Support Equipment (ALSE) Mechanic I	23.11
23092 - Aircrew Life Support Equipment (ALSE) Mechanic II	28.41
23110 - Appliance Mechanic	21.75
23120 - Bicycle Repairer	14.43
23125 - Cable Splicer	28.62
23130 - Carpenter, Maintenance	21.66
23140 - Carpet Layer	20.49
23160 - Electrician, Maintenance	27.98
23181 - Electronics Technician Maintenance I	27.43
23182 - Electronics Technician Maintenance II	29.12
23183 - Electronics Technician Maintenance III	30.68
23260 - Fabric Worker	21.04
23290 - Fire Alarm System Mechanic	22.91
23310 - Fire Extinguisher Repairer	19.38
23311 - Fuel Distribution System Mechanic	25.09
23312 - Fuel Distribution System Operator	21.32
23370 - General Maintenance Worker	21.43
23380 - Ground Support Equipment Mechanic	28.41
23381 - Ground Support Equipment Servicer	21.74
23382 - Ground Support Equipment Worker	23.11
23391 - Gunsmith I	19.38
23392 - Gunsmith II	22.54
23393 - Gunsmith III	25.20
23410 - Heating, Ventilation And Air-Conditioning Mechanic	26.28
23411 - Heating, Ventilation And Air Contditioning Mechanic (Research Facility)	27.69
23430 - Heavy Equipment Mechanic	24.16
23440 - Heavy Equipment Operator	22.91
23460 - Instrument Mechanic	24.85
23465 - Laboratory/Shelter Mechanic	23.93
23470 - Laborer	14.98
23510 - Locksmith	23.21
23530 - Machinery Maintenance Mechanic	25.43
23550 - Machinist, Maintenance	24.69
23580 - Maintenance Trades Helper	18.27
23591 - Metrology Technician I	24.85
23592 - Metrology Technician II	26.18
23593 - Metrology Technician III	27.46
23640 - Millwright	28.19
23710 - Office Appliance Repairer	22.96
23760 - Painter, Maintenance	21.75
23790 - Pipefitter, Maintenance	25.89
23810 - Plumber, Maintenance	24.52
23820 - Pneudraulic Systems Mechanic	25.20
23850 - Rigger	25.20
23870 - Scale Mechanic	22.54
23890 - Sheet-Metal Worker, Maintenance	22.91
23910 - Small Engine Mechanic	20.49
23931 - Telecommunications Mechanic I	29.95
23932 - Telecommunications Mechanic II	31.55
23950 - Telephone Lineman	30.15
23960 - Welder, Combination, Maintenance	22.91
23965 - Well Driller	22.91

23970 - Woodcraft Worker	25.20
23980 - Woodworker	19.38
24000 - Personal Needs Occupations	
24550 - Case Manager	17.64
24570 - Child Care Attendant	12.79
24580 - Child Care Center Clerk	17.77
24610 - Chore Aide	10.86
24620 - Family Readiness And Support Services Coordinator	17.64
24630 - Homemaker	18.43
25000 - Plant And System Operations Occupations	
25010 - Boiler Tender	30.03
25040 - Sewage Plant Operator	22.92
25070 - Stationary Engineer	30.03
25190 - Ventilation Equipment Tender	21.44
25210 - Water Treatment Plant Operator	22.92
27000 - Protective Service Occupations	
27004 - Alarm Monitor	21.91
27007 - Baggage Inspector	13.98
27008 - Corrections Officer	25.08
27010 - Court Security Officer	26.37
27030 - Detection Dog Handler	20.57
27040 - Detention Officer	25.08
27070 - Firefighter	26.52
27101 - Guard I	13.98
27102 - Guard II	20.57
27131 - Police Officer I	28.19
27132 - Police Officer II	31.32
28000 - Recreation Occupations	
28041 - Carnival Equipment Operator	13.59
28042 - Carnival Equipment Repairer	14.63
28043 - Carnival Worker	9.24
28210 - Gate Attendant/Gate Tender	14.31
28310 - Lifeguard	11.59
28350 - Park Attendant (Aide)	16.02
28510 - Recreation Aide/Health Facility Attendant	11.68
28515 - Recreation Specialist	19.84
28630 - Sports Official	12.75
28690 - Swimming Pool Operator	18.21
29000 - Stevedoring/Longshoremen Occupational Services	
29010 - Blocker And Bracer	25.44
29020 - Hatch Tender	25.44
29030 - Line Handler	25.44
29041 - Stevedore I	23.44
29042 - Stevedore II	26.66
30000 - Technical Occupations	
30010 - Air Traffic Control Specialist, Center (HFO) (see 2)	39.92
30011 - Air Traffic Control Specialist, Station (HFO) (see 2)	27.38
30012 - Air Traffic Control Specialist, Terminal (HFO) (see 2)	30.16
30021 - Archeological Technician I	20.19
30022 - Archeological Technician II	22.60
30023 - Archeological Technician III	27.98
30030 - Cartographic Technician	27.98
30040 - Civil Engineering Technician	26.41
30051 - Cryogenic Technician I	24.48
30052 - Cryogenic Technician II	27.04
30061 - Drafter/CAD Operator I	20.19
30062 - Drafter/CAD Operator II	22.60
30063 - Drafter/CAD Operator III	25.19
30064 - Drafter/CAD Operator IV	31.00
30081 - Engineering Technician I	22.92
30082 - Engineering Technician II	25.72
30083 - Engineering Technician III	28.79
30084 - Engineering Technician IV	35.64
30085 - Engineering Technician V	43.61
30086 - Engineering Technician VI	52.76
30090 - Environmental Technician	27.41
30095 - Evidence Control Specialist	22.10
30210 - Laboratory Technician	23.38
30221 - Latent Fingerprint Technician I	31.51
30222 - Latent Fingerprint Technician II	34.81
30240 - Mathematical Technician	28.94
30361 - Paralegal/Legal Assistant I	21.36
30362 - Paralegal/Legal Assistant II	26.47
30363 - Paralegal/Legal Assistant III	32.36

30364 - Paralegal/Legal Assistant IV		39.16
30375 - Petroleum Supply Specialist		27.04
30390 - Photo-Optics Technician		27.98
30395 - Radiation Control Technician		27.04
30461 - Technical Writer I		24.12
30462 - Technical Writer II		29.52
30463 - Technical Writer III		35.72
30491 - Unexploded Ordnance (UXO) Technician I		25.24
30492 - Unexploded Ordnance (UXO) Technician II		30.53
30493 - Unexploded Ordnance (UXO) Technician III		36.60
30494 - Unexploded (UXO) Safety Escort		25.24
30495 - Unexploded (UXO) Sweep Personnel		25.24
30501 - Weather Forecaster I		24.48
30502 - Weather Forecaster II		29.77
30620 - Weather Observer, Combined Upper Air Or Surface Programs	(see 2,3)	25.19
30621 - Weather Observer, Senior	(see 2,3)	27.98
31000 - Transportation/Mobile Equipment Operation Occupations		
31010 - Airplane Pilot		30.53
31020 - Bus Aide		14.32
31030 - Bus Driver		20.85
31043 - Driver Courier		15.38
31260 - Parking and Lot Attendant		10.07
31290 - Shuttle Bus Driver		16.83
31310 - Taxi Driver		13.98
31361 - Truckdriver, Light		16.83
31362 - Truckdriver, Medium		18.28
31363 - Truckdriver, Heavy		19.96
31364 - Truckdriver, Tractor-Trailer		19.96
99000 - Miscellaneous Occupations		
99020 - Cabin Safety Specialist		14.89
99030 - Cashier		10.03
99050 - Desk Clerk		12.08
99095 - Embalmer		25.36
99130 - Flight Follower		25.24
99251 - Laboratory Animal Caretaker I		12.43
99252 - Laboratory Animal Caretaker II		13.59
99260 - Marketing Analyst		33.51
99310 - Mortician		34.10
99410 - Pest Controller		17.69
99510 - Photofinishing Worker		13.20
99710 - Recycling Laborer		19.20
99711 - Recycling Specialist		23.54
99730 - Refuse Collector		17.01
99810 - Sales Clerk		12.09
99820 - School Crossing Guard		14.77
99830 - Survey Party Chief		23.14
99831 - Surveying Aide		14.38
99832 - Surveying Technician		21.99
99840 - Vending Machine Attendant		15.48
99841 - Vending Machine Repairer		19.67
99842 - Vending Machine Repairer Helper		15.48

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: $4.27 per hour or $170.80 per week or $740.13 per month

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor, 3 weeks after 5 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year: New Year's Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

THE OCCUPATIONS WHICH HAVE NUMBERED FOOTNOTES IN PARENTHESES RECEIVE THE FOLLOWING:

1) COMPUTER EMPLOYEES: Under the SCA at section 8(b), this wage determination does not apply to any employee who individually qualifies as a bona fide executive, administrative, or professional employee as defined in 29 C.F.R. Part 541. Because most Computer System Analysts and Computer Programmers who are compensated at a rate not less than $27.63 (or on a salary or fee basis at a rate not less than $455 per week) an hour would likely qualify as exempt computer professionals, (29 C.F.R. 541. 400) wage rates may not be listed on this wage determination for all occupations within those job families. In addition, because this wage determination may not list a wage rate for some or all occupations within those job families if the survey data indicates that the prevailing wage rate for the occupation equals or exceeds $27.63 per hour conformances may be necessary for certain nonexempt employees. For example, if an individual employee is nonexempt but nevertheless performs duties within the scope of one of the Computer Systems Analyst or Computer Programmer occupations for which this wage determination does not specify an SCA wage rate, then the wage rate for that employee must be conformed in accordance with the conformance procedures described in the conformance note included on this wage determination.

Additionally, because job titles vary widely and change quickly in the computer industry, job titles are not determinative of the application of the computer professional exemption. Therefore, the exemption applies only to computer employees who satisfy the compensation requirements and whose primary duty consists of:

(1) The application of systems analysis techniques and procedures, including consulting with users, to determine hardware, software or system functional specifications;

(2) The design, development, documentation, analysis, creation, testing or modification of computer systems or programs, including prototypes, based on and related to user or system design specifications;

(3) The design, documentation, testing, creation or modification of computer programs related to machine operating systems; or

(4) A combination of the aforementioned duties, the performance of which requires the same level of skills. (29 C.F.R. 541.400).

2) AIR TRAFFIC CONTROLLERS AND WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

3) WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

** HAZARDOUS PAY DIFFERENTIAL **

An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard when working with or in close proximity to ordnance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordnance, explosives, and pyrotechnic compositions such as lead azide, black powder and photoflash powder. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive ordnance, explosives and incendiary materials. All operations involving re-grading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard when working with, or in close proximity to ordnance, (or employees possibly adjacent to) explosives and incendiary materials which involves potential injury such as laceration of hands, face, or arms of the employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used. All operations involving, unloading, storage, and hauling of ordnance, explosive, and incendiary ordnance material other than small arms ammunition. These differentials are only applicable to work that has been specifically designated by the agency for

ordnance, explosives, and incendiary material differential pay.

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of $3.35 per week (or $.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

** SERVICE CONTRACT ACT DIRECTORY OF OCCUPATIONS **

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations", Fifth Edition (Revision 1), dated September 2015, unless otherwise indicated.

** REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE, Standard Form 1444 (SF-1444) **

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination (See 29 CFR 4.6(b)(2)(i)). Such conforming procedures shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees (See 29 CFR 4.6(b)(2)(ii)). The Wage and Hour Division shall make a final determination of conformed classification, wage rate, and/or fringe benefits which shall be paid to all employees performing in the classification from the first day of work on which contract work is performed by them in the classification. Failure to pay such unlisted employees the compensation agreed upon by the interested parties and/or fully determined by the Wage and Hour Division retroactive to the date such class of employees commenced contract work shall be a violation of the Act and this contract. (See 29 CFR 4.6(b)(2)(v)). When multiple wage determinations are included in a contract, a separate SF-1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order the proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the U.S. Department of Labor, Wage and Hour Division, for review (See 29 CFR 4.6(b)(2)(ii)).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour Division's decision to the contractor.

6) Each affected employee shall be furnished by the contractor with a written copy of such determination or it shall be posted as a part of the wage determination (See 29 CFR 4.6(b)(2)(iii)).

Information required by the Regulations must be submitted on SF-1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" should be used to compare job definitions to ensure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination (See 29 CFR 4.152(c)(1)).

Attachment 6
Davis-Bacon Wage Rates

General Decision Number: DC160001 01/15/2016 DC1

Superseded General Decision Number: DC20150001

State: District of Columbia

Construction Types: Heavy (Heavy and Sewer and Water Line) and Highway

County: District of Columbia Statewide.

HEAVY CONSTRUCTION PROJECTS (Including Sewer and Water Lines); HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/08/2016
1	01/15/2016

ASBE0024-001 10/01/2015

	Rates	Fringes
Asbestos Worker/Heat and Frost Insulator Includes the application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems	$ 34.33	13.92

ASBE0024-002 10/01/2015

	Rates	Fringes
HAZARDOUS MATERIAL HANDLER Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems	$ 21.61	5.54

ASBE0024-005 10/01/2015

	Rates	Fringes
Fire Stop Technician	$ 26.81	5.98

Includes the application of materials or devices within or around penetrations and openings in all rated wall or floor assemblies, in order to prevent the pasage of fire, smoke of other gases. The application includes all components involved in creating the rated barrier at perimeter slab edges and exterior cavities, the head of gypsum board or concrete walls, joints between rated wall or floor

components, sealing of penetrating items and blank openings.

BOIL0193-001 01/01/2014

	Rates	Fringes
Boilermakers.....	$ 38.07	22.58

BRDC0001-001 05/03/2015

	Rates	Fringes
Bricklayer.....	$ 30.36	9.69

BRMD0001-004 05/03/2015

	Rates	Fringes
BRICKLAYER		
Refractory (Firebrick).....	$ 36.62	9.85

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* CARP0132-001 01/01/2016

	Rates	Fringes
Carpenter/Lather.....	$ 27.56	9.18
Piledriver.....	$ 28.29	8.85

CARP1548-001 04/01/2015

	Rates	Fringes
MILLWRIGHT.....	$ 31.99	9.28

CARP2311-002 05/01/2015

	Rates	Fringes
DIVER TENDER.....	$ 30.66	8.85
DIVER.....	$ 39.34	8.85

ELEC0026-001 06/01/2015

	Rates	Fringes
Electricians.....	$ 42.80	15.33

ELEC0070-001 05/04/2015

	Rates	Fringes
Line Construction:		
Cable Splicers.....	$ 35.35	19%+5.00
Equipment Operators.....	$ 35.35	19%+5.00
Groundmen.....	$ 16.44	19%+5.00
Linemen.....	$ 35.35	19%+5.00
Truck Driver.....	$ 18.69	19%+5.00

ENGI0077-001 05/01/2015

	Rates	Fringes
Power equipment operators: (HEAVY AND HIGHWAY CONSTRUCTION)		
GROUP 1.....	$ 35.91	8.65+a
GROUP 2.....	$ 34.36	8.65+a
GROUP 3.....	$ 32.71	8.65+a
GROUP 4.....	$ 29.30	8.65+a
GROUP 5.....	$ 25.28	8.65+a
GROUP 6.....	$ 23.23	8.65+a
GROUP 7.....	$ 36.75	8.65+a

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Tower Cranes and Cranes 100 ton and over.

GROUP 2: 35 ton cranes & above, derricks, concrete boom pump, drill rigs (+50,000 lbs torque), mole.

GROUP 3: Cranes, hoists, drill rigs (under 50,000 lbs torque), tie back machines, paving mixers, tunnel shovels, batch plants, shields, tunnel mining machines, draglines, mucking machines, graders in tunnels, pile driving engines, welder, horizontal directional drill operator, Tug boats.

GROUP 4: Front end loaders, boom trucks, backhoes, excavators, gradalls, power driven wheel scoops & scrapers, blade graders, motor graders, bulldozers, trenching machines, ballast regulator,hoe ram, locomotive (standard, narrow gauge, tuggers).

GROUP 5: Boilers (skelton), asphalt spreaders, bullfloat finishing machines, concrete finishing machines, concrete spreaders,concrete mixer, concrete pump, well points, hydraulic pumps, elevators, freeze uniits, tunnel motorman or dinky operator, conveyors, grout pump, fireman, ultra high pressure water jet cutting tool system operator/mechanic, horizontal directional drill locator, skid steers (fine grading), High lifts (lull type lifts).

GROUP 6: Fork lifts, ditch witch, bobcat, skid steer, space heaters, sweepers, assistant engineers, oilers, service unit equipment, roller.

GROUP 7: Master mechanic.

a. PAID HOLIDAYS: New Years Day, Inaugural Day, Decoration Day, Independence Day, Labor Day, Martin Luther King's Birthday, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving and Christmas Day.

ENGI0077-002 06/01/2015

	Rates	Fringes
Power equipment operators: (PAVING AND INCIDENTAL GRADING)		
GROUP 1	$ 28.99	7.35
GROUP 2	$ 25.85	7.35
GROUP 3	$ 22.24	7.35
GROUP 4	$ 20.00	7.35
GROUP 5	$ 29.70	7.15

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Gradall operator, Crane.
GROUP 2: Boom Truck, Milling Machine, Excavator, Rubber Tire Backhoe, Asphalt Paver, Asphalt Plant Engineer, Motor Grader, Track Loader, Rubber Tire Loader, Track Dozer, Concrete Paver.
GROUP 3: Broom Truck, Asphalt Roller.
GROUP 4: Air Compressor, Grade Rollers.
GROUP 5: Mechanic.

ENGI0077-003 07/01/2015

	Rates	Fringes
Power equipment operators: (SEWER, GAS AND WATER LINE CONSTRUCTION)		
GROUP 1	$ 25.60	7.35+a
GROUP 2	$ 25.20	7.35+a
GROUP 3	$ 24.69	7.35+a
GROUP 4	$ 24.37	7.35+a

GROUP 5.....$ 23.55 7.35+a

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Excavators, Cranes, Gradalls.

GROUP 2: Backhoes, Front-end Loaders, Fork alift/Lull, Bulldozers, Motor Graders. Qualified Mechanics, Hydraulic Tamper and Hoe Pack, Paving Mixers, Pile Driving Engines, Batch Plant, Concrete Pumps, Low-Boy Driver, Lube Truck.

GROUP 3: Trenching Machine, Well Drilling Machines, Concrete Mixers, Motor Graders, Truck Driver.

GROUP 4. Roller, Air Compressors, Pumps, Welding Machines, Well Points, Firemen.

GROUP 5: Oiler

a.PAID HOLIDAYS: New Year's Day, Inaugural Day, Washington's Birthday, Decoration Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day and Martin Luther King's Birthday.

IRON0005-001 06/01/2015

	Rates	Fringes
Ironworkers:		
Structural, Ornamental and Chain Link Fence	$ 30.65	18.135

IRON0201-001 05/01/2015

	Rates	Fringes
Ironworkers:		
Reinforcing	$ 27.50	18.58

LABO0657-003 06/01/2015

	Rates	Fringes
Laborers: (HEAVY AND HIGHWAY AND SEWER & WATER LINES CONSTRUCTION)		
GROUP 1	$ 23.67	7.31
GROUP 2	$ 24.06	7.31
GROUP 3	$ 24.27	7.31
GROUP 4	$ 24.46	7.31
GROUP 5	$ 24.98	7.31
GROUP 6	$ 25.65	7.31
GROUP 7	$ 26.30	7.31
GROUP 8	$ 27.16	7.31

LABORERS CLASSIFICATIONS:

GROUP 1: Carloaders, choker setter, concrete crewman, crushed feeder, demolition laborers, including salvaging all material, loading, cleaning up, wrecking, dumpmen, flagmen, fence erector and installer (other than chain link), including installation and erection of fence, guard rails, medial rails, reference posts, guide posts and right-of-way markers, form strippers, general laborers, railroad track laborers, riprap man, scale man, stake jumper, structure mover, includes foundation, separation, preparation, cribbing, shoring, jacking and unloading of structures, water nozzleman, timber bucker and faller, truck loader, water boys, tool room men.

GROUP 2: Combined air and water nozzleman, cement handler, dope pot fireman (nonmechanical), form cleaning machine, mechanical railroad equipment (includes spiker, puller, tile cleaner, tamper, pipe wrapper, power driven wheelbarrows, operators of hand derricks, towmasters, scootcretes, buggymobiles and similar equipment), tamper or rammer

operator, trestle scaffold builders over one tier high, power tool operator (gas, electric or pneumatic), sandblast or gunnite tailhose man, scaffold erector, (steel or wood), vibrator operator (up to 4 feet), asphalt cutter, mortar men, shorer and lagger, creosote material handler, corrosive enamel or equl, paver breaker and jackhammer operators.

GROUP 3: Multi-section pipe layer, non-metallic clay and concrete pipe layer (including caulker, collarman, jointer, rigger and jacker, thermal welder and corrugated metal culvert pipe layer.

GROUP 4: Asphalt block pneumatic cutter, asphalt roller, walker, chainsaw operator with attachment, concrete saw (walking), high scalers, jackhammer operator (using over 6 feet of steel), vibrator operator (4 feet and over), well point installer, air trac operator.

GROUP 5: Asphalt screeder, big drills, cut of the hole drills (1 1/2 " piston or larger), down the hole drills (3 1/2" piston or larger) gunnite or sandblaster nozzleman, asphalt raker, asphalt tamper, form setter, demolition torch operator, shotcrete nozzlemen and potman.

GROUP 6: Powderman, master form setters.

GROUP 7: Brick paver (asphalt block paver, asphalt block sawman, asphalt block grinder, hastings block or similar type)

GROUP 8: Licensed powdermen.

LABO0657-004 06/01/2015

	Rates	Fringes
Laborers: (HAZARDOUS WASTE REMOVAL, EXCEPT ON MECHANICAL SYSTEMS: Preparation for, removing and encapsulation of hazardous materials from non-mechanical systems)		
Skilled Asbestos Abatement Laborers	$ 20.26	7.31
Skilled Toxic and Hazardous Waste Removal Laborers	$ 22.93	7.31

LABO0657-005 06/01/2015

	Rates	Fringes
Laborers: (TUNNEL, RAISE & SHAFT (FREE AIR) FOR HEAVY AND SEWER & WATER LINES CONSTRUCTION)		
GROUP 1	$ 24.54	7.31
GROUP 2	$ 25.32	7.31
GROUP 3	$ 27.30	7.31
GROUP 4	$ 28.14	7.31

LABORERS CLASSIFICATIONS:

GROUP 1: Brakeman, Bull Gang, Dumper, Trackmen, Concrete Man.

GROUP 2: Chuck Tender, Powdermen in Prime House, Form Setters and Movers, Nippers, Cableman, Houseman, Groutman, Bell or Signalman, Top or Bottom Vibrator Operator.

GROUP 3: Miners, Re-Bar Underground, Concrete or Gunnite Nozzlemen, Powdermen, Timbermen and Re-Timbermen, Wood Steel Including Liner plate or Other Support, Material Motorman, Caulkers, Diamond Drill Operators, Riggers, Cement Finishers-Underground, Welders and Burners, Shield Driver, Air Trac Operator, Shotcrete Nozzlemen and Potman.

GROUP 4: Mucking Machine Operator (Air).

LABO0657-006 06/01/2015

	Rates	Fringes
Laborers: (TUNNEL, RAISE AND SHAFT (COMPRESSED AIR) FOR HEAVY CONSTRUCTION ONLY		
Gauge Pressure Work Period (Pounds) (Hours)		
1-14 7	$ 32.45	7.31
14-18 6	$ 38.19	7.31

FOOTNOTE: On any requirement for air pressure in excess of 18 PSI, work periods and rates should be negotiated at a pre-bid conference.

LABO0657-007 08/01/2014

	Rates	Fringes
Laborers: (PAVING AND INCIDENTAL GRADING)		
Asphalt Raker & Concrete Saw Operator	$ 19.80	6.60
Asphalt Shoveler	$ 19.17	6.60
Asphalt Tammer & Concrete Shoveler	$ 19.44	6.60
Jack Hammer	$ 19.67	6.60
Laborer	$ 19.00	6.60
Sand Setter & Form Setter	$ 20.48	6.60

LABO0657-008 06/01/2015

	Rates	Fringes
LABORERS (BRICK MASONRY WORK)		
Mason Tenders	$ 16.54	7.31
Scaffold Builders, Mortarmen	$ 17.53	7.31

MARB0002-003 05/03/2015

	Rates	Fringes
Marble & Stone Mason Includes Pointing, Caulking and Cleaning of All Types of Masonry, Brick, Stone and Cement Structures	$ 35.19	15.72

MARB0003-001 05/03/2015

	Rates	Fringes
Mosaic & Terrazzo Worker, Tile Layer	$ 26.75	10.28

MARB0003-004 05/03/2015

	Rates	Fringes
Marble, Tile & Terrazzo Finisher	$ 21.96	9.35

PAIN0051-001 06/01/2014

	Rates	Fringes
Painters:		
All Industrial Work	$ 29.60	9.05

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     Bridges, Heavy Highway,
     Lead Abatement and
     Flame/Thermal Spray.........$ 33.23             9.05
     Commercial and Mold
     Remediation, Painters,
     Wallcovers and Drywall
     Finishers...................$ 24.89             9.05
     Metal Polishing and
     Refinishing.................$ 25.89             9.05
----------------------------------------------------------------
 PLAS0891-001 02/01/2014

                                  Rates          Fringes

Cement Masons:
     HEAVY CONSTRUCTION ONLY.....$ 27.15             9.61
----------------------------------------------------------------
 PLAS0891-002 06/01/2014

                                  Rates          Fringes

Cement Masons: (PAVING &
INCIDENTAL GRADING)
     Cement Masons...............$ 19.50             6.91
     Concrete Saw Operators......$ 19.50             6.91
     Form Setters................$ 19.50             6.91
----------------------------------------------------------------
 PLUM0005-001 08/01/2015

                                  Rates          Fringes

Plumbers........................$ 39.67          16.60+a

  a.  PAID HOLIDAYS:  Labor Day, Veterans' Day, Thanksgiving
  Day and the day after Thanksgiving, Christmas Day,  New
  Year's Day, Martin Luther King's Birthday, Memorial Day and
  the Fourth of July.

----------------------------------------------------------------
 PLUM0602-005 08/01/2015

                                  Rates          Fringes

Steamfitter, Refrigeration &
Air Conditioning Mechanic........$ 38.89          19.97+a

  a. PAID HOLIDAYS: New Year's Day, Martin Luther King's
  Birthday, Memorial Day, Independence Day, Labor Day,
  Veterans Day, Thanksgiving Day and the day after
  Thanksgiving and Christmas Day.

----------------------------------------------------------------
* SHEE0100-001 01/01/2016

                                  Rates          Fringes

Sheet Metal Worker..............$ 39.79          16.77+a

  a. PAID HOLIDAYS: New Year's Day, Martin Luther King's
  Birthday, Memorial Day, Independence Day, Labor Day,
  Veterans Day, Thanksgiving Day and Christmas Day

----------------------------------------------------------------
 TEAM0639-001 06/01/2015

                                  Rates          Fringes

Truck drivers: (HEAVY &
HIGHWAY CONSTRUCTION)
     Tractor trailer, Low Boy....$ 23.15           2.30+a
     Truck Drivers...............$ 21.15           2.30+a

  a. VACATION: Employees will receive one (1) week's paid
  vacation after one (1) year of service.
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TEAM0639-005 06/01/2015

	Rates	Fringes
Truck drivers: (PAVING & INCIDENTAL GRADING) All paving projects where the grading is incidental to the paving	$ 21.15	2.30

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Exhibit D
Disadvantaged Business Enterprises Program

EXHIBIT D

Disadvantaged Business Enterprises Program

1. **Policy Statement**

   It is the policy of the District Department of Transportation (the District) that Disadvantaged Business Enterprises (DBEs) as defined herein have an equal opportunity to participate in the performance of Design-Build Agreements financed in whole or in part with federal funds.

   DDOT has designated the following individual as the DBE Liaison Officer:

   Chief, Office of Civil Rights
   District Department of Transportation
   55 M Street, S.E., 3rd Floor
   Washington, DC 20003

2. **Design-Build Contractor Assurances**

   a. The Design-Build (DB) Contractor, sub-recipient, or Subcontractor shall not discriminate on the basis of race, color, age, national origin, religion, sexual orientation, or sex in the performance of the Contract. The DB Contractor and all Subcontractors, regardless of tier, shall comply with the requirements of 49 CFR Part 26 in the award, administration and performance of its Subcontracts. Failure by the DB Contractor to carry out these requirements is a material breach of the Contract, which may result in termination of the Contract or such other remedy as the District deems appropriate.

   b. The DB Contractor agrees to ensure that DBEs as defined herein have a full and equal opportunity to participate in the performance of contracts and Subcontracts financed in whole or in part with federal funds. In this regard, the DB Contractor shall take all necessary and reasonable steps in accordance with this Exhibit D to ensure that DBEs have an equal opportunity to compete for and perform Work on contracts. **The DB Contractor shall ensure that this Exhibit D is included, in its entirety, in all Subcontracts awarded on the South Capitol Street Corridor Phase I Project ("the Project").**

3. **Bank Services**

   The DB Contractor, and each of its Subcontractors, is encouraged to use the services of banks owned and controlled by socially and economically disadvantaged individuals. Such banking services, and the fees charged for services, typically will not be eligible for DBE credit toward the DBE goal on this Project. Any questions on this subject should be directed to the District.

4. **DBE Program Information**

   DBE Program information pertaining to the list of certified DBEs may be obtained by visiting: http://dbe.ddot.dc.gov and www.wmata.com or by contacting:

   District Department of Transportation Civil Rights Division
   55 M Street, SE, 3rd Floor
   Washington, DC 20003
   Office: (202) 671-0630

   It is the duty of the DB Contractor and each Subcontractor to take the steps necessary to identify its legal obligations and limitations under the DBE Program, as an element of responsibility. It is also the duty of each certified DBE firm and the DB Contractor to know, understand, and comply with their legal

obligations and limitations under the DBE Program, as a requirement of program participation. A Surety providing a bid or Contract bond will be bound by those bonds to the duties of the Surety's principal.

5. **Contract DBE Goals**

The DBE participation goal on this Project is as specified in Section 9.2.1 of the DBA. The DB Contractor shall establish individual Contract DBE goals as appropriate for each Subcontract, or consultant, Subconsultant, regular dealer, and service provider agreements in amounts to ensure that the Contract DBE goal is met or exceeded. The District Department of Transportation Office of Civil Rights (OCR) will monitor the DB Contractor's activities to make sure they are conducted in a manner consistent with the requirements of 49 CFR Part 26, the Contract requirements, and the DB Contractor's DBE Performance Plan. The OCR has the right to review all Subcontracts, consultant, Subconsultant, regular dealer, and service provider agreements for program compliance prior to or after award or selection. The District has the sole discretion to approve or deny such DBE Subcontracts, consultant, Subconsultant, regular dealer, and service provider agreements based upon their compliance with the requirements of 49 CFR Part 26.

6. **Submittal of Documents**

The following documents shall be submitted:

a. **Draft DBE Performance Plan** shall be submitted as part of the Technical Proposal. The draft DBE Performance Plan shall include completed copies of the good faith efforts that have been made by the Proposer as of the Proposal Due Date and will be evaluated as described in the ITP.

b. **Final DBE Performance Plan** shall be submitted for Approval before issuance of the Second Notice to Proceed (NTP2). The Plan is to include the DBE Utilization Form (included herein).

c. **Copy of Executed Contracts:** A copy of all executed DBE contracts shall be submitted to OCR within seven days of contract execution.

d. **Monthly Reports** shall be submitted monthly with the DB Contractor's invoice.

e. **Good faith efforts** shall be submitted as requested by the District if the monthly reports indicate that the DB Contractor is not meeting the DBE Performance Plan goal.

7. **Definitions**

For purposes hereof, the following terms shall be considered to have the following meanings:

a. **Affiliates.** Affiliates (except as otherwise provided in 13 CFR Part 21) means that concerns are affiliates of each other when, either directly or indirectly:

1) One concern controls or has the power to control the other; or
2) A third party or parties controls or has the power to control both; or
3) An identity of interest between or among parties exists such that affiliation may be found.

In determining whether affiliation exists, all appropriate factors will be considered, including common ownership, common management, and contractual relationships. Affiliates must be considered together in determining whether a concern meets small business size criteria and the statutory cap on the size of firms in the DBE program.

b. **Compliance.** The condition existing when the DB Contractor and its Subcontractors have met and implemented all of the requirements of this Exhibit D.

c. **Contract.** A contract, for purposes of this Exhibit D, means a legally binding relationship obligating a seller to furnish supplies or services (including, but not limited to, construction and professional services) and the buyer to pay for them.

d. **Disadvantaged Business Enterprise (DBE).** A for-profit small business concern, as defined pursuant

to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto, subject however to the business size standard(s) found in 13 CFR Part 121 appropriate to the type(s) of work the firm performs and 49 CFR Part 26; that is owned and controlled by one or more socially and economically disadvantaged individuals who are citizens (or lawfully admitted permanent residents) of the United States; and is certified by the Metropolitan Washington Unified Certification Program (MWUCP).

e. **DBE Joint Venture.** An association of a DBE firm and one or more other firms formed to carry out a single, for-profit business enterprise for which purpose the parties combine their property, capital, efforts, skills, and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the Work of the Contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest. DBE joint ventures must be pre-approved by the MWUCP.

f. **DBE Owned and Controlled.** A small business concern that is at least 51 percent owned by one or more socially and economically disadvantaged individuals or, in the case of a publicly owned business, at least 51 percent of the stock of which is owned by one or more socially and economically disadvantaged individuals; and whose management and daily business operations are controlled by one or more such individuals. The socially and economically disadvantaged owners shall enjoy the customary incidents of ownership and shall share in the risks and profits commensurate with their ownership interests, as demonstrated by an examination of the substance rather than form of arrangements.

g. **Noncompliance.** The condition existing when the DB Contractor or a Subcontractor has not met and implemented any one or more of the requirements of this Exhibit D.

h. **Regular Dealer.** A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles, or equipment of the general character described by the specifications and required under the Contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business, as provided in 49 CFR § 26.55, and firms are certified as such by the MWUCP.

i. **Small Business Concern.** A small business concern, with respect to firms seeking to participate as DBEs in U.S. Department of Transportation-assisted contracts, means a small business as defined pursuant to the Small Business Act, 13 CFR Part 121.

j. **Socially and Economically Disadvantaged Individuals.** Persons who are citizens or lawful permanent residents of the U.S. and who are:

1) Any individual whom the MWUCP finds to be a socially and economically disadvantaged individual on a case-by-case basis.

2) Any individual in the following groups, members of which are reputably presumed to be socially and economically disadvantaged:

i. Native Americans — persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians; or

ii. Asian-Pacific Americans — persons having origins from Japan, China, Taiwan, Korea, Burma, Vietnam, Laos, Cambodia, Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Territories of the Pacific Islands, the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong; or

iii. Hispanic Americans — persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American or other Spanish or Portuguese culture or origin, regardless of race; or

iv. Black Americans — persons having origins in any of the Black racial groups of Africa; or

v. Subcontinent Asian Americans — persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka; or

vi. Any additional groups whose members are designated as socially and economically disadvantaged by the Small Business Administration, at such times as the Small Business Administration designation becomes effective; or

vii. Women.

k. **Subcontractor.** A subcontracting arrangement is generally considered to exist when a person or firm assumes an obligation to perform a part of the Contract Work and the following conditions are present:

1) The person or firm performing the Work is particularly experienced and equipped for such Work.

2) Compensation is related to the amount of Work accomplished rather than being on an hourly basis.

3) Choice of work methods, except as restricted by the specifications, and the furnishing and controlling of labor and equipment are exercised by the Subcontractor with only general supervision being executed by the prime DB Contractor.

4) Personnel involved in the operation are under the direct supervision of the Subcontractor and are included on the Subcontractor's payroll.

All conditions involved shall be considered and no one condition alone will normally determine whether a Subcontract actually exists. In all cases, a DBE Subcontractor must be an independent organization, and the ownership and control by the socially and economically disadvantaged individual(s) must be real and continuing. The firm will not be considered independent if the prime DB Contractor or another Subcontractor or Supplier provides significant operating and management support for the DBE firm.

8. **Draft DBE Performance Plan**

The DBE Performance Plan shall set forth the DB Contractor's plan to meet the DBE participation goals and shall provide for an effective method of achieving those goals and reporting to the District regarding DBE participation. The DBE Performance Plan shall also set forth a proactive outreach program for DBE firms. The minimum requirements are as follows:

a. **DBE Goals**

The plan shall set forth the DB Contractor's plan to meet the Project's goals for DBE participation throughout the design-build phase of the Contract. It shall include the following information:

1) Names and addresses of DBE firms,

2) The estimated dollar amount of DBE Subcontracts to be awarded and paid for during each DB Contractor's fiscal year, separately for design and construction; and

3) The areas of anticipated Work to be subcontracted to DBE firms during each DB Contractor's fiscal year.

The plan shall provide a detailed description of the scopes of Work/services anticipated throughout the life of the Project and for a uniform distribution of DBE Subcontracts and Subconsultant agreements throughout the DB phase. DBE Subcontracts shall be distributed among the work classifications on the basis of the DB Contractor's needs and the availability of DBE firms in the various classifications.

b. **Good Faith Efforts**

The DB Contractor shall submit with its Final Proposal and Price Allocation the following documentation of its good faith efforts:

1) Bidder's List, providing information on all DBE and non-DBE firms that submitted a bid/proposal for the Project, and the proposed firms to be used on the Project as DB Contractors, Subcontractors, consultants, Subconsultants, Suppliers or service providers, including:

   i. The firm's name
   ii. The firm's address
   iii. The firm's status as a DBE or non-DBE
   iv. The age of the firm
   v. The annual gross receipts of the firm
   vi. The type of work/work category the firm proposed to perform

2) Good faith efforts that the DB Contractor has made to provide equal opportunities to DBE firms as of the Proposal Due Date, including a certification on behalf of the DB Contractor and its Subcontractors and Subconsultants that at the time of the Proposal Due Date the DB Contractor has made a good faith effort to ensure that DBEs have an equal opportunity to compete for and perform on the Contract.

The DB Contractor's good faith efforts information and documentation must indicate the Proposer has made a good faith effort as of the Proposal Due Date to offer DBE firms an equal opportunity to participate in the performance of the Contract as required by the Contract Documents.

The information and documentation regarding the DB Contractor's DBE good faith efforts includes the information specified below as of the Proposal Due Date. Good faith documentation is not required if the DB Contractor has met the DBE goal for this Contract at the time of the Proposal Due Date.

i. The names and dates of advertisement of each newspaper, trade paper, and minority-focus paper in which the DB Contractor placed requests for DBE participation (the actual advertisement and the number of times it was run shall be included).

ii. Attendance at pre-bid meetings scheduled to inform DBEs of the Project.

iii. The names and dates of written notices to certified DBEs solicited by direct mail or other means for this Project, and the methods used to follow up on these solicitations.

iv. Items of Work for which the DB Contractor requested bids, proposals, or materials to be supplied by DBEs and the information furnished to DBEs, such as plans, specifications and requirements for the Work and any breakdowns of Work into economically feasible units to facilitate DBE participation.

v. Negotiation with interested DBEs.

vi. The names of DBEs that submitted bids or proposals for any of the Work indicated above that were not accepted by the DB Contractor; a summary the DB Contractor's discussions and/or negotiations with them; the name of the DB Contractor, Subcontractor, consultant, Subconsultant, Supplier, or service provider that was selected for the Work and the reasons why. If the reason for the DBE rejection is price, state the rejected DBE's price bid/proposal and that of the selected DB Contractor, Subcontractor, consultant, Subconsultant, Supplier, or service provider.

vii. A description of the assistance the DB Contractor extended to rejected DBEs identified above to remedy the bid deficiencies.

viii. Efforts to assist DBEs in obtaining bonding, lines of credit, insurance.

ix. Effective use of services of available minority/women community organizations, contractor

groups and local/state/federal minority/women business assistance offices.

x. Any additional documentation that demonstrates the DB Contractor made good faith efforts, including, but not limited to, the DB Contractor's efforts to encourage its design team consultants, Subcontractors, Subconsultants, and service providers to solicit DBE participation in their agreements.

During the term of the Contract, the DB Contractor shall continue to make good faith efforts to ensure that DBEs have maximum opportunity to successfully bid and perform on the Contract and that the DB Contractor meets its DBE goal. These efforts shall include, but not be limited to, the following:

i. Negotiating in good faith to secure a Contract, Subcontract, consultant, Subconsultant, supply or service provider agreement with DBEs whether or not committed to prior to Contract award.

ii. Continuing to provide assistance to DBE Contractors, Subcontractors, consultants, Subconsultants, Suppliers, or service providers in obtaining bonding, lines of credit, etc., if required by the Contract.

iii. Notifying a DBE in writing of any potential problem and attempting to resolve the problem before formally requesting the District's statement of no objection to substitute the DBE.

iv. Timely payment of all monies due and owing to DBE consultants, Subcontractors, consultants, Subconsultants, Suppliers, and service providers.

v. Timely submittal of complete and accurate DBE payment reports in accordance with the reporting requirements specified in the Contract herein.

vi. Timely submittal of good faith efforts information and documentation to the District throughout the Contract, as contracts are let and new vendors, Subcontractors, Subconsultants, Suppliers, and service providers are selected.

vii. Informing the District in writing in a timely manner of any problems anticipated in attaining the DBE participation goals for the Project.

If the DB Contractor or its contractor, Subcontractor, consultant, Subconsultant, Supplier, or service provider requests a substitution of a DBE firm, the DB Contractor or its consultant, Subcontractor, consultant, Subconsultant, Supplier, or service provider must exert good faith efforts to replace the DBE firm with another DBE firm and must include all documentation to substantiate its good faith efforts, subject to the District's statement of no objection.

c. **Civil Rights Compliance Manager**

The DB Contractor shall provide for at least an employee or Subcontractor, a Civil Rights Compliance Manager, who has a bachelor's degree in business administration, public administration or related field, and is knowledgeable and has at least 4 years of experience in the areas of civil rights compliance, including Contract compliance, DBE administration; DBE eligibility and certification issues; on-the-job training administration; or who has other substantially equal qualifications and will be approved by DDOT OCR. The Civil Rights Compliance Manager shall be familiar with the DBE community in the area to specifically communicate employment opportunities, including on-the-job training and apprenticeships opportunities; consulting opportunities, contracting opportunities, and materials supply opportunities. Additionally, the Civil Rights Compliance Manager will be responsible for reporting on achievement of the DBE Goals and designing and implementing business development and supportive services activities for all tiers.

d. **DBE Outreach Program**

The DB Contractor shall describe in detail the processes it will use to achieve the following:

1) Develop a proactive outreach program for DBEs.
2) Assist DBEs in identifying subcontracting opportunities on the Project, and assist subcontractors in identifying concerns for their specific subcontracting needs.
3) Provide for financial assistance for DBEs, in cooperation with any existing District programs.
4) Provide for training for DBEs, and coordinate with the District on training matters.
5) Provide technical business assistance for DBEs.
6) Work cooperatively with the District, including the obligation to forward to the District any complaints received regarding the DB Contractor's DBE program.

9. **Final DBE Performance Plan**

The final DBE Performance Plan shall contain, at a minimum, the following elements.

a. **DBE Goals.** As described in Section 5 and 8 above.
b. **Civil Rights Compliance Manager.** As described in Section 8 above.
c. **DBE Outreach Program.** As described in Section 8 above.
d. **Monthly DBE Progress Reports.**

The DB Contractor shall keep records regarding the progress of DBE participation. The DB Contractor shall provide DBE progress reports to the District simultaneously with its monthly invoice, *(and at more frequent intervals if requested by the District),* including the following information for each DBE Subcontract separately for design and construction:

1) The name of the DBE Subcontractor
2) Dollar amount of the Subcontract
3) Quantities (or other measure of performance) completed as of the month just ended
4) Dollar amount paid under the Subcontract as of the end of the month (separately stating the amount paid during the month in question with a cumulative total for the month and all prior periods)
5) Dollar amount retained, if any, as of the end of the month
6) Certification of release of retainage, if any, to Subcontractors within a month after the Subcontractor's satisfactory completion of the work
7) Certification of payment to Subcontractors within seven (7) Days of DB Contractor's receipt of payment from the District in accordance with the Prompt Payment Act, 31 USC Section 3901, et seq. Any delay or postponement of payment from the above-referenced time frame may occur only for good cause following written approval of the recipient. This clause applies to both DBE and non-DBE Subcontractors.
8) Dollar amount of outstanding invoices and of uncompleted Work remaining on the Subcontract
9) Expected completion date of Subcontract
10) Any performance problems with DBE Subcontractors and how the problems were resolved

The report shall also include a narrative summary stating whether the DB Contractor is on target with respect to its DBE goals, whether it has exceeded its goals (and stating the amount of the excess), or whether it is behind (and stating the amount of the deficit).

If a monthly report shows that the DB Contractor is not on track to achieve the DBE goals stated in the DBE Performance Plan, the DB Contractor shall provide with the report a written plan to remedy the deficit to be Approved by the District. The DB Contractor shall submit a revised plan within 10

Business days if the plan is not Approved. The DB Contractor shall also provide with the report a certification in the form of an affidavit, documenting what good faith efforts it undertook to meet the goals and what good faith efforts it will make in the future to do so. Specific documentary evidence of the DB Contractor's good faith efforts must accompany such certificate.

e. **DBE Subcontracts**

Whenever a DBE Subcontract is signed, the DB Contractor shall promptly provide the District with the following information regarding the Subcontract:

1) The name and business address of the Subcontractor
2) The total dollar amount of the Subcontract
3) The specific Work items covered by the Subcontract
4) The amount of the Subcontract to be credited to design or construction
5) The estimated quantities of each Work item
6) Individual unit prices (if applicable)
7) Cost-loaded schedule of participation by the DBE firm

f. **Joint Checks**

A joint check is defined as a check that has been issued by a prime contractor to a DBE Subcontractor **and** to a material supplier or another third party for items or services to be incorporated into a project. While the text of the DBE rules does not mention the use of joint checks, DDOT-OCR realizes that in accordance with industry practice, there may be times when the use of a joint checks is appropriate. While DBE regulation does not prohibit the use of joint checks, it should be noted that joint check arrangements must be approved by the DDOT OCR prior to such arrangement.

In consideration for approving the use of joint checks, DDOT OCR reviews the request through the lens of three (3) criteria based on the DBE regulations: (1) the DBE firms' independence (26.71)(b); (2) whether the firm is performing a commercially useful function (26.55(c)(1)); and (3) the DBE firms' status as a dealer or a broker which determines the counting of materials and supplies and whether or not the DBE will be responsible for the installation of the materials and supplies or the prime contractor or another third party (26.55(e)(3)).

g. **Joint Check Approval Process**

If the DB Contractor and DBE firm wishes to use a joint check arrangement, a request must be submitted in writing using the Joint Check Request form prior to starting Work. Prior Approval must be obtained from DDOT Office of Civil Rights. Forward the Joint Check Request form to the Office of Civil Rights. This request must include and adhere to the following:

The actual document requesting the arrangement, i.e., the original request presented from the DBE vendor, or DBE.

The Joint Check Request form will be completed and maintained throughout the joint check arrangement. Please be advised of the following:

1) A written joint check agreement among the parties (including the Suppliers concerned) should provide full and prompt disclosure of the expected use of joint checks. The agreement should contain all information concerning the parties' obligations and consequences or remedies if the agreement is not fulfilled or a breach occurs.

2) Prime contractors and DBE Subcontractors must avoid exclusive relationships concerning the use of joint checks. If a prime contractor makes joint checks available to one DBE Subcontractor, the service should be made available to all Subcontractors (DBEs and non-DBEs).

3) Prime contractors and DBE Subcontractors that make use of joint checks should limit the use to

the procurement of materials needed for a particular purpose at a particular time. Long-term or open-ended joint checking arrangements may suggest a lack of independence for the DBE involved and are a basis for further scrutiny by DDOT.

4) DDOT reserves the right to establish reasonable durational limits on joint checking arrangements that are subject to periodic review and renewal to ensure that the arrangement is not operating in a way that compromises the independence of the DBE.

5) DBE contractor must retain final decision-making responsibility concerning the procurement of materials and supplies, even when joint checks are involved. The relationship between the DBE and Supplier should be established independently and without interference by the prime contractor. The rights of parties to a joint check arrangement to terminate the arrangement should be consistent: for example, if the prime contractor has the right to terminate the arrangement unilaterally, a DBE Subcontractor shall have the same right.

6) Joint checks issued by the prime contractor must be delivered or mailed to the DBE for presentation and payment to the DBE's Suppliers. The prime contractor should not make payment directly to the Supplier.

h. **Good Faith Efforts**

If the DB Contractor's monthly reports indicate that the DBE goal is not on track to being met, the DB Contractor shall also submit good faith effort documentation on an annual basis from the date of Approval of its Final DBE Performance Plan.

1) **Additional DBE Requirements**

Developer is encouraged to make additional efforts to solicit and recruit minority and women-owned businesses and small businesses to participate in the Project.

As part of the Economic Empowerment Program to prepare businesses for success, the District Department of Transportation (DDOT) has partnered with the USDOT Office of Small and Disadvantaged Business Utilization (OSDBU) to offer a *"Transportation Bonding and Capacity Building Academy (TBCBA)."* Becoming bondable is a challenge for many emerging contractors, and this customized program is designed to support CEOs who illustrate the ability and desire to prepare their firms to become "surety ready" and are in pursuit of subcontracting opportunities on the South Capitol Street Corridor Project.

How one evaluates and manages risk on construction projects and makes fiscally responsible decisions to ensure timely project completion is key to success. By having the emerging contractors work one-on-one with bond producers, underwriters, and other surety professionals as part of the program, these contractors learn the necessary steps to manage and grow sustainable businesses, mitigate risks, develop a trust-based relationship with a licensed surety, become bondable, and have the increased ability to bid on procurement opportunities. Ultimately, contractors realize bonding is a tool that can support economic empowerment, sustainability, job creation and legacy wealth.

The intent of the TBCBA, a contractor development program, primarily is to provide training and technical resources to a pool of local emerging contractors who perform or are qualified to transfer into heavy civil construction. In addition, contractors will be provided assistance and access to financial institutions in an effort to help them acquire working capital. As part of the TBCBA, participants will gain a competitive edge on how to compete for procurement opportunities on alternative/innovative delivery method projects and understand the tools of financial management and access to capital. Participants in this program will work intimately with bond producers, underwriters, banks, and local technical resource providers.

2) **Contractor's Obligation**

As part of the DB Contractor's obligation, they will continue to make good faith efforts to ensure that DBEs committed to in the bid have maximum opportunity to successfully perform in the Contract.

These efforts shall include, but not be limited to, the following:

i. Negotiating in good faith to attempt to finalize and execute a Subcontract agreement with the DBEs committed to in the Bid.

ii. Continuing to provide assistance to DBE Subcontractors or Suppliers in obtaining bonding, lines of credit, etc., if required by the contractor.

iii. Notifying a DBE in writing of any potential problem and attempting to resolve the problem prior to formally requesting permission from DDOT to terminate the DBE contract.

Upon award and during the term of the Contract/purchase order, DDOT/USDOT would like to encourage the DB Contractor to engage in the TBCBA as a stakeholder. As a committed stakeholder, the DB Contractor will receive the following benefits:

i. Ability to use the program as an option to conducting outreach measures to meet small/disadvantaged business goals.

ii. Partnership and cross communication with both federal and state transportation agencies (DDOT/USDOT).

iii. Possible incentive offered for contracting TBCBA participants on projects.

iv. Needs of program participants evaluated, monitored and remedied by the DDOT/USDOT.

v. Success of the program participants tracked and reported by the DDOT/USDOT.

vi. Increase the pool of viable DBE contractors available in the local market.

vii. Connecting technical resources to transportation projects.

viii. Prequalification of contractors.

ix. Marketing benefits for the Prime.

10. **Counting DBE Participation Toward Goals**

The District will recognize and grant DBE credit for work subcontracted and performed by DBE Subcontractors <u>ONLY</u> in the types of work for which DBE certification has been granted. It is recommended that all Proposers contact the District if they need direction and guidance, or if they have any questions.

The DB Contractor may count toward the DBE goals a portion of the total dollar value of the contract with a DBE joint venture equal to the percentage of the ownership and control of the DBE partner in the joint venture and commensurate with the Work performed by the DBE firm with its own equipment and resources.

The DB Contractor may count toward the DBE goals only expenditures to a DBE that performs a commercially useful function in the work pursuant to a contract, as defined in 49 CFR § 26.55. If the District determines, in its sole discretion, that the firm does not perform a commercially useful function in the transaction, no credit toward goals shall be granted. The DB Contractor's Civil Rights Compliance Manager shall certify to the District that each DBE firm counted for participation in calculating availability percentages serves a commercially useful function, which includes the requirements set forth in 49 CFR § 26.55. Upon request by the District, the DB Contractor shall provide information to enable the District to verify such determination.

The DB Contractor may count toward the DBE goals expenditures to all tiers of DBE Subcontracts.

The DB Contractor may count toward the Contract goal expenditures for materials and supplies obtained from DBE Suppliers and manufacturers, provided that the DBE assumes the actual and contractual responsibility for the provision of the materials and supplies.

a. DBE Manufacturers. The DB Contractor may count the entire expenditure to a DBE manufacturer (a Supplier that produces goods from raw materials or substantially alters them before resale).

b. Other Suppliers. The DB Contractor may count 60 percent of its expenditure to DBE Suppliers who are not manufacturers, provided the DBE Supplier is certified by the District as a regular dealer in the product involved and performs a commercially useful function in the supply process.

   A regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the Contract are bought, kept in stock, and regularly sold to the public in the usual course of business. The firm must engage in, as its principal business, and in its own name, the purchase and sale of the products in question.

   A Supplier of bulk goods may qualify as a regular dealer if the Supplier either maintains an inventory or owns or operates distribution equipment. With respect to the distribution equipment (such as a fleet of trucks), the term "or operates" is intended to cover a situation in which the Supplier leases the equipment on a regular basis for its entire business. It is not intended to cover trucks owned or leased by another party (such as a prime DB Contractor). It also does not cover leases of trucks on an ad hoc basis for a specific job.

c. Service Providers/Brokers. A business that simply transfers title of a product from manufacturer to ultimate purchaser or a firm that puts a product into a container for delivery would not be considered a regular dealer. The DB Contractor would not receive credit based on a percentage of the cost of the product for working with such firms.

   However, fees received by a service provider/broker may be counted toward goals. For example, use of a minority sales representative or distributor for a steel company, if performing a commercially useful function, will entitle the DB Contractor receiving the steel to count only the fee paid to the representative or distributor toward its Contract goal. No portion of the steel would count toward the goal.

   If a DBE trucking company picks up a product from a manufacturer or regular dealer and delivers the product to the DB Contractor, the commercially useful function the trucking company is performing is not that of a Supplier, but simply that of a transporter of goods. Unless the trucking company is itself the manufacturer of or a regular dealer in the product, credit cannot be given based on a percentage of the cost of the product. Rather, credit would be allowed for the cost of the transportation service only.

   The DB Contractor can only count DBEs that are certified by the MWUCP at the time the Subcontractor begins to perform Work on the Project. The DB Contractor may count toward the Contract goal expenditures to a DBE Subcontractor if, during the term of the original Subcontract or during the term of a Change Order extending the original Contract for Work within the scope of the original Subcontract, the DBE graduates from the DBE program.

   The DB Contractor shall maintain records of payments to DBE Subcontractors, listing all DBEs that worked under this Contract.

11. **Design-Build Contractor's Responsibility**

It is the DB Contractor's responsibility to evaluate the level of professional competence and financial responsibility of any proposed DBE Subcontractor. The DB Contractor shall ascertain that the proposed

DBE Subcontractor is particularly experienced and equipped for such Work. It is also the DB Contractor's responsibility to ensure that if a DBE firm is subcontracting Work to a non-DBE firm, that only the Work being performed by the DBE firm with its own equipment and resources be submitted for Approval to be counted towards the Project DBE goal.

12. **Commercially Useful Function Review**

The contractor is responsible for ensuring that DBEs working on the Project perform a commercially useful function. The contractor shall receive credit toward meeting the assigned DBE goal and payment for DBE commercially useful function performed work only.

OCR conducts commercially useful function reviews on its DOT-assisted projects. The purpose of the commercially useful function review is to determine compliance with the commercially useful function requirements of 49 CFR Part 26.55. A commercially useful function must be performed for each DBE on a federally assisted project and should be conducted when the DBE is on-site and working. A commercially useful function must be performed throughout the course of a project.

The commercially useful function review/audit will be performed by DDOT OCR staff, its designee, DDOT project engineer or by the project construction management team. Commercially useful function reviews will be performed on a routine basis and under the following circumstances: whenever there is any indication that a DBE may not be performing a commercially useful function; whenever a DBE performs work which varies from the bid items indicated in the contractor's commitment forms; whenever a change in the performance of the DBE occurs; whenever a substitution of work or a change order occurs which affects the Work to be accomplished by a DBE; and whenever a replacement or substitution of a DBE occurs.

13. **Changes and Substitutions**

Any change in previously identified DBE firms, or any reduction in the scope of Work to be performed by a DBE firm, or any change in or variance from the approved DBE Performance Plan, shall be in accordance with the requirements of 49 CFR, Part 26.53 and will require the prior written Approval of DDOT's DBE Liaison Officer, Lisa Gregory, Esq.

The DB Contractor may propose a substitution of a DBE Subcontractor who is unable to perform successfully. However, substitutions of any DBE Subcontractor(s), reductions in scope for DBE Subcontracts, substitution of Work item(s), or decreases of total dollar amount(s) committed to DBE Subcontracts will not be allowed without prior submission of written justification to the District and Approval of the District.

The DB Contractor shall make good faith efforts to replace any DBE Subcontractor who fails to perform its obligations with another DBE.

Unauthorized substitutions and/or under-runs in total dollar amounts may result in a withholding of part or all of progress payments as described below in Paragraph 13.

14. **Modified Waiver Process For DBE Goal**

As a part of this RFP, the DB Contractor represented that it would, at a minimum, achieve the goal of securing the services of DBE consultants, Subcontractors and Suppliers for the DBE Goal. DDOT recognizes, however, that circumstances could arise where the proposed DBE consultant, Subcontractor or Supplier is unable to perform the agreed-upon Work. Therefore, the DDOT permit a waiver to be submitted throughout the term of the Contract and will follow the below process in reviewing and evaluating waivers:

The DB Contractor shall attempt to replace a non-performing DBE with another certified DBE for the same/remaining Work to be performed by the non-performing DBE or an equivalent scope of Work. The DB Contractor must document the process, progress and efforts being made in securing the services of

DBE Subcontractors. In the event the DB Contractor is unable to meet the DBE Goal placed on this Project, a request for a waiver of all or part of the goal may be made to the Office of Contracting and Procurement with a copy to the OCR. The written request must indicate and satisfactorily demonstrate that good faith efforts were made to meet the goal and be sent to:

Lisa Gregory, Esq., Chief
Office of Civil Rights
District Department of Transportation
55 M Street, SE, 3rd Floor
Washington, DC 20003

There will be no extension of time for the Project granted if the DB Contractor wishes to avail himself of this process. If an item of Work subcontracted to a DBE firm is non-performed by DDOT,the DB Contractor may request a waiver for the portion of Work excluded. If the DB Contractor or DDOT proposes an alternate scope of Work in place of the Work not being performed, then the DB Contractor must submit for review and approval documentation of the good faith efforts utilized to replace the participation for which the waiver was being requested with the participation of the same and/or alternate DBEs. The efforts made by the DB Contractor are reviewable by DDOT.

If requesting a partial waiver, the DB Consultant must provide the following for OCR review and Approval:

a. The dollar value and percentage of the applicable DBE participation goal.

b. The dollar value and percentage of the partial waiver request.

c. Executed copy of the Subcontract or purchase order between the DB Contractor /lower tier Subcontractor and the DBE initially projected to meet the Contract specific goal, if any.

d. Copies of all dated communications/solicitations, fax confirmations, personal contact sheets or meeting notes, negotiation summaries and applicable follow-up.

e. Copies of all written communications and/or fax/e-mail confirmations that the DB Contractor or lower tier bidders solicited and provided DBEs with adequate information about the plans, specifications and requirements of the Contract or Subcontract opportunities in a timely manner to assist them in responding to the DB Contractor or their lower tier Subcontractors solicitation efforts.

f. Copy of dated written communication, fax or electronic e-mail communication for each non-competitive DBE quote that includes the dollar value of each item of Work for which the DBE provided a quote. Copy of any written communications evidencing the unavailability of DBEs or their general unwillingness to provide a quote for the Project/Subcontract opportunity.

g. Documentation of all negotiations with DBEs and reasons for rejecting their bids.

h. Documentation of good faith efforts to meet the DBE goal by looking beyond the specialty items typically subcontracted or even items of Work typically performed by the prime, as a way of meeting the DBE goal for the Project or applicable Subcontract goal, regardless of the tier.

i. Documentation of efforts to utilize DDOT's DBE Supportive Services staff and/or Outreach Consultant or any minority or female business organizations or associations in an effort to meet the DBE participation goals.

j. Such other factors the DB Contractor or its lower tier bidder/Subcontractor contends warrants consideration in the waiver determination process based on the unique facts and circumstances.

The Chief of OCR will review the submitted documentation and issue a written determination within ten (10) Business Days. The DB Contractor may request administrative reconsideration within fourteen (14)

Days of being notified that the request for a waiver or that documentation of good faith efforts was unsatisfactory.

15. **Contract Sanctions**

Noncompliance with any of the provisions of the Contract Documents is a material breach of this Contract. Noncompliance shall result in one or more of the following remedies:

a. If the DB Contractor fails to provide documentation required by this Exhibit D, the District shall have the discretion to withhold all or part of the monthly progress payments until such time that the DB Contractor provides the required documentation. The amount withheld shall be within the sole discretion of the District.

b. If the DB Contractor fails to comply with its DBE Performance Plan or with the requirements of this Exhibit D in any other manner, the District shall have the discretion to withhold all or part of the monthly progress payments until such time that the DB Contractor comes into compliance. The amount withheld shall be within the discretion of the District.

Should the DB Contractor fails to comply with the Contract requirements, fails to demonstrate good faith effort, and/or chooses not to request a waiver, DDOT may impose any of the following sanctions:

a. Issuance of a letter of reprimand;

b. Withhold payments as detailed above; and/or,

c. Utilize any and all other remedies available by law including suspension, revocation, and/or debarment.

16. **DBE Contract Compliance System**

This contract is subject to contract compliance tracking, and the prime contractor and any subcontractors are required to provide any noted and/ or requested contract compliance-related data electronically in the Contract Compliance System. The prime contractor and all subcontractors are responsible for responding by any noted response date or due date to any instructions or request for information, and to check the Contract Compliance System on a regular basis to manage contact information and contract records. The prime contractor is responsible for ensuring all subcontractors have completed all requested items and that their contact information is accurate and up-to-date. District DOT's Office of Civil Rights may require additional information related to the contract to be provided electronically through the system at any time before, during, or after contract award.

Information related to contractor access of the system will be provided to a designated point of contact with each contractor upon award of the contract. The Contract Compliance System is web-based and can be accessed at the following Internet address: https://ddot.dbesystem.com.

Your firm MUST log into the system to review and update the required information within 10 business days of receiving "NTP" from DDOT. Please be advised that as the Prime Vendor, you are responsible for ensuring that all required information is entered, that it is accurate, and that your subcontractors verify payments received. Failure to cooperate with the Office of Civil Rights may result in breach of contract.

The Prime must upload and report the following items:

a. Upload all signed agreements between the Prime and DBE firms well as the non-DBE subcontracts on the Contract Compliance System.

b. Prime must report all payments to DBE firms and all subcontractors to the Contract Compliance System by the 15th of the month for the previous month activity under this project even if no activity for a month.

c. A completed DDOT DBE Contractor Payment form and a copy of all cancelled check payments to DBE firms and all subcontractors should be Upload to Contract Compliance System by the 15th of the month for the previous month activity. A form MUST be completed monthly even if no activity for a month. Failure to do so shall be grounds for appropriate action against the party involved (e.g.: findings of non-responsibility for future contracts and/or suspension and debarment).

This online system allows vendors to actively support our efforts to achieve diversity, participation, maintain accurate contact information, and report subcontractor payment details. As a Prime Vendor, you are required to log in to review and update certain specific information regarding payments to your subcontractors, and all contact information (name, address, phone, fax, email) for your firm and the subcontractors. You can also identify who in your firm should be our main contact for each of your contracts. To begin, follow the steps below:

a. Visit https://ddot.dbesystem.com. Follow the on-screen directions to look up your account and then access the secure system. Contact Customer Support via any of the system links if you have any questions while attempting to access your account.

a. Review and update all contact and contract information as necessary for your firm and subcontractors.

b. Ask your subcontractors to log in to review and confirm amount reported for each time period.

Each month from contract award until close out you are also required to log-in and report payment information. Payment information is reported by completing the pending Contract Audits which can be accessed from your Dashboard by clicking on "Contract Audits". For each monthly audit, click on "Incomplete" in the Status column and report the amounts paid to each subcontractor during the month. You will also report the amount paid to you as the prime for the time period.

Repeat these steps for any additional incomplete audits on this or additional contracts that are assigned to you in the system.

You may also register for upcoming training sessions to learn more about system functionality, as well as classes that focus specifically on reporting payment to subcontractors. To register, click on "Training Classes" under Help & Tools from any screen in the system and click RSVP next to the "Contract Compliance Reporting - Vendor Training." You can also access the training classes without logging in here https://ddot.diversitycompliance.com/events.asp. Additional information is available by clicking on the "Information for Vendors" link on the right-hand side of the home page under System Links.

There is no cost to Contractors for this service. You may add as many users to your account as necessary to report and view contract compliance data (please do not share accounts between people). If you require technical assistance during the process, please use the online support form or email DDOT@dbesystem.com.

Please contact the Office of Civil Rights for any of the following:

a. If a DBE firm requires additional technical assistance in order to complete satisfactory performance on this project.

b. Change Orders that affect the contract amount affects the DBE Goal. Please contact OCR if there are any change orders processed for this contract.

c. If need arises that a joint check arrangement may be executed. You are required to contact OCR prior to execution of any joint check arrangement. A joint check arrangement must be approved by OCR!

OFFICE OF CIVIL RIGHTS—Form T

DBE UTILIZATION FORM

CONTRACT/BID NO:		DBE GOAL:	
PROJECT NAME:		CONTRACT TYPE:	
CONTRACT VALUE:		DBE GOAL VALUE:	
DBE Goal Value To Date:		DBE % To Date:	

Please check one: Original Plan ☐ Modified Plan ☐

I/We, (THE CONTRACTOR) _____ hereby submit the following proposed plan for DBE participation,

in

keeping with requirements set forth in 49 CFR 26.53. I/We understand and agree that the District Department of Transportation's Office of Civil Rights will review the below information and issue a decision as to approval or denial.

DBE PLAN			
Name & Address of DBE	Description of Work to be completed by DBE SUPPLIES: CALCULATE at 60% of TOTAL	Estimated Dollar Value of DBE Participation	% of DBE Participation
TOTALS TO DATE: $			%

Failure to comply with these directives may prevent/delay the issuance of the NTP for this project.

The undersigned hereby further assures that the information included herein is true and correct, and that the DBE firm(s) listed herein have agreed to perform a commercially useful function stated in the work description noted for each firm. The undersigned further understands that

no changes to the DBE Plan may be made without prior approval from the DDOT Office of Civil Rights.

Contractor Representative

Print Name of Authorized

_____

DATE:

Signature of Authorized Representative

☐ PROVISIONAL APPROVAL: ☐ DENIED

Final Approval to be granted upon receipt of copies of all Contracts for the above provisionally approved DBEs. Submit documents to the DDOT OCR/Representative within sixty (60) days from the date of Award. If not, Task Order/Contract referenced above may be rescinded.

☐ FINAL APPROVAL: ☐ DENIED:

Final Approval Denied: Contacted OCP to rescind Task Order/Contract:_____
COMMENT:_____

OFFICE OF CIVIL RIGHTS

DBE Utilization Form Instructions

For more information, please contact the DDOT's Office of Civil Rights.

Contract/Bid No: Enter the Project Number or Solicitation Number

DBE Goal: Enter the DBE Goal noted in the Contract/Solicitation documents

Project Name: Enter the Project Name as it appears on the Contract/Solicitation documents

Contract Type: Enter the Contract Type, i.e., Construction, Design, Construction Management, etc.

Contract Value: Contract Award Amount

DBE Goal Value: Enter the value of the Contract Award Amount multiplied by DBE Goal Percentage

Original or Modified Plan: Indicate whether this is an original DBE Plan or a request for modification due to change in circumstances or as a result of denial of an original plan.

DBE PLAN

Name & Address of DBE: Enter the DBE Name and Address

Description of Work to be completed by DBE: Enter a condensed version of the scope of work to be performed by the DBE. Specify type of work and the percentage of the type of work to be performed by the DBE, i.e., Type: Trucking, Supplies, Material, Labor or a combination thereof. **Please be reminded that if DBE subcontractor's scope is to furnish Supplies/Material without installation, cost must be calculated at 60% of the total contract value to be applied towards DBE Goal!**

Estimated Dollar Value of DBE Participation: Enter the Estimated Contract Value to be awarded to the DBE for the work to be performed. This Contract Value should appear on the Letter of Intent. If the DBE is a supplier, indicate the amount of expenditures allocated for services separate from supplies.

% of DBE Participation: Divide the Contract Value noted on the Letter of Intent by the Contract Value awarded by DDOT to determine the % of DBE participation for each DBE listed.

Totals: Enter the total of the "Estimated Dollar Value of DBE Participation" and "% of DBE Participation" columns.

Print the Contractor Name **Print the Authorized Representative**

Name Signature of the Authorized Representative **Date form was signed**

To be granted "FINAL APPROVAL," submit a copy of the DBE Certification Letter, DBE Quote to the Contractor and/or the Letter of Intent for all DBE's listed on the DBE Plan within 60 days from Award Date.

For questions or to forward the completed DBE Utilization Form and all required documents for processing, please contact by e-mail: Mohammed.Kabir@dc.gov

Exhibit E
Key Personnel

EXHIBIT E

Key Personnel

Form B from the Proposal Documents is to be included with the execution copy.

PERSONNEL WORK ASSIGNMENT FORM—Form E

Name of Proposer: _____

_____

Key Personnel Assignment	Name of Individual Assigned
DB Project Manager	
DB Deputy Project Manager	
Design Manager	
Lead Urban Designer	
Lead Bridge Architect	
Lead Structures Engineer	
Lead Roadway Engineer	
Lead Geotechnical Engineer	
Lead Stormwater Engineer	
Lead ITS/Traffic Engineer	
Construction Manager	
Construction QA Manager	
Construction QC Manager	
Environmental Manager	
Maintenance of Traffic Manager	

Exhibit F
Performance Bond

Exhibit F

Government of the District of Columbia

PERFORMANCE BOND **(CONSTRUCTION)** (See Instructions on reverse)	Date Bond Executed (Must be same or later than date of Contract)

PRINCIPAL(Legal Name and Address)	TYPE OF ORGANIZATION ("x")	
	☐ INDIVIDUAL	☐ PARTNERSHIP
	☐ JOINT VENTURE	☐ CORPORATION
	STATE OF INCORPORATION	

SURETY (IES) (Name (s) and Address (es)	**PENAL SUM OF BOND**			
	MILLION(S)	THOUSAND(S)	HUNDRED(S)	CENTS
	CONTRACT DATE		CONTRACT NUMBER	

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety(ies) hereto are firmly bound to the District of Columbia Government, a municipal corporation, hereinafter called the District, In the above penal sum for the payment of which we bind ourselves, our heirs, executors, and successors, jointly and severally; Provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly" and "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into the Contract identified above.

NOW THEREFORE, if the Principal shall well and truly perform and fulfill all undertakings, covenants, terms and conditions, and agreements of the Contract during the original term of the Contract and any extension thereof that may be granted by the District with or without notice to the Surety, and during the life of guaranty required under the Contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any duly authorized modifications of the Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, and shall save harmless and indemnify the District from any and all claims, delays, suits, costs, charges, damages, counsel fees, judgments and decrees to which the District may be subjected at any time on account of any infringement by the Principal of letters, patents, or copyrights, unless otherwise specifically stipulated in the Contract or on account of any injury to persons or damage to property or premises that occur as a result of any act or omission of the Principal in connection with the prosecution of the work under the Contract and shall pay the same, then the above obligation shall be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this performance bond and have affixed their seals on the date set forth above.

PRINCIPAL		
1. Signature (Seal)	1. Attest	Corporate Seal
Name & Title (typed)	Name & Title (typed)	
2. Signature (Seal)	2. Attest	Corporate Seal
Name & Title (typed)	Name & Title (typed)	

Form No. DC 2640-7 86-p4002-1 wd-206

SURETY (IES)			
1. Name & Address (typed)	State of Inc.	Liability Limit	Corporate Seal
Signature of Attorney-in-Fact	Attest (Signature)		
Name & Address (typed)	Name & Address (typed)		
1. Name & Address (typed)	State of Inc.	Liability Limit	Corporate Seal
Signature of Attorney-in-Fact	Attest (Signature)		
Name & Address (typed)	Name & Address (typed)		

BOND PREMIUM		
Rate Per Thousand	Total Premium	Name & Address of Agency or Agent Receiving Commission

Approved by:

_____

Contracting Officer

INSTRUCTIONS

1. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by the authorized person signing the Contract. When such person signing is other than the President or Vice-President of a corporation, evidence of authority shall be furnished. Such evidence shall be in the form of either an Extract of Minutes of a Meeting of the Board of Directors, or Extract of Bylaws, certified by the Corporate Secretary, or Assistant Secretary and with the Corporate Seal affixed thereto.
2. Corporations executing the bond as sureties shall be among those appearing on the U.S. Treasury Department's list of approved sureties and shall be acting within the limitations set forth therein, and shall also be licensed by the Insurance Administration, Department of Consumer and Regulatory Affairs, to do business in the District of Columbia. The surety shall (1) insert on the bond form the name and addresses of the agency receiving the commission; and (2) attach an adequate Power-of-Attorney for each representative signing the bond.
3. Corporations executing the bond shall affix their Corporate Seals. Individuals shall sign full first name, middle initial and last name opposite the word "seal"; two witnesses shall sign and include their addresses, under the word "witness." If executed in Maine or New Hampshire, an adhesive seal shall be affixed.
4. The name of each person signing this performance bond shall be typed in the space provided.

Rev. July 1986 86-p4002-2 wd-206

Exhibit G
Payment Bond

Exhibit G

Government of the District of Columbia

PAYMENT BOND **(CONSTRUCTION)** (See Instructions on reverse)				Date Bond Executed (Must be same or later than date of Contract)
PRINCIPAL(Legal Name and Address)	TYPE OF ORGANIZATION ("x")			
	☐ INDIVIDUAL		☐ PARTNERSHIP	
	☐ JOINT VENTURE		☐ CORPORATION	
	STATE OF INCORPORATION			
SURETY (IES) (Name (s) and Address (es)	**PENAL SUM OF BOND**			
	MILLION(S)	THOUSAND(S)	HUNDRED(S)	CENTS
	CONTRACT DATE		CONTRACT NUMBER	

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety(ies) hereto are firmly bound to the District of Columbia Government, a municipal corporation, hereinafter called the District, In the above penal sum for the payment of which we bind ourselves, our heirs, executors, and successors, jointly and severally; Provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly" and "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal entered into the Contract identified above.

NOW THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in the Contract, and any and all duly authorized modifications of the Contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived, then the above obligations shall be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this payment bond and have affixed their seals on the date set forth above.

PRINCIPAL		
1. Signature (Seal)	1. Attest	Corporate Seal
Name & Title (typed)	Name & Title (typed)	
2. Signature (Seal)	2. Attest	Corporate Seal
Name & Title (typed)	Name & Title (typed)	

Form No. DC 2640-8 86-p4003-1 wd-206

SURETY (IES)			
1. Name & Address (typed)	State of Inc.	Liability Limit	Corporate Seal
Signature of Attorney-in-Fact	Attest (Signature)		
Name & Address (typed)	Name & Address (typed)		
1. Name & Address (typed)	State of Inc.	Liability Limit	Corporate Seal
Signature of Attorney-in-Fact	Attest (Signature)		
Name & Address (typed)	Name & Address (typed)		

BOND PREMIUM		
Rate Per Thousand	Total Premium	Name & Address of Agency or Agent Receiving Commission

Approved by:

_____

Contracting Officer

INSTRUCTIONS

1. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by the authorized person signing the Contract. When such person signing is other than the President or Vice-President of a corporation, evidence of authority shall be furnished. Such evidence shall be in the form of either an Extract of Minutes of a Meeting of the Board of Directors, or Extract of Bylaws, certified by the Corporate Secretary, or Assistant Secretary and with the Corporate Seal affixed thereto.
2. Corporations executing the bond as sureties shall be among those appearing on the U.S. Treasury Department's list of approved sureties and shall be acting within the limitations set forth therein, and shall also be licensed by the Insurance Administration, Department of Consumer and Regulatory Affairs, to do business in the District of Columbia. The surety shall (1) insert on the bond form the name and addresses of the agency receiving the commission; and (2) attach an adequate Power-of-Attorney for each representative signing the bond.
3. Corporations executing the bond shall affix their Corporate Seals. Individuals shall sign full first name, middle initial and last name opposite the word "seal"; two witnesses shall sign and include their addresses, under the word "witness." If executed in Maine or New Hampshire, an adhesive seal shall be affixed.
4. The name of each person signing this performance bond shall be typed in the space provided.

Rev. July 1986 86-p4004-2 wd-206

Exhibit H
VECP Sample Calculation

EXHIBIT H

VECP Sample Calculation

The following example concerns a proposal by the DB Contractor to acquire additional ROW in lieu of wall construction.

CALCULATION OF VECP SAVINGS

	ITEM COST	TOTAL COST
Cost of wall	$250,000	$ 250,000
VECP Costs		- 185,000
Cost of preparing VECP	- 10,000	
Cost of implementing proposal:		
o Design-Build Contractor's expenses	- 15,000	
o The District's cost of personnel	- 10,000	
o The District's cost of property	- 150,000	
Net Savings from VECP		**$65,000**

Summary of VECP Impact to DBE Participation

VECP Item	Value of Reduction	% of Work Item Performed by DBE	Value of Reduction in DBE's Work	% Impact to overall Project DBE Participation
Wall	-185,000	10%	-18,500	
Totals	**-185,000**	**10%**	**-18,500**	

CONTRACT ADJUSTMENT

The District's total cost	$160,000
Plus DB Contractor's share of VECP Savings (50%)	32,500
Total Reduction in Contract Price	**$192,500**

Explanation of how any reduction in DBE participation as a result of this VECP being accepted will be addressed and how the DB Contractor plans to achieve the DBE participation goal moving forward:

Exhibit I
Cost Analysis for Request for Change Order

EXHIBIT I

Cost Analysis for Request for Change Order

Name of Change: RCO Number:

Work Description and Bid Item Nos.	Quantity	Unit Measure	Equipment Rent	Owned Equipment Rent	Construction Labor	Non-Construction Labor	Direct Materials	Permit Fees	Other Direct Costs	Subcontracts	Totals
Subtotal Cost											
Labor Surcharge %											
Labor Surcharge											
Markup %											
Markup											
TOTALS:											

Exhibit J
Cost and Pricing Data Certification

EXHIBIT J

Cost and Pricing Data Certification

Contract: _____

Firm: _____

Project: _____

As required by Section 1624 of 27 DCMR, the undersigned

_____

Authorized Agent for the DB Contractor

certifies that, to the best of my knowledge, the cost and pricing data (as defined under Section 1699 - DEFINITIONS of DCMR, 1988) submitted was accurate, complete and current as of

_____

The undersigned further agrees that it is under a continuing duty to update cost and pricing data through the date that negotiations, if any, with the District are completed. The undersigned further agrees that the price, including profit or fee, will be adjusted to exclude any significant price increases occurring because the cost or pricing data was inaccurate, incomplete or not current.

Signed: _____ Date: _____

Exhibit K
Subcontractor Approval Form

Subcontractor Approval Form

(1) Project Name	(2) Invitation No.
(3) Prime Contractor's Name	(4) Address
(5) Estimated Starting Date	(6) Estimated Completion Date / (7) F.A.P. #
(8) Subcontractor's Name, Address & Phone No.	(9) Number of Subcontractor Employees in Workforce / (10) Number of DC Residents employed

(11) Pay Item	Item Description	Dollars	Cents

Check Items listed below (13-16) that are included in subcontract agreement

(12) See Attached For Additional Descriptions or Remarks

	Yes	No
(13) (All Projects)		
Contract Wage Schedule	☐	☐
DBE/MBE Policy Statement	☐	☐
(14) (Federal-Aid Projects) Form FHWA-1273 (Required Contract Provisions)	☐	☐
(Non-Federal Aid Projects) (Required Contract Provisions)	☐	☐
(15) (Federal-Aid Projects When Subcontractor Will Receive Over $10,000) On-Site Work Force Affirmative Action Requirements for Women and Minorities-Special Conditions	☐	☐
(16) Subcontractor's Certification of Nondiscrimination in Employment (Form Included in Bid Proposal)	☐	☐
(17) FHWA On-The-Job Training (To Be Provided by Subcontractor)	☐	☐

(18) I Request the Contracting Officer's Approval of this Subcontract and Certify that the Organization which will Perform this Work is Capable, has not been Debarred and that the Work will be Performed in Accordance with the Contract Specifications. I Further Certify that all Required Contract Provisions are Physically Included as Part of the Subcontract Agreement.

PRIME CONTRACTOR'S REPRESENTATIVE _____ TITLE _____ DATE _____

THE INFORMATION BELOW IS COMPLETED BY THE DEPARTMENT

REVIEW AND DISTRIBUTION AFTER APPROVAL

CONTRACT COMPLIANCE _____ DATE _____

PROJECT ENGINEER/MANAGER _____ DATE _____

APPROVAL OF SUBCONTRACT IS HEREBY GIVEN

CONTRACTING OFFICER _____ DATE _____
DC DEPARTMENT OF TRANSPORTATION

DDOT FORM 120-KA **REVISED 7/02**

Exhibit L
DB Contractor's Proposal Commitments, ATCs, and Schematics

EXHIBIT L

DB Contractor's Proposal Commitments, ATCs, and Schematics

Appendix 1:	Proposal Commitments
Appendix 2:	ATCs
Appendix 3:	Schematics

APPENDIX 1

Proposal Commitments

[To be provided from the Proposal.]

APPENDIX 2

ATCs

[To be provided from the Proposal.]

APPENDIX 3

Schematics

[To be provided from the Proposal.]

Exhibit M
Project Labor Agreement

EXHIBIT M

Project Labor Agreement

March 15, 2016

DISTRICT OF COLUMBIA

Leif A. Dormsjo, Director

PROJECT LABOR AGREEMENT

FOR THE

SOUTH CAPITOL STREET CORRIDOR PROJECT – Phase I

d.

District Department of Transportation

TABLE OF CONTENTS

PAGE

PREAMBLE **1**
ARTICLE 1 - INTENT AND PURPOSES **2**
SECTION 1. MUTUAL UNDERSTANDINGS 2
SECTION 2. SEPARATE EMPLOYERS 3
ARTICLE 2 - GENERAL CONDITIONS **3**
SECTION 1. DEFINITIONS 3
SECTION 2. CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE 5
SECTION 3. ENTITIES BOUND & ADMINISTRATION OF AGREEMENT 5
SECTION 4. SUPREMACY CLAUSE 6
SECTION 5. LIABILITY 7
SECTION 6. THE DESIGN BUILD CONTRACTOR 7
SECTION 7. AVAILABILITY AND APPLICABILITY TO ALL SUCCESSFUL BIDDERS 8
SECTION 8. SUBCONTRACTING 8
ARTICLE 3-SCOPE OF THE AGREEMENT **8**
SECTION 1. WORK COVERED 8
SECTION 2. EXCLUDED PERSONS 8
SECTION 3. NON-APPLICATION TO CERTAIN ENTITIES 10
SECTION 4. LOCAL HIRING PREFRENCE 11
ARTICLE 4- UNION RECOGNITION AND EMPLOYMENT **11**
SECTION 1. PRE-HIRE RECOGNITION 11
SECTION 2. UNION REFERRAL 12
SECTION 3. NON-DISCRIMINATION IN REFERRALS 13
SECTION 4. MINORITY AND FEMALE REFERRALS 14
SECTION 5. SBE and DBE CONTRACTORS 14
SECTION 6. CROSS AND QUALIFIED REFERRALS 15
SECTION 7. UNION SECURITY PROVISIONS 15
SECTION 8. CRAFT FOREPERSONS AND GENERAL FOREPERSONS 16
ARTICLE 5- UNION REPRESENTATION **16**
SECTION 1. LOCAL UNION REPRESENTATIVE 16
SECTION 2. STEWARDS 17

SECTION 3. LAYOFF OF A STEWARD....17
ARTICLE 6- MANAGEMENT'S RIGHTS....18
SECTION 1. RESERVATION OF RIGHTS....18
SECTION 2. MATERIALS, METHODS & EQUIPMENT....18
ARTICLE 7- WORK STOPPAGES AND LOCKOUTS....19
SECTION 1. NO STRIKES-NO LOCK OUT....19
SECTION 2. DISCHARGE FOR VIOLATION....19
SECTION 3. NOTIFICATION....20
SECTION 4 . EXPEDITED ARBITRATION....20
SECTION 5. ARBITRATION OF DISCHARGES FOR VIOLATION....23
ARTICLE 8- GRIEVANCE & ARBITRATION PROCEDURE....23
SECTION 1. PROCEDURE FOR RESOLUTION OF GRIEVANCES....23
SECTION 2. LIMITATION AS TO RETROACTIVITY....25
SECTION 3. PARTICIPATION BY DESIGN BUILD CONTRACTOR....25
ARTICLE 9 - JURISDICTIONAL DISPUTES....26
SECTION 1. DEFINITION....26
SECTION 2. RESOLUTION OF DISPUTES....26
SECTION 3. NO INTERFERENCE WITH WORK....27
SECTION 4. DELIVERIES....28
ARTICLE 10 - WAGES AND BENEFITS....28
SECTION 1. CLASSIFICATION AND BASE HOURLY RATE....28
SECTION 2. EMPLOYEE BENEFITS....28
ARTICLE 11. EMPLOYMENT OF VETERANS....30
SECTION 1. HELMETS TO HARDHATS....30
SECTION 2. CONTRIBUTIONS....31
ARTICLE 12- HOURS OF WORK, PREMIUM PAYMENTS, SHIFTS AND HOLIDAYS....32
SECTION 1. WORK WEEK AND WORK DAY....32
SECTION 2. OVERTIME....33
SECTION 3. HOLIDAYS....34
SECTION 4. SHIFTS....34
SECTION 5. ACCOMMODATING OPERATIONAL NEEDS....34
SECTION 6. ABSENTEEISM....35
SECTION 7. BEGINNING AND END OF WORKDAY....35
SECTION 8. REPORTING PAY....35
SECTION 9. PAYMENT OF WAGES....36
SECTION 10. EMERGENCY WORK SUSPENSION....36

SECTION 11. INJURY/DISABILITY 37
SECTION 12. TIME KEEPING 37
SECTION 13. MEAL PERIOD 37
SECTION 14. BREAK PERIODS 38
ARTICLE 13 – APPRENTICES 38
ARTICLE 14-SAFETY PROTECTION OF PERSON AND PROPERTY SECTION 1. SAFETY REQUIREMENTS.....39
SECTION 2. CONTRACTOR RULES 40
SECTION 3. INSPECTIONS 40
ARTICLE 15 - NO DISCRIMINATION 40
SECTION 1. COOPERATIVE EFFORTS 40
SECTION 2. LANGUAGE OF AGREEMENT 41
ARTICLE 16- GENERAL TERMS.....42
SECTION 1. PROJECT RULES.....42
SECTION 2. TOOLS OF THE TRADE 42
SECTION 3. SUPERVISION.....42
SECTION 4. TRAVEL ALLOWANCES.....42
SECTION 5. FULL WORK DAY 43
SECTION 6. COOPERATION AND WAIVER.....43
ARTICLE 17 - FOUNDATION FOR FAIR CONTRACTING 43
ARTICLE 18 - FUTURE CHANGES IN COLLECTIVE BARGAINING AGREEMENTS SECTION 1. CHANGES TO AREA CONTRACTS 44
SECTION 2. LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS.....45
ARTICLE 19 - SAVINGS AND SEPARABILITY.....45
SECTION 1. THIS AGREEMENT.....45
SECTION 2. NON-WAIVER 46
SECTION 3. APPLICABLE LAW.....46
ARTICLE 20 - DURATION OF AGREEMENT 46

EXHIBIT A - LETTER OF ASSENT

EXHIBIT B - PROJECT DESCRIPTION

EXHIBIT C – PROJECT SITE

EXHIBIT D – SEP-14 APPLICATION AND APPROVAL

SCHEDULE A – COLLECTIVE BARGAINING AGREEMENTS

District of Columbia Department of Transportation

PROJECT LABOR AGREEMENT FOR THE SOUTH CAPITOL STREET CORRIDOR-PROJECT – Phase I

This Project Labor Agreement ("Agreement") is made and entered into this __ day of _____,2016, by and among the Government of the District of Columbia acting by and through the District of Columbia Department of Transportation ("DDOT"), the Community Hub for Opportunities in Construction Employment ("CHOICE") and the signatory Unions who have, through their duly authorized officers, executed this Agreement. This Agreement shall apply to the Project Work (as defined herein) to be performed by the Design Build Contractor (as defined herein) and each of its relevant Contractors and Subcontractors of whatever tier ("Contractor" or "Contractors," as defined herein) on the South Capitol Street Corridor-Phase I (hereinafter, the "Project") as more fully described in Article 3 and Exhibit B attached to this Agreement.

The Parties recognize that timely completion of the Project without interruption or delay will require a steady supply of substantial numbers of employees from construction and supporting crafts possessing the skills and qualifications necessary to complete the Project. The Parties therefore agree to work together to furnish skilled, efficient craft workers for the construction of the Project, as required by this Agreement.

The Parties desire to mutually establish and stabilize wages, hours and working conditions for the craft workers on the Project, to encourage close cooperation between the Contractors and the Unions to the end that a satisfactory, continuous and harmonious relationship will exist between the Parties. This Agreement

is intended to enhance this cooperative effort through the establishment of a framework for labor-management cooperation and stability.

To accomplish the important purposes of this Agreement, DDOT and the Design Build Contractor will implement this Agreement by including appropriate provisions in the bid documents and the Design Build Contract Documents for the Project Work. The Project Work will be contracted exclusively to Contractors who agree to execute a "Letter of Assent" in the form attached as Exhibit A and be bound by the terms of this Agreement. All such Contractors shall be deemed Parties to this Agreement.

In recognition of the special needs of the Project, and to maintain a spirit of harmony, labor-management peace, and stability during the term of this Agreement, the Parties agree to abide by the terms and conditions in this Agreement and to establish effective and binding methods for the settlement of all misunderstandings, disputes or grievances which may arise in connection with this Agreement. Further, all Contractors agree not to engage in any lockout, and the Unions agree not to engage in any strike, slowdown, or interruption or other disruption of or interference with the Project Work.

ARTICLE 1 - INTENT AND PURPOSES

SECTION 1. MUTUAL UNDERSTANDINGS

This Agreement is entered into in furtherance of Executive Order No. 13502 (February 6, 2009). It is mutually understood and agreed that the terms and conditions of this Agreement are intended to promote the public interest in obtaining timely and economical completion of the Project by encouraging productive and efficient construction operations; by establishing a spirit of harmony and cooperation among

the Parties; and by providing for peaceful and prompt settlement of any and all labor grievances or jurisdictional disputes of any kind without strikes, lockouts, slowdowns, delays or other disruptions to the prosecution of the Project Work. In furtherance of this goal, the Parties agree that this Agreement will be made available to all proposers or bidders for the Project Work and will fully apply to any successful proposer or bidder performing the Project Work. Further, the Contractors shall be selected without regard to whether they perform work at other sites on either a union or a non-union basis, and without regard to whether employees of such Contractors are or are not members of any Union. This Agreement shall not apply to any Contractor for work that is performed on work other than the Project. The Unions hereby pledge to work cooperatively on the Project with all Contractors awarded Project Work.

SECTION 2. SEPARATE EMPLOYERS

It is understood that the Design Build Contractor and each Contractor will be considered and accepted by the Unions as separate employers, and it is further agreed that the employees working under this Agreement shall constitute a bargaining unit separate and distinct from all others. The Parties also agree that this Agreement shall be applicable solely with respect to the Project and shall have no bearing on the interpretation of any other collective bargaining agreement or as to the recognition of any bargaining unit other than for the specific purposes of the Project.

ARTICLE 2 - GENERAL CONDITIONS

SECTION 1. DEFINITIONS

A.. Throughout this Agreement, the various Union parties, including CHOICE and its participating affiliated Local Unions, are referred to singularly and collectively

as "Union(s)" or "Local Unions."

B. As used herein, the term “Arbitrator” shall mean thethe individual designated pursuant to Article 7, Section 4. B., who shall be the Arbitrator under the provisions of Articles 7, 8 or 9 of this Agreement to arbitrate any grievance, dispute or other matter under this Agreement.

C. As used herein, the term "Contractor or Contractors” shall include all construction contractors of whatever tier, including all subcontractors engaged in the Project Work and shall include the Design Build Contractor or any construction manager when it performs the Project Work. This definition is solely for the purpose of defining the responsibilities of the Parties under this Agreement and is not intended to change the contractual relationships of any of the contractors working on the Project.

D. As used herein, the term “Collective Bargaining Agreements” means those collective bargaining agreements listed in Schedule A of this Agreement and as they may be amended pursuant to Article 17.

E. As used herein, the term “Design Build Contract Documents” means the design-build agreement and other contract documents identified in the design-build agreement executed between DDOT and Design Build Contractor for the Project, including any amendments and change orders thereto.

F. As used herein, the term “Design Build Contractor” means the contractor executing a design-build agreement with DDOT for the Project.

G. As used herein, the term “Holiday” means those days identified in Article 12, Section 3.

H. As used herein, the term “Party or “Parties” means DDOT, CHOICE, the

signatory Unions, any additional unions added pursuant to Article 2, Section 3, the Design Build Contractor and any other Contractor executing a “Letter of Assent” in the form attached as Exhibit A.

I. As used herein, the term “Project Site” means the shaded area identified in Exhibit C of this Agreement. Also included are “secondary sites,” such as staging areas, concrete batch plants, lay down areas, and sites used to temporarily store materials delivered to the Project..

J. As used herein, the term “Project Work” is as defined in Article 3, Section 1.

K. As used herein, the term “Small Business Enterprise (SBE)” means a small business concern as defined in section 3 of the Small Business Act, 15 U.S.C. § 632.

SECTION 2. CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE

This Agreement shall not become effective unless each of the following conditions are met: this Agreement is: (1) executed by CHOICE, the participating Unions, and DDOT; and (2) is approved by the Federal Highway Administration of the U.S. Department of Transportation.

SECTION 3. ENTITIES BOUND & ADMINISTRATION OF AGREEMENT

This Agreement shall be binding on all Unions and all Contractors performing Project Work. The Contractors shall include in any subcontract that they let for performance of the Project Work during the term of this Agreement a requirement that their subcontractors, of all tiers, become a Party and bound by this Agreement with respect to that subcontracted Project Work and all Contractors, including the

Design Build Contractor, performing Project Work shall be required to sign a "Letter of Assent" in the form attached as Exhibit A. This Agreement shall be administered by the Design Build Contractor on behalf of all Contractors.

It is the intent of the Parties that all unions representing crafts working on the Project Site be a Party and be bound to this Agreement. Additional unions may be added as Parties upon mutual agreement between CHOICE and the Design Build Contractor should additional crafts be identified during the course of construction of the Project. Failure to add such a union shall have no effect on the provisions of this Agreement.

SECTION 4. SUPREMACY CLAUSE

This Agreement, together with the local Collective Bargaining Agreements, represents the complete understanding of all signatories and supersedes any national agreement, local agreement or other collective bargaining agreement of any type which would otherwise apply to the Project Work, in whole or in part, except work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instrument calibration work and loop checking which shall be performed under the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Articles 7, 8, 9, 11 and 17 herein. Subject to the foregoing, where a subject covered by the provisions of this Agreement is also covered by a Collective Bargaining Agreement, the provisions of this Agreement shall prevail. It is further understood that no Contractor shall be required to sign any other

agreement as a condition of performing the Project Work. No practice, understanding or agreement between a Contractor and a Local Union, which is not set forth in this Agreement, shall be binding on Project Work unless endorsed in writing by the Design Build Contractor. The Design Build Contractor shall notify DDOT in writing of the Design Build Contractor's endorsement of any such practice, understanding or agreement.

SECTION 5. LIABILITY

The liability of any Contractor and the liability of any Union under this Agreement shall be several and not joint. The Design Build Contractor and any Contractor shall not be liable for any violations of this Agreement by any other Contractor; and CHOICE and the Local Unions shall not be liable for any violations of this Agreement by any other Union.

SECTION 6. THE DESIGN BUILD CONTRACTOR

As a condition of award, the Design Build Contractor shall require for the Project Work that all Contractors become bound by, and a Party to, this Agreement. Neither DDOT nor the Design Build Contractor shall be liable for any violation of this Agreement by any Contractor. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the Design Build Contractor in determining which Contractors shall be awarded contracts for the Project Work so long as such Contractors become bound by and a Party to this Agreement by signing the "Letter of Assent" attached as Exhibit A. It is further understood that DDOT or the Design Build Contractor have the sole discretion at any time to terminate, delay or suspend the Project Work, in whole or part, on the Project.

SECTION 7. AVAILABILITY AND APPLICABILITY TO ALL SUCCESSFUL BIDDERS

The Unions agree that this Agreement will be made available to, and will fully apply to, any successful proposer or bidder who becomes a Contractor for the Project Work, without regard to whether that Contractor performs work at other sites on either a union or non-union basis and without regard to whether employees of such Contractor are, or are not, members of any unions. This Agreement shall not apply to the work of any Contractor that is performed at any location other than the Project Site of the Project Work.

SECTION 8. SUBCONTRACTING

Subject to the exclusions in Article 3, Section 2, the Design Build Contractor and Contractors shall subcontract the Project Work only to a person, firm or corporation who is or agrees to become a Party to this Agreement.

ARTICLE 3-SCOPE OF THE AGREEMENT

SECTION 1. WORK COVERED

Project Work shall be defined as all construction work related to the Project as generally described in Exhibit B and within the Project Site and specifically defined by the Design Build Contract Documents, subject to the exclusions of Article 3, Section 2.

SECTION 2. EXCLUDED PERSONS

The following persons are not subject to the provisions of this Agreement, even though performing Project Work:

A. Superintendents, supervisors (excluding general forepersons, forepersons, and field surveyors, specifically covered by a craft's Collective Bargaining Agreement), engineers, professional engineers and/or licensed architects engaged in inspection and testing, quality control assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards, technicians, non-manual employees, and all professional, engineering, administrative and management persons;

B. DDOT employees;

C. DDOT's existing on-call contractors, or contractors retained in a non-competitive environment, retained separately by DDOT to correct, replace or remedy defective, non-conforming or faulty Project Work performed by the Design Build Contractor or its Contractors;

D. DDOT's construction manager (except when performing the Project Work);

E. Any other municipal or public agency, authority or entity, and their respective employees;

F. Employees and contractors of utility companies.

G. Employees and entities engaged in off-site manufacture, modifications, repair, maintenance, assembly, painting, handling or fabrication of project components, materials, equipment or machinery or involved in deliveries to and from the Project Site, except to the extent they are lawfully included in the bargaining unit of a Collective Bargaining Agreement;

H. Employees of the Design Build Contractor (except when performing the

Project Work);

I. Employees engaged in on-site, non-routine servicing of equipment (such as repair and warranty work), unless employees are already working on the Project Site and are certified to service equipment;

J. Employees engaged in geophysical testing other than boring for core samples;

K. Employees engaged in laboratory, specialty testing, or inspections, pursuant to a professional services agreement between the Design Build Contractor, or any of the Design Build Contractor's other professional consultants, and such laboratory, testing, inspection or surveying firm; and

L. Employees engaged in on-site maintenance of installed equipment or systems, which maintenance is awarded as part of a contract that includes Project Work, but which maintenance occurs after installation of such equipment or system and is not directly related to construction services.

SECTION 3. NON-APPLICATION TO CERTAIN ENTITIES

This Agreement shall not apply to those parents, affiliates, subsidiaries, or other joint or sole ventures of any Contractor that do not perform the Project Work. It is agreed that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the Design Build Contractor or any Contractor.

As the contracts involving the Project Work are completed and accepted, this Agreement shall not have further force or effect on such items or areas except to resolve outstanding grievances arising under this Agreement and also where

inspections, additions, repairs, modifications, check-out and/or warranty work are assigned in writing (copy to Local Union involved) by the Design Build Contractor for performance under the terms of this Agreement.

SECTION 4. LOCAL HIRING PREFRENCE

A. The Federal Highway Administration has approved the use of a local hiring preference for the Project under a local hiring pilot program ("Pilot Program"). The application to participate in the Pilot Program and the FHWA approval are attached as Exhibit D.

B. Under the Pilot Program: (1) at least 51% of all new jobs ("new hires") are to be performed by residents of the District of Columbia and (2) for all training and apprenticeship positions identified, at least 51 percent of the participants are residents of the District of Columbia. For purposes of this Section 4.B., a "new hire" is defined as an individual who has never worked for the Contractor or has been separated from the Contractor for more than 90 consecutive days.

C. Notwithstanding any provision of this Agreement, the local hiring provisions of Article 3, Section 4. B., regardless of tier, shall supersede and be incorporated into the referral and hiring provisions of this Agreement. It is understood by the Parties that the provisions of the FHWA approved Pilot Program (Exhibit D) will be incorporated into the Design Build Contract Documents and all subcontracts thereunder.

ARTICLE 4- UNION RECOGNITION AND EMPLOYMENT

SECTION 1. PRE-HIRE RECOGNITION

The Contractors recognize the Unions as the sole and exclusive

bargaining representatives of all employees who are or will be performing on-site Project Work, with respect to that work.

SECTION 2. UNION REFERRAL

A. The Design Build Contractor and Contractors agree to utilize, employ and hire craft employees for Project Work through the job referral systems and hiring halls established in the Local Unions' area Collective Bargaining Agreements. Notwithstanding this, the Contractors shall have sole right to determine the competency of all referrals; to determine the number of employees required; to select employees for layoff (subject to Article 5, Section 3); and to reject any applicant referred by a Local Union, subject to the show-up payments. In the event that a Local Union is unable to fill any request for qualified employees within a 48 hour period after such requisition is made by a Contractor (Saturdays, Sundays and Holidays excepted), a Contractor may employ qualified applicants from any other available source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of craft employees hired for the Project Work within its jurisdiction from any source other than referral by the Union.

B. A Contractor may request by name, and the Local Union will honor, referral of persons who have applied to the Local Union for the Project Work and who meet the following qualifications:

(1) possess any license required by District of Columbia law for the Project Work to be performed;

(2) have worked a total of at least 1000 hours in the construction field during the prior 3 years; and

(3) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award.

No more than twelve per centum (12%) of the employees covered by this Agreement, per Contractor by craft, shall be hired through the special provisions above. Under this provision, name referrals begin with the eighth employee needed and continue on that same basis.

C. All Contactors and Unions shall participate in up to five (5) career fairs to be organized by the Parties in a concerted effort to recruit potential applicants for employment, apprenticeship and apprenticeship readiness opportunities.

SECTION 3. NON-DISCRIMINATION IN REFERRALS

CHOICE represents that each Local Union hiring hall and referral system will be operated in a non-discriminatory manner and in full compliance with all applicable federal and District of Columbia laws and regulations that require equal employment opportunities, including, but not limited to 23 CFR Part 230 and CFR Section 635.117(b). Specifically:

A. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article.

B. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

SECTION 4. MINORITY AND FEMALE REFERRALS

In the event a Local Union either fails, or is unable to refer qualified minority or female applicants in percentages equaling the workforce participation goals adopted by the DDOT and set forth in the Design Build Contractor's bid specifications, within 48 hours of the request for same, the Contractor may employ qualified minority or female applicants from any other available source.

SECTION 5. SBE and DBE CONTRACTORS

The Local Unions recognize that DDOT has a program to encourage and foster work opportunities for Small Business Enterprises and certified Disadvantaged Business Enterprises ("DBEs") and the Local Unions will work cooperatively with DDOT and the Design Build Contractor in their efforts to provide such work opportunities.

The Project is subject to the federal Disadvantaged Business Enterprise ("DBE") program (49 CFR Part 26), with a DBE goal, and federal Equal Employment Opportunity requirements (23 CFR Part 230). Notwithstanding the above provision and subject to the below, a certified DBE or an SBE, with 40 or more employees not signatory to a Collective Bargaining Agreement may, with respect to its first 40 hires, request referral by name under the above requirements of up to 50% of the employees covered by this Agreement, by craft, provided such employees meet the qualifications of Article 4, Section 2. B. In that case, the first name referral must be a general foreperson (if otherwise included in a craft's Collective Bargaining Agreement). Then, every odd numbered hire from the 3rd through the 39th may be a

name referral. Thereafter, the above 12 per centum referral provision will apply, meaning that the 48th, 56th, 64rd and every 8th employee thereafter may be a name referral. In the event there is an insufficient number of name referrals who meet the requirements of Article 4, Section 2.B, to satisfy the ratios set forth above, then the DBE/SBE shall obtain referrals through the hiring hall and may not be requested by name.

DBEs and SBEs with fewer than 40 employees not signatory to a Collective Bargaining Agreement may designate up to 20 employees meeting the qualifications of Article 4, Section 2.B who may be retained or hired by the SBE or DBE without going through the Union referral or hiring hall. In the event less than 20 employees meet the requirements of Article 4, Section 2.B, then the DBE/SBE shall obtain referrals for the remaining first 20 hires through the hiring hall, and may not be requested by name. The remaining hires (21-40) shall be referred through the hiring hall, and may not be requested by name.

All SBE and DBE employees shall otherwise be subject to the terms of this Agreement.

SECTION 6. CROSS AND QUALIFIED REFERRALS

The Local Unions shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled and qualified craft employees to fulfill the requirements of the Contractor.

SECTION 7. UNION SECURITY PROVISIONS

A. All employees shall be required to comply with the union security provisions of the applicable Collective Bargaining Agreement for the period during which they are performing Project Work, but the Unions agree to honor and respect any non-member worker's right to limit his/her financial obligation to the payment of the applicable Local Union's fee for representation services, calculated in accordance with applicable law.

B. Upon receipt of a voluntary written authorization from the employee, the Contractor agrees to deduct and forward to the Union any dues check off or working assessment required to be paid in accordance with the provisions relating to dues check off and working assessments in the applicable Collective Bargaining Agreement.

SECTION 8. CRAFT FOREPERSONS AND GENERAL FOREPERSONS

The selection of craft forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor, provided that all craft forepersons shall be experienced and qualified journeypersons in their trade as determined by the appropriate Local Union. All forepersons shall take orders exclusively from the designated Contractor representatives. Craft forepersons shall be designated as working forepersons at the request of the Contractor.

ARTICLE 5- UNION REPRESENTATION

SECTION 1. LOCAL UNION REPRESENTATIVE

Each Local Union representing on-site employees shall be entitled to designate in writing (copy to the Contractor involved and the Design Build Contractor) one

representative, and/or the business manager, who shall be afforded access to the Project Work Site.

SECTION 2. STEWARDS

A. Each Local Union shall have the sole discretion to select and designate any working journeyperson as a steward and an alternate steward. The Union shall notify the Contractor and the Design Build Contractor of the identity of the designated steward and alternate prior to the assumption of such duties. Stewards shall not exercise supervisory functions and will receive the regular rate of pay for their craft classifications. All stewards shall be working stewards.

B. In addition to their work as an employee, the steward shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor. Each steward shall assist the employees of the steward's trade and, if applicable, subcontractors of their Contractor, but not the employees of any other trade Contractor. No Contractor shall discriminate against the steward as a result of the proper performance of Union duties.

C. The stewards shall not have the right to determine when overtime shall be worked, or who shall work overtime.

SECTION 3. LAYOFF OF A STEWARD

Contractors agree to notify the appropriate Union 24 hours prior to the layoff of a steward, except in cases of discipline or discharge for just cause. A steward shall be the last to be laid off provided the steward possesses the necessary qualifications to perform the work required. In any case in which a steward is discharged or disciplined for just cause, the Local Union involved shall be notified

immediately by the Contractor.

ARTICLE 6- MANAGEMENT'S RIGHTS

SECTION 1. RESERVATION OF RIGHTS

Except as expressly limited by a specific provision of this Agreement, Contractors retain full and exclusive authority for the management of their operations including, but not limited to, the right to: direct the work force, including determination as to the number of employees to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees; require compliance with the directives of DDOT, including standard restrictions related to security and access to the Project Site that are equally applicable to DDOT employees, guests, or vendors; or the discipline or discharge for just cause of its employees; assign and schedule work; promulgate reasonable Project Work rules that are not inconsistent with this Agreement or rules common in the industry and are reasonably related to the nature of work; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices which limit or restrict productivity or efficiency of the individual shall be permitted or observed.

SECTION 2. MATERIALS, METHODS & EQUIPMENT

Nothing in this Agreement shall be read to limit or restrict the Contractors' choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials or products, tools, or other labor-saving devices. Subject to the Design Build Contract Documents, Contractors may, without

restriction, install or use materials, supplies or equipment regardless of their source. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check off or testing of specialized or unusual equipment or facilities as designated by the Contractor. There shall be no restrictions under this Agreement as to work which is performed off-site for the Project Work.

ARTICLE 7- WORK STOPPAGES AND LOCKOUTS

SECTION 1. NO STRIKES-NO LOCK OUT

There shall be no strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity on the Project Work for any reason by any Union or employee against the Design Build Contractor and Contractors or other employers. This Agreement, including the provisions of this Article, shall apply to all Project Work and any work that is not covered by this Agreement is not considered Project Work and shall not be covered by this provision of this Agreement. There shall be no lockout at the Project Site by the Design Build Contractor or any Contractor. Contractors and Affiliated Unions shall use their best efforts to ensure compliance with this Section and to ensure uninterrupted construction and the free flow of traffic in the Project area for the duration of this Agreement.

SECTION 2. DISCHARGE FOR VIOLATION

The Design Build Contractor may discharge any employee violating Article 7, Section 1, and any such employee will not be eligible thereafter for referral

under this Agreement for a period of 100 days.

SECTION 3. NOTIFICATION

If the Design Build Contractor contends that any Union has violated this Article, it will notify the Local Union involved advising of such fact, with copies of the notification to CHOICE. The Local Union shall instruct and order, CHOICE shall request, and each shall otherwise use their best efforts to cause the employees (and where necessary CHOICE shall use its best efforts to cause the Local Union), to immediately cease and desist from any violation of this Article. If CHOICE complies with these obligations it shall not be liable for the unauthorized acts of a Local Union or its members. Similarly, a Local Union and its members will not be liable for any unauthorized acts of CHOICE. Failure of a Contractor or the Design Build Contractor to give any notification set forth in this Article shall not excuse any violation of Article 7, Section 1.

SECTION 4 . EXPEDITED ARBITRATION

The Design Build Contractor, and any Contractor or Union alleging a violation of Article 7, Section 1 may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

A. The Design Build Contractor, Contractor, or Union shall first attempt to resolve the matter informally through consultation among the effected parties. If, after such consultation, the matter is not resolved, the parties or any party may refer the matter to expedited arbitration.

B. The Arbitrator shall be one of the following individuals: **[Suggest a list of 5 people]**. Each person on the foregoing list will serve in turn as the

Arbitrator for the matter. If the person whose turn it is to serve is not available, the next person on the list shall serve as the Arbitrator. The person unable to serve will then be next in line should another dispute, allegation or violation arise.

C. A party invoking this procedure shall notify the Arbitrator. Copies of such notification will be simultaneously sent to the alleged violator and CHOICE

D. The Arbitrator shall thereupon, after notice as to time and place to the Contractor, the Local Union involved, CHOICE and the Design Build Contractor, and notice of the arbitration proceeding to DDOT, hold a hearing within 48 hours of receipt of the notice invoking the procedure if it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice required by Article 7, Section 3.

C. All notices pursuant to this Article may be provided by email, hand delivery, or fax, confirmed by overnight delivery, to the Arbitrator, Contractor, Design Build Contractor, CHOICE and Local Union involved. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.

D. The sole issue at the hearing shall be whether a violation of Article 7, Section 1, occurred. If a violation is found to have occurred, the Arbitrator

shall issue a cease and desist award restraining such violation and serve copies on the Contractor and Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages (any damages issue is reserved solely for court proceedings, if any). The cease and desist award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an opinion. If any involved party desires an opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with or enforcement of the cease and desist award.

E. The Design Build Contractor (or such other designee of the Design Build Contractor) may participate in full in all proceedings under this Article.

F. A cease and desist award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of this Agreement together with the cease and desist award. Notice of the filing of such enforcement proceedings shall be given to the Union or Contractor involved, the Design Build Contractor and CHOICE.

G. Any rights created by statute or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Unions to which they accrue.

H. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Union.

I. The Arbitrator shall inform DDOT of any arbitration under this Agreement and of the results of such arbitration.

SECTION 5. ARBITRATION OF DISCHARGES FOR VIOLATION

Procedures contained in Article 8 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Article 7, Section 1, may have recourse to the procedures of Article 8 to determine only if the employee did, in fact, violate the provisions of Article 7, Section 1; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

ARTICLE 8- GRIEVANCE & ARBITRATION PROCEDURE

SECTION 1. PROCEDURE FOR RESOLUTION OF GRIEVANCES

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure of the steps described below, provided, in all cases, that the question, dispute or claim arose during the term of this Agreement.

Step 1:

(a) When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward give notice of the claimed violation to the work site representative of the involved Contractor and the Design Build Contractor. To be timely, such notice of the grievance must be given within 7 calendar days after the act, occurrence or event giving rise to the grievance or as soon thereafter as practical but not to exceed an additional 7 calendar days. The

business representative of the Local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within 7 calendar days after timely notice has been given or as soon thereafter as practical. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days or as soon thereafter as practical, pursue Step 2 of the grievance procedure by serving the involved Contractor with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, and the provisions of this Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved unless the settlement is accepted in writing by the Design Build Contractor (or designee) as creating a precedent.

(b) Should any Party (excluding DDOT) have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other Party (excluding DDOT) and, if after conferring, a settlement is not reached within 7 calendar days, or as soon thereafter as practical, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

The business manager or designee of the involved Local Union, together with representatives of the involved Contractor, CHOICE and the Design Build Contractor (or designee), shall meet in Step 2 within 7 calendar days of service of the written grievance to arrive at a satisfactory settlement or as soon thereafter as practical.

Step 3:

(a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 21 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants, including the Design Build Contractor or designee) to the Arbitrator. The Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties. The decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union and employees and the fees and expenses of such arbitrations shall be borne equally by the involved Contractor and Local Union.

(b) Time is of the essence. Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the Design Build Contractor (or designee), involved Contractor and involved Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

SECTION 2. LIMITATION AS TO RETROACTIVITY

No arbitration decision or award may provide retroactivity of any kind exceeding 60 calendar days prior to the date of service of the written grievance on the Design Build Contractor and the involved Contractor or Local Union.

SECTION 3. PARTICIPATION BY DESIGN BUILD CONTRACTOR

The Design Build Contractor shall be notified by the involved Contractor of all actions at Steps 2 and 3 and, at its election, may participate in full in all

proceedings at these Steps, including Step 3 arbitration.

ARTICLE 9 - JURISDICTIONAL DISPUTES

SECTION 1. DEFINITION

As used in this Agreement, the term "Jurisdictional Dispute" shall be defined as any dispute, difference or disagreement involving the assignment of particular work to one class or craft of employees rather than to a different class or craft of employees, regardless of that Contractor's contractual relationship to any other employer, contractor, or organization on the Project Site.

SECTION 2. RESOLUTION OF DISPUTES

It is agreed that any and all Jurisdictional Disputes shall be resolved in the following manner; each of the steps hereinafter listed shall be initiated by the disputing Parties in sequence as set forth herein and all signatory affiliates agree that upon request, a representative shall be assigned without delay to attempt a settlement in the event of a question on assignments.

(a) Negotiation by and between the local business representatives of the disputing Unions and employer shall take place within two (2) business days. Business days as used in this Article are defined as Monday through Friday excluding Holidays. Such negotiations shall be pursued until it is apparent that the dispute cannot be resolved at the local level.

(b) The international representatives of the disputing Unions shall meet or confer and attempt to resolve said dispute. This meeting shall take place within two (2) business days.

(c) The parties to the Jurisdictional Dispute shall submit the dispute

directly to the Arbitrator after complying with paragraph (2b) above. The disputed parties shall meet with the Arbitrator within three (3) business days. The Arbitrator's bench decision will be given the day of the hearing and will be final and legally binding on the Project only. The Arbitrator's bench decision will be implemented without delay. The cost of arbitration will be shared equally by the disputing parties. Any party to the dispute can require that a "long form" written decision be provided from the Arbitrator; however, the cost of the "long form" written decision will be the responsibility of the Party making the request.

(d) A Jurisdictional Dispute may be submitted based upon a pre-job assignment.

(e) If any party to the Jurisdictional Dispute does not fully comply with the steps and time limits within each step, then the party in non-compliance will lose by "automatic default."

(f) Time limits at any step can be extended if all parties to the Jurisdictional Dispute mutually agree in writing.

(g) All parties to a Jurisdictional Dispute can mutually agree to waive the time limits in steps (a) and (b) and proceed directly to an expedited arbitration hearing.

(h) The Arbitrator is not authorized to award back pay or any other damages for a mis-assignment of work; nor may any party bring an independent action for back pay or any other damages based upon a decision of an Arbitrator.

SECTION 3. NO INTERFERENCE WITH WORK

The Parties agree that Jurisdictional Disputes cannot and shall not interfere

with the efficient and continuous operations required for the successful application of this Agreement. There will be no strikes, sympathy strikes, work stoppages, slowdowns, picketing or other disruptive activity of any kind arising out of any Jurisdictional Dispute. Pending the resolution of the Jurisdictional Dispute, the work shall continue uninterrupted and as assigned by the Contractor. No Jurisdictional Dispute shall excuse a violation of Article 7.

SECTION 4. DELIVERIES

Equipment or material delivered to the jobsite will be unloaded promptly without regard to Jurisdictional Disputes, which will be handled as per the provisions of this Agreement. The Contractor will supply the Union with delivery schedules, allowing as much time as possible to ensure the appropriate crafts will be available to unload the materials or equipment.

ARTICLE 10 - WAGES AND BENEFITS

SECTION 1. CLASSIFICATION AND BASE HOURLY RATE

All employees covered by this Agreement shall be classified in accordance with the work performed and paid the hourly wage and fringe benefit rates applicable for those classifications as required by the applicable Collective Bargaining Agreement.

SECTION 2. EMPLOYEE BENEFITS

A. The Contractors agree to pay on a timely basis contributions on behalf of all employees covered by this Agreement to those established jointly trusteed employee benefit funds designated in the Collective Bargaining Agreement

(in the appropriate Collective Bargaining Agreement amounts).

B. The Contractors agree to be bound by the written terms of the legally established jointly trusteed trust agreements specifying the detailed basis on which payments are to be paid into, and benefits paid out of, such trust funds but only with regard to the Project Work done under this Agreement and only for those employees to whom this Agreement requires such benefit payments.

C. In consideration of the Unions' waiver of their rights to withhold labor from a Contractor delinquent in the payment of fringe benefits contributions ("Delinquent Contractor"); to the extent permitted by law the Design Build Contractor agrees that where any such union and/or fringe benefit fund shall notify the Design Build Contractor and the Delinquent Contractor in writing with back-up documentation that the Delinquent Contractor has failed to make fringe benefit contributions to it as provided herein and the Delinquent Contractor shall fail, within ten (10) calendar days after receipt of such notice, to furnish either proof of such payment or notice that the amount claimed by the union and/or fringe benefit fund is in dispute, the Design Build Contractor shall withhold from amounts then or thereafter becoming due and payable to the Delinquent Contractor an amount equal to that portion of such payment due to the Delinquent Contractor that relates solely to the Project Work performed by the Delinquent Contractor which the union or fringe benefit fund claims to be due it, and shall remit the amount when and so withheld to the fringe benefit fund and deduct such payment from the amounts then otherwise due and payable to the Delinquent Contractor, which payment shall,

as between the Design Build Contractor and the Delinquent Contractor, be deemed a payment by the Design Build Contractor to the Delinquent Contractor. The Union or its employee benefit funds shall include in its notification of delinquent payment of fringe benefits only such amount it asserts the Delinquent Contractor failed to pay on the Project Work and the Union or its employee benefit funds may not include in such notification any amount such Delinquent Contractor may have failed to pay on any other DDOT or non-DDOT project.

D. Payment to a fringe benefit fund under this provision shall not relieve the Design Build Contractor or Delinquent Contractor from responsibility for the Project Work covered by the payment. Nothing contained herein shall create any obligation on the part of DDOT to pay any union or fringe benefit fund, nor shall anything provided herein serve to create any relationship in contract or otherwise, implied or expressed, between the union/fund and/or fringe benefit and DDOT.

ARTICLE 11. EMPLOYMENT OF VETERANS

SECTION 1. HELMETS TO HARDHATS

The Contractors and Unions desire to facilitate the entry into the building and construction trades of veterans and members of the National Guard and Reserves who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment ("Center"), a joint Labor-Management Cooperation Trust, established under the authority of Section 6(b) of the Labor-Management Cooperation Act of 1978, 29 U.S.C. Section 175(a), and Section

302(c)(9) of the Labor-Management Relations Act, 29 U.S.C. Section 186(c)(9), and a charitable tax exempt organization under Section 501(c)(3) of the Internal Revenue Code, and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties. The Unions and Contractors agree to coordinate with the Center to create and maintain an integrated database of veterans and members of the National Guard and Reserves interested in working on the Project and of apprenticeship and employment opportunities for the Project. To the extent permitted by law, the Contractors and Unions will give credit to such veterans and members of the National Guard and Reserves for bona fide, provable past experience.

SECTION 2. CONTRIBUTIONS

(a) Each Contractor performing work on the Project shall contribute to the Center the amount of two cents ($0.02) per hour for each hour worked by each individual employee covered by this Agreement. This payment may be modified upon the mutual agreement of the Union, CHOICE, and the Design Build Contractor. Payment shall be forwarded monthly to the Center in a form and manner to be determined by the Center’s trustees.

(b) The Center shall function in accordance with, and as provided in the Agreement and Declaration of Trust creating the fund, and any amendments thereto, and any other of its governing documents. Each Contractor performing work covered

by this Agreement approves and consents to the appointment of the trustees designated pursuant to the trust agreement establishing the Center and hereby adopts and agrees to be bound by the terms and provisions of the trust agreement.

(c) Contractors who fail to pay contributions or other payments owed to the Center within thirty (30) days of the date when such contributions or other payments are due shall be liable to the Trust for all costs of collection incurred by the trust, including interest, attorneys' fees, court costs and penalties as may be assessed by the trustees. The trustees are empowered to initiate proceedings at law or equity, and to take any other lawful action necessary to collect contributions and all other payments due.

ARTICLE 12- HOURS OF WORK, PREMIUM PAYMENTS, SHIFTS AND HOLIDAYS

SECTION 1. WORK WEEK AND WORK DAY

(a) The normal workday shall be eight (8) hours and the normal workweek shall be forty (40) hours, Monday through Friday. Regular work hours will be between 5:30 a.m. and 5:30 p.m. plus one-half (½) hour unpaid for lunch approximately mid-way through the shift, which may be changed by mutual agreement of the Union and the Contractor. The Design Build Contractor may arrange for multiple shifts outside of normal work hours. Saturdays and Holidays may be make-up days on a voluntary basis for weather-related lost time only, with no less than eight (8) hours work opportunity if called in. The Union and the Design Build Contractor may, by mutual agreement, increase or decrease the minimum hours of make-up work. Make-up days shall be paid as straight time unless otherwise required by law.

(b) If the Design Build Contractor and the Contractor determine that it would be beneficial to the Project, the Contractor may implement a four (4) ten-hour day workweek or a five (5) ten-hour day workweek (exclusive of one-half hour unpaid lunch approximately mid-way through the shift) after providing three (3) days' notice to the Union. Once established, a four-ten or five-ten workweek shall remain in effect for at least four (4 or 5) consecutive working days. Regular working hours during the four/ten workweek will be between 5:30 a.m. and 5:30 p.m., Monday through Friday. Saturdays and Holidays may be make-up days on a voluntary basis for weather-related lost time only, with no less than ten (10) hours work opportunity if called in.

(c) A uniform starting time will be established for each craft or segment of the work. The Union(s) shall be informed of the work starting time set by the Contractor at the pre-job conference.

SECTION 2. OVERTIME

The need to work overtime will be determined by the Contractor. The Contractor will determine the distribution of approved overtime work. All overtime hours shall be paid at the rate of one and one-half (1½) times the straight-time rate of pay. Employees shall be paid at the straight- time rate of pay for the: first eight (8) hours in a single day when working on a five (5) days x eight (8) hours schedule and at the overtime rate thereafter; or the first 10 hours worked per day in a four (4) days x ten (10) hours schedule and at the overtime rate thereafter. Any other type of alternative schedule shall be paid at the straight time rate for the first eight (8) hours per day and at the overtime rate for all hours after eight (8) hours. Work on Sundays and Holidays shall be paid at the overtime rate.

SECTION 3. HOLIDAYS

The recognized Holidays shall be the following days: New Year's Day; Inauguration Day; Martin Luther King Jr. Birthday; Presidents' Day; Memorial Day; Emancipation Day; Independence Day; Labor Day; Columbus Day; Veterans Day; Thanksgiving Day; and Christmas Day. When any Holiday falls on Sunday, the Holiday will be observed on the following Monday. When any Holiday falls on a Saturday, the Holiday will be observed on the immediately preceding Friday.

SECTION 4. SHIFTS

The Unions will use their best efforts to provide sufficient manpower to work on multiple shifts if the Design Build Contractor or the Contractors determine that multiple shifts are necessary. Employees on a second shift shall receive eight (8) hours pay for a seven and one-half (½) hour shift. Employees on a third shift shall receive eight (8) hours pay for a seven (7) hour shift. The Contractor shall notify the Union with two (2) days' notice of the starting and quitting time of all second or third shifts in advance of initiation of said shifts.

SECTION 5. ACCOMMODATING OPERATIONAL NEEDS

If DDOT needs to restrict work to accommodate DDOT's operations, shift starting times and duration may be adjusted to meet these needs and work shall be performed at the regular hourly rate. The Design Build Contractor will provide not less than three (3) days' notice to the Union(s) and affected work crews. .The Unions and the employees agree that the employees will work the adjusted shifts. Where such shift adjustments are

known at the time employees are requested from the hiring hall, the Contractor shall notify the dispatcher of the variable shifts requirement and the dispatcher will notify the workers being dispatched of the requirement. Nothing in this section shall be deemed to restrict the right of DDOT to order the suspension of Project Work pursuant to Section 10 of this Article.

SECTION 6. ABSENTEEISM

The Parties agree that chronic and/or unexcused absenteeism is undesirable and must be controlled. The Design Build Contractor, after consultation with the Unions, shall implement a uniform absenteeism policy for the Project and such policy will be published and posted in conspicuous places throughout the Project Site. The policy may provide for reasonable disciplinary actions, including suspension and discharge, subject to the employee's right to file a grievance over such discipline.

SECTION 7. BEGINNING AND END OF WORKDAY

Employment begins and ends at the Project Site. Employees shall be at their place of work at the starting time; and employees shall remain at their place of work until quitting time unless otherwise instructed by the Contractor.

SECTION 8. REPORTING PAY

A. Employees who report to the work location pursuant to their regular schedule and who are not provided with work shall be paid two hours reporting pay at straight time rates. An employee whose work is terminated early by a Contractor due to weather, power failure, fire or natural disaster or for similar circumstances beyond the Contractor's control shall receive pay only for such time

as is actually worked. In other instances in which an employee's work is terminated early (unless provided otherwise elsewhere in this Agreement), the employee shall be paid for his full shift.

B. When an employee who has completed his/her scheduled shift and left the Project Site is "called out" to perform special work of a casual, incidental or irregular nature, the employee shall receive overtime pay at the rate of time and one-half of the employee's straight time rate for hours actually worked.

C. When an employee leaves the job or work location of his/her own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Article 12, Section 9, he/she shall be paid only for the actual time worked.

D. Except as specifically set forth in this Article there shall be no premiums, bonuses, hazardous duty, high time or other special premium payments or reduction in shift hours of any kind.

E. There shall be no pay for time not actually worked except as specifically set forth in this Article.

SECTION 9. PAYMENT OF WAGES

Termination- Employees who are laid off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractor shall also provide the employee with a written statement setting forth the date of lay off or discharge.

SECTION 10. EMERGENCY WORK SUSPENSION

A Contractor may, if considered necessary for the protection of life and/or

safety of employees or others, or at the direction of DDOT or a safety or security agency of the federal or District of Columbia government, suspend all or a portion of the Project Work or make temporary shift changes to accommodate the emergency. In such instances, employees will be paid for actual time worked, except that when a Contractor requests that employees remain at the Project Site available for work, employees will be paid for that time at their hourly rate of pay.

SECTION 11. INJURY/DISABILITY

An employee, who, after commencing work, suffers a work-related injury or disability while performing work duties, shall receive no less than 8 hours wages for that day. Further, the employee shall be rehired at such time as able to return to duties provided there is still Project Work available for which the employee is qualified and able to perform.

SECTION 12. TIME KEEPING

A Contractor may utilize brassing or other systems to check employees in and out. Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious manner.

SECTION 13. MEAL PERIOD

A Contractor shall schedule an unpaid period of not more than 1/2 hour duration at the work location between the 3rd and 5th hour of the scheduled shift. A Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more crafts or which provides for staggered lunch periods within a craft or trade. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable

Collective Bargaining Agreement.

SECTION 14. BREAK PERIODS

There will be no non-working time established during working hours, provided, however, that individual nonalcoholic beverage containers will be permitted at the employee's work location, except in specific instances where liquids on the Project Site are not allowed by the Contractor.

ARTICLE 13 – APPRENTICES

The parties recognize the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry. The parties further recognize that apprenticeship and training shall be offered consistent with the applicable Union's Collective Bargaining Agreement and consistent with the apprenticeship and training programs currently maintained by the joint apprenticeship and training committees sponsored by the Unions and their signatory contractors.

The parties agree that, subject to any restrictions contained in applicable law, the Contractor(s) will employ apprentices in the respective crafts which are performing the Project Work, and within the jurisdiction of the craft in which those apprentices are working. The parties further agree to a goal that apprentices will perform a portion of the total craft work hours that is consistent with Article 3, Section 4. B. . The Unions agree to cooperate with the Contractor in furnishing apprentices as requested. Apprentices shall be properly supervised and paid in accordance with the applicable Collective Bargaining Agreement.

The Contractors recognize the Unions' commitment to the community to use the

opportunities provided by the Project to identify and promote, through cooperative efforts, programs, procedures, and ways to assist interested disadvantaged and low-income individuals who have typically been underrepresented in the construction industry, in pursuing careers in the construction industry through apprenticeship programs. These efforts may include, for example, programs to prepare persons for entrance into formal apprenticeship programs such as pre-apprenticeship programs utilizing the Building Trades' Multi-Craft Core Curriculum, and outreach programs to the community describing opportunities available as a result of the Project. The Contractors agree to cooperate in such efforts. In addition, in the hiring and use of apprentices, the Contractors and the Union must be consistent with the local hiring preference and apprenticeship provisions of Article 3, Section 4.B.

ARTICLE 14-SAFETY PROTECTION OF PERSON AND PROPERTY

SECTION 1. SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA and safety requirements are at all times maintained on the Project Site and the employees and Unions agree to cooperate fully with these efforts to the extent consistent with their rights and obligations under the law. The employer may require its employees to comply with employer safety policies and to perform their work at all times in a safe manner to protect themselves and the property of the Contractor and Design Build Contractor from injury or harm, to the extent consistent with their rights and obligations under the law. Failure to do so will be grounds for discipline, including discharge. Nothing in this Agreement will make the Unions liable to any employees or to other persons in the even that injury or accident occurs.

SECTION 2. CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractors and the Design Build Contractor for the Project Work. Such rules will be published and posted in conspicuous places throughout the Project Site. Any Project Site security and access policies established by the Design Build Contractor intended for specific application to the construction workforce for the Project Work shall be implemented only after notice to the Unions and an opportunity for the Unions to respond. A failure to agree shall be treated as a grievance. This section does not apply to emergency situations pursuant to Article 12, Section 10.

SECTION 3. INSPECTIONS

The Contractors and Design Build Contractor retain the right to inspect incoming shipments of equipment, apparatus, machinery, and construction materials of every kind.

ARTICLE 15 - NO DISCRIMINATION

SECTION 1. COOPERATIVE EFFORTS

In accordance with Title VII of the Civil Rights Act of 1964, as amended and the District of Columbia Human Rights Act of 1977 as amended, the Contractors and Unions agree that they will not discriminate against any employee or applicant for employment because of (actual or perceived) race, color, religion, national origin, sex, age, marital status, personal appearance, sexual orientation, gender identity or expression, family responsibilities, genetic information, disability,

matriculation or political affiliation, or any other status provided by law, in any manner prohibited by law or regulation.

It is recognized that special procedures may be established by mutual consent of the Contractors, Local Unions, the District Department of Employment Services and DDOT's Office of Civil Rights, for the training and employment of persons who have not previously qualified to be employed on construction projects of the type covered by this Agreement. The Parties shall assist in such programs and agree to use their best efforts to ensure that the goals for female and minority employment are met on the Project.

SECTION 2. LANGUAGE OF AGREEMENT

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

ARTICLE 16- GENERAL TERMS

SECTION 1. PROJECT RULES

The Design Build Contractor and the Contractors shall establish such reasonable Project Work rules that are not inconsistent with this Agreement or rules common in the industry. These rules will be explained at the pre-job conference and posted at the Project Site and may be amended thereafter as necessary. Notice of amendments will be provided to the appropriate Local Union. Failure of an employee to observe these rules and regulations shall be grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

SECTION 2. TOOLS OF THE TRADE

The welding/cutting torch and chain fall are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

SECTION 3. SUPERVISION

Employees shall work under the supervision of the craft foreperson or general foreperson.

SECTION 4. TRAVEL ALLOWANCES

There shall be no payments for travel expenses, travel time, subsistence

allowance or other such reimbursements or special pay except as expressly set forth in this Agreement.

SECTION 5. FULL WORK DAY

Employees shall be at their work area at the starting time established by the Contractor, provided they are allowed access to the work area.

SECTION 6. COOPERATION AND WAIVER

The Design Build Contractor, Contractors and the Unions will cooperate in seeking any Federal Highway Administration or any other government approvals that may be needed for implementation of any terms of this Agreement. In addition, CHOICE, on its own behalf and on behalf of the participating Local Unions and their individual members, intend the provisions of this Agreement to control to the greatest extent permitted by law, including specifically, but not limited to those provisions relating to shift, night, and similar differentials and premiums. This Agreement does not constitute a waiver or modification of the prevailing wage schedules applicable to work not covered by this Agreement.

ARTICLE 17 – FOUNDATION FOR FAIR CONTRACTING

(a) Each Contractor performing work under this Agreement shall be required to contribute to the Foundation for Fair Contracting – C.H.O.I.C.E ("Foundation"), which is a Labor-Management Cooperation Committee established under the authority of Section 6(b) of the Labor-Management Cooperation Act of 1978, 29 U.S.C. Sec. 175(a), and Section 302(c)(9) of the Labor-Management Relations Act, 29 U.S.C. Sec. 186(c)(9).

(b) Each Contractor performing work under this Agreement shall contribute

to the Foundation the amount of twenty-five cents ($0.25) per hour for each hour worked by each individual employee covered by this Agreement. Payment shall be forwarded monthly to the Foundation in a form and manner determined by its Trustees.

(c) The Foundation shall function in accordance with the Agreement and Declaration of Trust creating the fund, and amendments thereto, and any other of its governing documents. Each Contractor performing work covered by this Agreement approves and consents to the appointment of the Trustees designated pursuant to the Trust Agreement establishing the Foundation and hereby adopts and agrees to be bound by the terms and provisions of the Trust Agreement.

(d) Contractors who fail to pay contributions or other payments owed to the Capital Region Foundation for Fair Contracting within thirty (30) days of the date when such contributions are due shall be liable to the Trust for all costs of collection incurred by the Trust, including interest, attorneys' fees, and court costs. The Trustees are empowered to take any lawful action necessary to collect contributions and all other payments due.

(e) All costs associated with Article 17 of this Agreement are not eligible for Federal participation.

ARTICLE 18 - FUTURE CHANGES IN COLLECTIVE BARGAINING AGREEMENTS

SECTION 1. CHANGES TO AREA CONTRACTS

(a) Each Collective Bargaining Agreement shall continue in full force and effect until the Contractor and/or Union parties to one of those Collective Bargaining Agreements notifies the Design Build Contractor of the hourly rate changes agreed to

in such Collective Bargaining Agreement, which are applicable to work covered by this Agreement and their effective dates.

(b) It is agreed that any provisions negotiated into the Collective Bargaining Agreements will not apply to work under this Agreement if such provisions are less favorable to those uniformly required of contractors for construction work normally covered by those Collective Bargaining Agreements.

(c) Any disagreement between signatories to this Agreement over the incorporation into the Collective Bargaining Agreement of provisions agreed upon in the renegotiation of the Collective Bargaining Agreements shall be resolved in accordance with the procedure set forth in Article 8 of this Agreement.

SECTION 2. LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS

The Unions agree that there will be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Project Work by any Local Union involved in the renegotiation of the Collective Bargaining Agreements nor shall there be any lock-out on such Project Work affecting a Local Union during the course of such renegotiations. The Unions reserve all of their collective bargaining rights with respect to the negotiation of successor Collective Bargaining Agreements.

ARTICLE 19. SAVINGS AND SEPARABILITY

SECTION 1. THIS AGREEMENT

The parties to this Agreement promise and covenant to comply with all federal and local laws, rules, executive orders and regulations applicable to the Project or the work performed on the Project. In the event that the application of this Agreement or any

provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of the law, the provision involved shall be rendered, temporarily or permanently, null and void but the remainder of this Agreement shall remain in full force and effect, unless the part or parts so found to be illegal or void are wholly inseparable from the remaining portions of this Agreement. The Contractor and Union parties agree that if and when such an order is issued, the parties will promptly enter into negotiations concerning the substance affected by such order for the purpose of achieving conformity with the requirements of any applicable law and the intent of the parties hereto.

SECTION 2. NON-WAIVER

Nothing in this Article shall be construed as waiving the prohibitions of Article 7, Work Stoppages and Lockouts, as to any Contractor or Union.

SECTION 3. APPLICABLE LAW

The laws of the District of Columbia shall govern the interpretation and enforcement of this Agreement, without giving effect to choice of law principles.

ARTICLE 20- DURATION OF AGREEMENT

It is understood that this Agreement, together with all of its provisions, shall remain in effect for all Project Work until completion.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed and effective as of the_____day of _____, 201_.

FOR CHOICE

BY:_____
Mark A. Coles
Executive Director

FOR THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

BY:_____
Leif A. Dormsjo
Director

FOR SIGNATORY UNIONS

BY:_____
Local #24, Asbestos Workers

BY:_____
Local #193, Boilermakers

BY:_____
Local #1, Bricklayers and Allied Craft Workers

BY:_____
Local #26, Electrical Workers

BY:_____
Local #10, Elevator Constructors

BY:_____
Local #5, Iron Workers

BY:_____
Local #77, Operating Engineers

BY:_____
Local #891, Operative Plasterers & Cement Masons

BY:_____

Painters District Council #51

BY:_____
Local #5, Plumbers

BY:_____
Local #201, Reinforced Rodmen

BY:_____
Local #100, Sheet Metal Workers

BY:_____
Local #669, Sprinkler Fitters

BY:_____
Local #602, Steamfitters

BY:_____
Baltimore-Washington Laborers District Council

BY:_____
United Brotherhood of Carpenters & Joiners

EXHIBIT A

Project Labor Agreement - - Letter of Assent

The undersigned party confirms that it agrees to be a party to and be bound by the Project Labor Agreement ("PLA") covering he South Capitol Street Corridor Project-Phase I ("Project"), as the PLA may, from time to time, be amended by the parties or interpreted pursuant to its terms. The terms of the PLA, its Schedules, Addenda and Exhibits are hereby incorporated by reference herein.

The undersigned, as a contractor or subcontractor (hereinafter "Contractor") on the Project, for and in consideration of the award to it of a contract to perform work on said Project, and in further consideration of the mutual promises made in the PLA, a copy of which was received and is acknowledged, hereby:

(1) Accepts and agrees to be bound by the terms and conditions of the PLA, together with any and all schedules; amendments and supplements now existing or which are later made thereto.

(2) Agrees to be bound by the legally established collective bargaining agreements and local trust agreements as set forth in the PLA, but only to the extent of Project Work and as required by the PLA.

(3) Authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor but only to the extent of Project Work as required by the PLA.

(4) Certifies that it has no commitments or agreements that would preclude its full and complete compliance with the terms and conditions of the PLA. The Contractor agrees to employ labor that can work in harmony with all other labor on the Project and shall require labor harmony from every lower tier subcontractor it has engaged or may engage to work on the Project. Labor harmony disputes/issues shall be subject to the labor management committee provisions.

(5) Agrees to secure from any contractor(s) performing the Project Work which is or becomes a subcontractor (of any tier), to the undersigned Contractor, a duly executed agreement to be bound in from identical to this document.

Provide description of work; identify craft jurisdiction(s) and all contract numbers below:

Name of contractor or subcontractor:

Authorized Officer & Title: _____

Address: _____

Phone:_____ Fax:_____

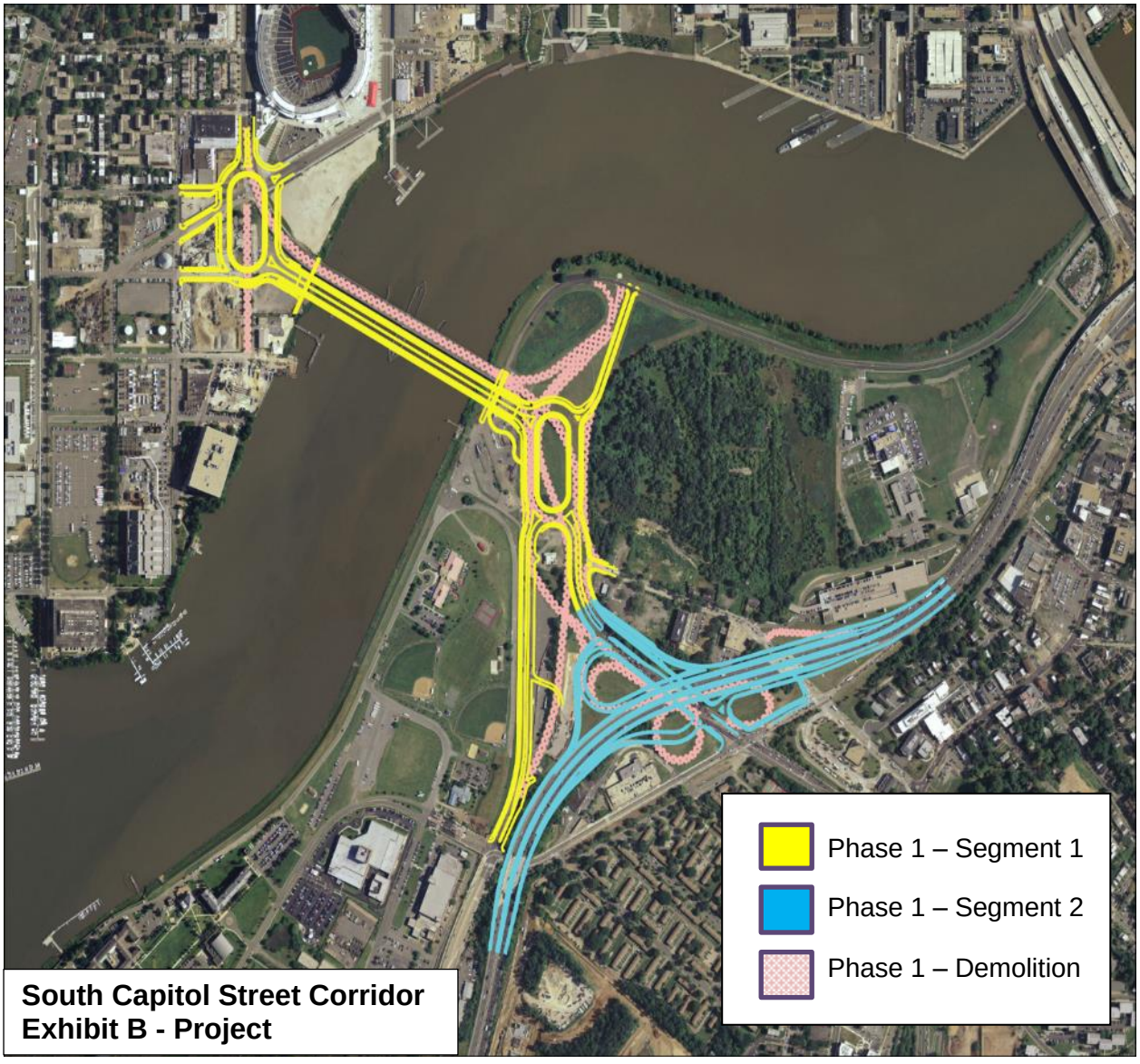
Contractors State License #: _____

Entity your company is contracted with and address: _____

Sworn to before me this
_____ day of _____ , 20

Dated: _____

_____
Notary Public



South Capitol Street Corridor
Exhibit B - Project

South Capitol Street Corridor
Exhibit C - Project Site

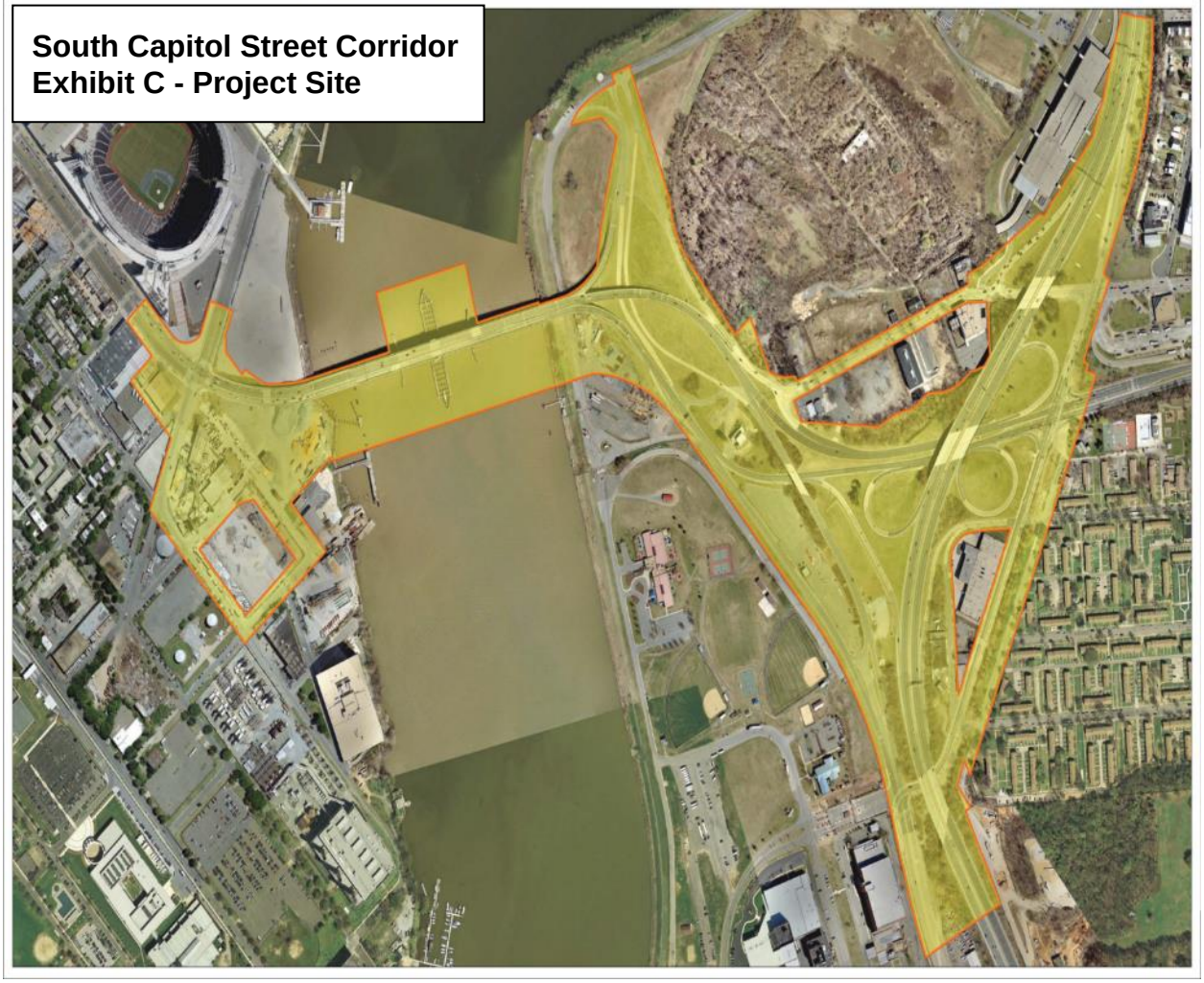


EXHIBIT D

SEP-14 Application and Approval

[see attached]

SEP-14 Application:

Locally-Based Hiring Preferences on the South Capitol Street Corridor Project Phase 1

September 8, 2015

Rev 2

Contents

1. Introduction 1

2. Purpose 1

2.1 Project Description 1

2.2 Project Schedule 2

2.3 Project Funding Phase 1 2

3. Description of Proposed Contracting Requirements 3

3.1 Specific Contract Provisions 3

4. Measurement 4

4.1 Describe and Quantify How the Proposed Contract Requirement Will Protect the Effective and Efficiency Use of Federal Funding for the Project 5

4.2 Protecting the Integrity of the Competitive Bidding Process for the South Capitol Street Corridor 5

5. Litigation 5

6. Reporting 6

1. Introduction

The District Department of Transportation (DDOT) is submitting this work plan to the Federal Highway Administration (FHWA) for review and approval to include a Local Labor Hiring Preference (LLHP) contract provision on the South Capitol Street Corridor Project, Phase 1 (the Project) to evaluate whether the local labor hiring preferences unduly restrict competition. For the purpose of this application local labor is classified as any resident of the District of Columbia as defined in DC Code 47-1801.04 as "an individual domiciled in the District at any time during the taxable year, and every other individual who maintains a place of abode within the District for an aggregate of 183 days or more in the taxable year, whether or not the individual is domiciled in the District". This application is made under the Notice: Contracting Initiative announced in the March 6, 2015 Federal Register, as well as the associated Pilot Program under Special Experimental Project No. 14 (SEP-14) Alternative Contracting.

Historically, FHWA prohibited its recipients of Federal-aid from using contract provisions, such as LLHP, that do not directly relate to the bidder's performance of work. The District of Columbia has used LLHP contract provisions for many years on its city-funded contracts, and is requesting FHWA's approval for the use of these provisions on this Federal-aid project under the experimental authorities under 23 U.S.C. 502 and SEP-14. The Project is being procured under a single design build contract.

2. Purpose

The purpose of this work plan is to outline how the impact, if any, that LLHP contract provisions have on the delivery of the Federal-aid project and to determine the extent to which the contract provision affected competition. The District promotes the principle that local residents should participate in, and benefit from, the capital investments in their neighborhoods such as: (1) access to job opportunities; (2) economic benefits to the adjacent communities where the project is located; and (3) helps build a middle-class tax base. DDOT believes that recruiting from the local labor pool will not unduly restrict competition for a Federal-aid project and will not significantly increase the total project cost for the project and that any increase in total project cost will be offset by the benefit to the local community in providing training opportunities and creating a workforce of skilled and qualified workers available to fill the employment needs for future transportation projects.

The current National unemployment rate is 5.5%, however, Washington, DC continues to have a higher than average rate at 7.5%. While the city average is only two points higher than the national average, several areas of the city struggle with unemployment rates of 11% to 15% - twice that of the city average. The majority of the project is located in Ward 8 in Washington, DC where the local unemployment rate is 14.8%. The use of LLHP will provide significant employment opportunities in Washington, DC.

2.1 Project Description

The scope of the South Capitol Street Corridor Phase 1 Project includes the following:

- Construction of a new Frederick Douglass Memorial Bridge and removal of the existing bridge.
- Construction of the bridge approach ovals and connections to adjacent streets.
- Reconstruction of South Capitol Street, SE and Suitland Parkway up to their intersection with Firth Sterling Avenue.
- Replacement of the Interstate 295 bridges over Howard Road, Suitland Parkway and Firth Sterling Avenue.
- Reconstruction of the Interstate 295/Suitland Parkway Interchange.

2.2 Project Schedule

The Project schedule is as follows:

Date of RFP Advertisement	March 4, 2016
Contract Award	December 15, 2016
Project Completion	December 31, 2020

2.3 Project Funding Phase 1

As set forth in the draft Initial Financial Plan (dated May 20, 2015) DDOT anticipates funding the South Capitol Street Corridor Project through a combination of Federal and local funds.

The breakdown of the total estimated Phase 1 Project Costs is as follows:

Use	Total Cost
Preliminary Design:	$51.2m
Right of Way:	$96.0m
Design Build Contract:	$515.3m
Project / Construction Management:	$52.1m
GARVEE Debt Service Reserve & Fees:	$75.3m
Contingency, Management Reserve and Stipends:	$62.3m
Project Funding Contingency:	$49.9m
Total:	**$902.1m**

The breakdown of the total Project Funds is as follows:

Source	Total Funds
Total Federal Discretionary Funds:	$113.7m
Total Federal Formula Program Funds:	$140.9m
Total GARVEE Bond Proceeds:	$249.6m
Total Local Funds:	$354.9m
Total:	**$859.1m**
Federal Formula Program Funds applied to Debt Service:	$43.0m
Total:	**$902.1m**

Sources of the Federal Discretionary Funds described in the table above are:

- Section 1302 National Corridor Infrastructure Improvement Program (2005)
- Section 1702.1547 High Priority Project Funds (2005)
- Section 129 Consolidated Appropriations Act, P.L. 1100161 (2008)
- Public Lands Highway Discretionary Program (2010)

3. Description of Proposed Contracting Requirements

LLHP contract provisions have not previously been applied to FHWA funded projects due to its prohibition on Federal-aid highway projects. The scope of this SEP-14 pilot would be to assess the impact of utilizing LLHP contract provisions on full and open competition for Federal-aid projects. The pilot program will be used to compare and contrast the impact of LLHP contract provisions on competition for FHWA funded contracts against the long term benefit of creating a local workforce of skilled and qualified workers available to fill the employment needs for future transportation projects. Ultimately the goal is to evaluate whether utilization of LLHP contract provisions creates a competitive environment that result in the District receiving lower cost bids that are delivered with a reliable local labor force.

The SEP-14 pilot will consist of the following:

- DDOT will collect data during the bidding process and throughout the project to evaluate the impacts to the competitiveness of the contracting, including total project cost;
- Contract provisions will require a good faith effort to meet the goals established for LLHP, as described in Section 3.1;
- The impact on the local labor pool will be evaluated to determine whether there was an increase in the workforce of skilled and qualified workers available to fill the employment needs for future transportation projects; and
- Preliminary, Interim and Final Reports will be submitted to FHWA to record findings and lessons learned. See Section 6 for Details

3.1 Specific Contract Provisions

Since 1983, the District of Columbia has had a long standing robust local hiring program in place for locally funded projects. This local hiring program, hereinafter referred to as the "First Source Provisions", encourage the employment of local and economically disadvantaged individuals on locally-funded projects, and the District considers that such initiatives provide ladders of opportunity to individuals who otherwise may be excluded from jobs in the construction industry. The First Source Provisions have been applied on a number of major capital projects within the District, including the Nationals Ballpark and the Marriott Marquis. Through the use of the First Source Provisions, the local labor pool of skilled craft workers has increased. With an estimated total project cost of in excess of $900 million, the Project will be the largest transportation project undertaken by DDOT to date and will offer the unique opportunity to provide additional training and employment opportunities to create a local workforce of skilled and qualified workers available to fill the employment needs for future transportation projects which will likely result in lower project costs on transportation projects for years to come.

DDOT proposes to refer to the First Source Provisions as a guide to assist in informing the LLHP contract provisions set forth in the Request for Proposals (RFP) for the Project. Proposers will be required to submit a statement as part of their Technical Proposal confirming that they will exercise good faith efforts in their attempts to meet the LLHP contract provisions described herein. The LLHP contract provisions goal is similar to that of the First Source Provisions, in that for any contract more than Three Hundred Thousand dollars ($300,000), the following shall apply:

- At least 51% of all new jobs created on the Project (new hires) are to be performed by residents of the District of Columbia; and

- For all training and apprenticeship positions identified, at least 51% of the participants are residents of the District of Columbia.

For the purpose of this contract provision, "new hire" is defined as an individual who has never worked for the organization or has been separated by the organization for more than 90 consecutive days.

DDOT will monitor the contractor's performance under the contract. DDOT believes that the LLHP contract goal provisions described does not conflict with the EEO requirements of 23 CFR - Appendix A to Subpart A of Part 230—Special Provisions Specific Equal Employment Opportunity Responsibilities that will be included in the Request for Proposals (RFP). Additionally, DDOT will encourage the contractor to work with DDOT's Office of Civil Rights to develop programs to use their best efforts to ensure that the U.S. Department of Labor's goals for female and minority employment are met on the Project.

4. Measurement

DDOT will track and analyze data and the success of the contractor in achieving the established goals to evaluate quantitatively, the effects of using local hiring preferences on competitive bidding and improve utilization of the local labor pool.

The effectiveness of the LLHP contract provisions on the competitive bidding for this project will be measured quantitatively by analyzing the Project cost compared to market costs. The unit costs for major bid items in the winning bid, as compared to projects of similar scope and size will indicate the relative cost of the project and indicate the effects of the contracting requirements on competitive bidding. Comparative bid prices compared to projects of similar scope and size would indicate that the provisions had no negative impact on the competitiveness of the project. The level of competition and whether the provisions did result in leveling of the playing field in labor availability is measured by how the bid prices compare to the market and how close the bids prices are. Projects of similar scope and budget, such as the 11th Street design build project with a total project cost of $365 million, will be used as a baseline, and will be identified in the Initial Report for both the number of bids and the competitiveness of the bids. Utilization of the local labor pool will include:

- The total number of jobs to be created by the project (on all tiers);
- Demographics and geographical information of total new hires, including veterans;
- The type of jobs or job categories;
- Length of employment;
- The total training hours;
- The total number of DC residents hired by job category; and
- Terminations.

DDOT has shortlisted four qualified design build teams to respond to the RFP. Measurement of the number of bidders will therefore not be an effective benchmark in evaluating the LLHP contract provisions. Should a bidder drop out prior to submitting a Technical and Price Proposal, DDOT considers that competition will be maintained with the remaining three bidders, and the measures of cost described above, remain effective.

4.1 Describe and Quantify How the Proposed Contract Requirement Will Protect the Effective and Efficiency Use of Federal Funding for the Project

DDOT believes that the utilization of LLHP contract provisions will protect the effectiveness and efficiency of Federal funding for the Project in the following manner:

1) The intent of this experiment is to assess the degree to which the effectiveness and efficiency of the Federal funding may have been improved by the value that has been created with a stronger and more capable local workforce that was provided on this project and future projects.
2) The utilization of the local labor pool will be quantitatively measured using the demographic and hiring data to demonstrate the benefits of the contract provisions on the increase in available skilled and qualified local workers.
3) The proposed contract language is consistent with 23 CFR Part 230 regarding equal employment opportunities on Federal-aid projects. The contractor will be required to document its good faith efforts to ensure that minorities, women and disadvantaged individuals are afforded a level playing field for eligible candidates to complete for employment opportunities on Federal aid projects. The equal employment opportunity clause will be included as a standard contract clause in the RFP.
4) The proposed contract language is consistent with 23 CFR Part 230 Appendix B to Subpart A Training Special Provisions to provide training opportunities to minorities, women and disadvantaged individuals for apprenticeship and training opportunities. This contract clause will be included as a standard contract clause in the RFP.
5) All bidders will be notified of their equal employment opportunity responsibilities under Executive Order 11246 through the inclusion of Form FHWA 1273 Required Contract Provisions Federal-Aid Construction Contracts, which must be physically incorporated in all design-build Federal-aid contracts, in all subcontracts and in lower tiered subcontracts, excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder will be responsible for compliance of all subcontractors, lower tier subcontractors or service providers.

4.2 Protecting the Integrity of the Competitive Bidding Process for the South Capitol Street Corridor

The proposed experimental contract technique would protect the integrity of the competitive bidding process in connection with the Project in the following manner:

1) The procurement process will comply with all Federal and local procurement regulations through engaging a transparent bidding process for design-build projects;
2) All bidders will be held to the same standard as a matter of response to the bid solicitation; and
3) All bidders will be required to submit an initial Employment Plan outlining a strategy to meet local hiring requirements as part of its response to the bid solicitation.

5. Litigation

The District of Columbia currently has a local hiring requirement under Mayor's Order 83-265, D.C. Law 5-93, and D.C. Law 14-24. The law was recently updated in the District of Columbia Workforce Intermediary Establishment and Reform of First Source Amendment Act of 2011, which establishes local hiring requirements for all District-funded projects. The law is administered by the District Department of Employment Services (DOES), the local state employment agency. The First Source requirements

apply to any District project and typically require that 51% of all new hires be District residents for projects of contract value between $300,000 and $5 million. Additional requirements apply for contracts greater than $5 million. The First Source requirements have been applied on a number of major capital projects, including the Nationals Ballpark, the Marriott Marquis. A legal challenge to the constitutionality of the First Source law was filed in July, 2014. The litigation is still pending. However, the District continues to impose the requirements of the First Source law on ongoing projects as well as new projects during the pendency of the litigation.

6. Reporting

Reports will be made on the progress and success of the implementation of the LLHP contract provisions on the Project as measured by the data and will include an assessment of the working relationship between the District, and all persons or entities supplying labor to the Project. DDOT will be responsible for collecting all relevant data and submitting reports.

An **Initial Report** will be submitted to the FHWA within 6 months after initial Notice to Proceed is given to the contactor. The Initial Report will include an assessment of the impacts the provisions had on the bidding process, and any observations or lessons learned from the procurement and award of the contract.

Interim Reports will be submitted to the FHWA approximately one year after the Initial Report, and every year thereafter until the date of substantial completion of the Project. The Interim Reports will assess the success to date of meeting the goals established for the LLHP, provide data collected to date, assess the effectiveness of training and outreach programs, and seek to identify any means of improving the effectiveness of the program.

A **Final Report** will be submitted to the FHWA within 6 months of the date of substantial completion of the Project. The Final Report will compile data collected to assess the effectiveness of the LLHP contract provisions and will provide lessons learned and recommendations for implementation on subsequent projects. The Report will include bid price data compared to other similar projects including concrete, asphalt, and other major bid items.

U.S. Department of Transportation
Federal Highway Administration

Memorandum

Subject: **ACTION:** Local Labor Hiring Preference under Special Experimental Project No. 14 (SEP-14)

Date: September 28, 2015

From: Thomas D. Everett
Director, Office of Program Administration

In Reply Refer To:
HIPA-30

To: Christopher Lawson
Division Administrator

This memorandum is in response to the September 9 email sent by Joshua Cunningham of your office, which transmitted the District of Columbia Department of Transportation (DDOT) revised SEP-14 workplan/application (dated September 8, 2015) for utilization of a Local Labor Hiring Provision (LLHP) on the South Capitol Street Corridor Project, Phase 1. The email also transmitted a comment resolution matrix showing the resolution and disposition of each FHWA comment from the review of the July 14, 2015 version of the DDOT SEP-14 workplan.

DDOT would include the following contract provisions in its Request for Proposals:

- Proposers will be required to submit a statement as part of their Technical Proposal confirming that they will exercise good faith efforts in their attempts to meet the LLHP contract provisions;
- At least 51 percent of all new jobs created on the Project (new hires) are to be performed by residents of the District of Columbia; and
- For all training and apprenticeship positions identified, at least 51 percent of the participants are residents of the District of Columbia.

Note: For the purpose of these contract provisions, "new hire" is defined as an individual who has never worked for the organization or has been separated by the organization for more than 90 consecutive days.

The workplan is approved. If you have any questions, please contact the following: Gerald Yakowenko at Gerald.Yakowenko@dot.gov or (202)366-1562, or John Huyer at John.Huyer@dot.gov or (651)291-6111

SCHEDULE A

Collective Bargaining Agreements

[see attached]

provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of the law, the provision involved shall be rendered, temporarily or permanently, null and void but the remainder of this Agreement shall remain in full force and effect, unless the part or parts so found to be illegal or void are wholly inseparable from the remaining portions of this Agreement. The Contractor and Union parties agree that if and when such an order is issued, the parties will promptly enter into negotiations concerning the substance affected by such order for the purpose of achieving conformity with the requirements of any applicable law and the intent of the parties hereto.

SECTION 2. NON-WAIVER

Nothing in this Article shall be construed as waiving the prohibitions of Article 7, Work Stoppages and Lockouts, as to any Contractor or Union.

SECTION 3. APPLICABLE LAW

The laws of the District of Columbia shall govern the interpretation and enforcement of this Agreement, without giving effect to choice of law principles.

ARTICLE 20- DURATION OF AGREEMENT

It is understood that this Agreement, together with all of its provisions, shall remain in effect for all Project Work until completion.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed and effective as of the_____day of _____, 201_.

FOR CHOICE

BY: Mark A. Coles
Mark A. Coles
Executive Director

FOR THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

BY:_____
Leif A. Dormsjo
Director

FOR SIGNATORY UNIONS

BY:_____
Local #24, Asbestos Workers

BY:_____
Local #193, Boilermakers

BY:_____
Local #1, Bricklayers and Allied Craft Workers

BY:_____
Local #26, Electrical Workers

BY:_____
Local #10, Elevator Constructors

BY:_____
Local #5, Iron Workers

BY:_____
Local #77, Operating Engineers

BY:_____
Local #891, Operative Plasterers & Cement Masons

BY:_____

FOR THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

BY:_____
Leif A. Dormsjo
Director

FOR SIGNATORY UNIONS

BY:___NOT APPLICABLE_____
Local #24, Asbestos Workers

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BY:_____
Local #1, Bricklayers and Allied Craft Workers

BY:_____
Local #26, Electrical Workers

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Local #5, Iron Workers

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BY:_____

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BY:_____
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BY:__NOT APPLICABLE_____
Local #100, Sheet Metal Workers

BY:_____
Local #669, Sprinkler Fitters

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Local #602, Steamfitters

BY:_____
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FOR THE DISTRICT OF COLUMBIA
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BY:_____

FOR THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

BY:_____
Leif A. Dormsjo
Director

FOR SIGNATORY UNIONS

BY:_____
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BY:_____
Local #193, Boilermakers

BY:_____ 03/28/16
Local #1, Bricklayers and Allied Craft Workers

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Local #26, Electrical Workers

BY:_____
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Local #5, Iron Workers

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BY:_____

FOR THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

BY:_____
Leif A. Dormsjo
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Local #77, Operating Engineers

BY:_____
Local #891, Operative Plasterers & Cement Masons

BY:_____

FOR THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

BY:_____
Leif A. Dormsjo
Director

FOR SIGNATORY UNIONS

BY:_____
Local #24, Asbestos Workers

BY:_____
Local #193, Boilermakers

BY:_____
Local #1, Bricklayers and Allied Craft Workers

BY:_____
Local #26, Electrical Workers

BY:_____
Local #10, Elevator Constructors

BY:_____
Local #5, Iron Workers

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Local #77, Operating Engineers

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BY:_____

Painters District Council #51

BY:_____
Local #5, Plumbers

BY:_____
Local #201, Reinforced Rodmen

BY:_____
Local #100, Sheet Metal Workers

BY:_____
Local #669, Sprinkler Fitters

BY:_____
Local #602, Steamfitters

BY:_____
Baltimore-Washington Laborers District Council

BY:_____
United Brotherhood of Carpenters & Joiners

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BY:_____
Local #602, Steamfitters

BY: David L. Allen
Baltimore-Washington Laborers District Council

BY:_____
United Brotherhood of Carpenters & Joiners

South Capitol Street Bridge
Project Labor Agreement
Leif A. Dormsjo, Director
March 15, 2016

Signing for Local Union 179 of the

NERCC, of the UBC&JA

David Roncinske

David Roncinske
Business Representative

Date: 04/04/2016

BY:_____
Local #77, Operating Engineers

BY:_____
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BY:_____
United Brotherhood of Carpenters & Joiners

REQUEST FOR PROPOSALS
DESIGN-BUILD SERVICES

South Capitol Street Corridor Phase I

VOLUME II BOOK II
TECHNICAL PROVISIONS

DISTRICT OF COLUMBIA
DISTRICT DEPARTMENT OF TRANSPORTATION

March 25, 2016

Contents

Acronyms and Abbreviations V
1 General Information 1-1
2 Mandatory Standards 2-1
3 Demolition 3-1
4 Design Deviations 4-1
5 Surveys and Mapping 5-1
6 Geotechnical Design 6-1
7 Pavement 7-1
8 Environmental 8-1
9 Public Information 9-1
10 Utilities 10-1
11 Roadway Design 11-1
12 Project Documentation 12-1
13 Bridges and Structures 13-1
14 Hydrology and Hydraulics 14-1
15 Visual Quality Requirements 15-1
16 Illumination 16-1
17 Traffic Signals/Intelligent Transporation System 17-1
18 Reserved 18-1
19 Signing 19-1
20 Pavement Marking 20-1
21 Traffic Operations 21-1
22 Maintenance of Traffic 22-1
23 Bicycle and Pedestrian Facilities 23-1
24 Right-of-Way (ROW) 24-1
25 Control of Materials 25-1
26 Project Schedules 26-1
27 Project Management Plan 27-1
28 Design-Build Quality Management Plan (QMP) Requirements 28-1
29 Maintenance during Construction 29-1

Acronyms and Abbreviations

°C	degree Celsius
°F	degree Fahrenheit
°K	degree Kelvin
µm	micrometer
A	ampere
A/D	analog to digital
A/E/C	Architecture, Engineering, Construction
AASHTO	American Association of State Highway and Transportation Officials
ABMA	American Bearing Manufacturers Association
AC	alternating current
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing materials
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AGMA	American Gear Manufacturer's Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APE	Area of Potential Effect
APP	Accident Prevention Plan
APS	Accessible Pedestrian Signals
ASCE	American Society of Civil Engineers
ASSE	American Society of Safety Engineers
ASPRS	American Society for Photogrammetry and Remote Sensing
ASTM	American Society for Testing and Materials
AT	aerial triangulation
ATC	alternative technical concept
ATSSA	American Traffic Safety Services Association
AWDZ	Anacostia Waterfront Development Zone
AWG	American wire gauge
AWI	Anacostia Waterfront Initiative
AWS	American Welding Society
BMP	best management practice

CABP	current average base price
CAD	computer-aided design
CADD	Computer-Assisted Drafting and Design
CATS	construction audit tracking systems
CBP	contract base price
CBR	California Bearing Ratio
CCDP	Concrete Containment, Collection and Disposal Plan
CCT	correlated color temperature
CCTV	closed-circuit television
CEB/FIP	Comite Euro-International du Beton/Federation de la Precontrainte
CEPP	Chemical Emergency Preparedness Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
cm	centimeter
cm/second	centimeter per second
CO	Contracting Officer
COG	Council of Governments
COTR	Contracting Officer's Technical Representative
CPM	critical path method
CPT	cone penetration test
CRI	Color Rendering Index
CRR	corrosion-resistant reinforcing steel
CSA	Canadian Standards Association
CSU	Channel Service Unit
CTA	cement treated aggregate
CV	coefficient of variation
CVS	calculations verification submittal
CWMP	Project Contaminated Water Management Plan
D.C.	District of Columbia
D/A	digital to analog
DAHP	Department of Archaeology and Historic Preservation
DB	design-build
dB	decibel
DBA	Design-Build Agreement
DBC	Design-Build Contract

DBE	Disadvantaged Business Enterprise
DBH	diameter at breast height
DC Water	District of Columbia Water and Sewer Authority
DC	direct current
DCCR	DC Clean Rivers
DCMR	District of Columbia Municipal Regulations
DCR	District of Columbia Register
DCRA	Department of Consumer and Regulatory Affairs
DCS	document control system
DDEM	DDOT Design and Engineering Manual
DDESB	Department of Defense Explosive Safety Board
DDOE	District Department of the Environment
DDOT	District Department of Transportation
DMS	dynamic message sign
DMV	Department of Motor Vehicles
DOE	Department of Energy
DSC	Differing Site Condition
DSU	data service unit
DT	dry ton
DTM	digital terrain model
EB	Eastbound
ECM	Environmental Compliance Manager
ECP	Environmental Compliance Plan
EEO	equal employment opportunity
EIA	Electronics Industries Association
EIS	Environmental Impact Statement
EMP	Explosives Management Plan
EMR	Experience Modification Rate
EOR	Engineer of Record
EPA	U.S. Environmental Protection Agency
EPD	Escrowed Proposal Document
EPDM	ethylene propylene diene monomer
EPTP	Environmental Protection Training Plan
ESA	Environmental Site Assessment
ESAL	equivalent single axle load
ESC	erosion and sediment control

ESD	electrostatic discharge
ESP	Explosives Siting Plan
ESS	Explosives Safety Submission
EUAC	equivalent uniform annual cost
EVP	emergency vehicle preemption
FAA	Federal Aviation Administration
FACP	Fire Alarm Control Panel
FAR	Federal Acquisition Regulations
fc	illuminance
FDMB	Frederick Douglass Memorial Bridge
FDR	flood damage reduction
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FGDC	Federal Geographic Data Committee
FHWA	Federal Highway Administration
FOIA	Freedom of Information Act
FOTP	Fiber Optic Test Procedure
ft	foot
FWD	falling weight deflectormeter
FY	fiscal year
GB	gigabyte
GDR	Geotechnical Data Report
GeoRAS	Geospatial River Analysis System
GFCI	ground fault circuit interrupter
GIP	Geotechnical Instrumentation Plan
GIS	geographic information system
Gold Book	DDOT Standard Specifications for Highways & Structures 2013
GPR	ground-penetrating radar
GPS	global positioning system
H&HA	hydrologic and hydraulic analysis
HAR	Highway Advisory Radio
HAZWOPER	Hazardous Waste Operations and Emergency Response Standard
HEC	Hydraulic Engineering Circular
HMA	hot mix asphalt
HMI	human-machine interfacing

HMMP	Hazardous Material Management Plan
HMS	Hydrologic Modeling System
HOV	high-occupancy vehicle
hp	horsepower
HPC	high performance concrete
HVAC	heating, ventilation, and air conditioning
Hz	hertz
I/A	Independent Assurance
I/O	inflow/outflow
IBC	International Building Code
ICBO	International Conference of Building Officials
ICC	International Code Council
ID	identification
IDC	Interdisciplinary Commitment
EIA	Electronic Industries Alliance
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IFC	International Fire Code
IJR	Interchange Justification Report
IMR	Interchange Modification Report
IP	importance factor
ISAT	International Seismic Application Technology
ISO	International Standards Organization
ISTMT	in-situ temperature measurement test
ITE	Institute of Transportation Engineers
ITP	Instructions to Proposers
ITS	Intelligent Transportation Systems
IWP	Investigative Work Plan
JBAB	Joint Base Anacostia-Bolling
JDAC	Joint Development and Adjacent Construction
km/hr	kilometer per hour
ksi	kips per square inch
KV	kilovolt
KVA	kilo-volt-amperes
LAN	local area network
lb	pound

LBP	lead-based paint
LCD	liquid crystal display
LDD	Lamp Dirt Depreciation
LED	light-emitting diode
LFCF	light-weight foamed concrete fill
LID	low-impact development
LLD	lamp lumen depreciation
LLDPE	linear low-density polyethylene
lm/w	lumens per watt
LPH	liquid phase hydrocarbon
LRFD	Load Factor and Resistance Design
LRFR	load and resistance factor rating
LUST	leaking underground storage tank
MB	megabyte
MCC	Motor Control Center
MCS	motor carrier safety
MEC	munitions and explosives of concern
MEP	maximum extent practicable
MIS	motorist information sign
mm	millimeter
MOA	Memorandum of Agreement
MOT	maintenance of traffic
MOU	Memorandum of Understanding
MPD	Metropolitan Police Department of the District of Columbia
mph	mile per hour
Mr	resilient modulus
MRSID	Multi-resolution Seamless Image Database
MS4	Municipal Separate Storm Sewer System
MSD	minimum separation distance
MSDS	Material Safety Data Sheets
MSE	mechanically stabilized earth
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways
N/A	not applicable
NACTO	National Association of City Transportation Officials
NCHRP	National Cooperative Highway Research Program

NCI	nonconforming issue
NCP	National Planning Commission
NCPC	National Capital Planning Commission
NCR	Nonconformance Report
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHS	National Highway System
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRL	National Rating Load
NSBA	National Steel Bridge Alliance
NTP	notice to proceed
NTP1	first notice to proceed
NTP2	second notice to proceed
OSHA	Occupational Safety and Health Administration
PC	point of curve
PCC	Portland cement concrete
PCCP	Portland cement concrete pavement
PCMS	portable changeable message sign
PCO	potential change order
PDA	pile driving analyzer
PDF	portable document format
PE	photoelectric
pepco	Potomac Electric Power Company
PES	potential explosion site
PF	project file
PIP	Public Information Plan
PLC	programmable logic controller
PMI	Preventive Maintenance Index

POC	point of contact
POT	point on the tangent
PPI	Producers Price Index
PPM	Plans Preparation Manual
PPRA	Procurement Practices Reform Act
PROWAG	Public Rights-of-Way Accessibility Guidelines
psf	pound per square foot
psi	pound per square inch
PSRA	Public Space Regulations Administration
PT	point of tangent
PTI	Post-Tensioning Institute
PTZ	pan-tilt-zoom
PVC	polyvinyl chloride
QA	quality assurance
QAM	Quality Assurance Manager
QC	quality control
QMP	Quality Management Plan
QTS	quality testing supervisor
QV	quality verification
RAM	random access memory
RAS	River Analysis System
RCO	Request for Change Order
RCP	Request for Change Proposal
RCRA	Resource Conservation and Recovery Act of 1976
RCW	Revised Code of Washington
RFC	Released for Construction
RFP	Request for Proposal
RFQ	Request for Qualifications
RID	Reference Information Document
ROD	Record of Decision
RoHS	reduction of hazardous substances
ROM	rough order of magnitude
ROW	right-of-way
RPM	raised pavement markers
RUS	rural utilities service

SAE	Society of Automotive Engineers
SCADA	supervisory control and data acquisition
SDI	Steel Door Institute
SE	Southeast
SEP	Subsurface Exploration Plan
SHPO	State Historical Preservation Office
SHV	specialized hauling vehicle
SI	site inspection
SIR	Site Investigative Report
SMFO	single-mode fiber optic
SOQ	Statement of Qualifications
SOV	Schedule of Values
SOW	Statement of Work
SPCC	Spill Prevention, Control, and Countermeasures
SPD	surge protective device
STP	shielded twisted pair
SUE	subsurface utility engineering
SW	Southwest
SWMG	Stormwater Management Guidebook
SWMM	Stormwater Management Modeling
SWMP	Stormwater Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TB	terabyte
TCB	temporary concrete barrier
TCP	Traffic Control Plan
TCS	Traffic Control Supervisor
TESC	temporary erosion and sediment control
THD	total current harmonic distortion
TIA	time impact analysis
TIMP	Traffic Incident Management Plan
TMA	truck-mounted attenuator
TMP	Traffic Management Plan/Transportation Management Plan
TP	technical paper
TPH-DRO	total petroleum hydrocarbon – diesel range organics
TRB	Transportation Research Board

TS&L	type, size, and location
TSMC	Traffic Systems Management Center
TSO	Traffic Safety Officer
TSP	Training Services Provisions
U.S.C.	United States Code
UBIT	under-bridge inspection truck
UL	Underwriters Laboratories
UPS	uninterruptible power supply
URD	utility relocation design
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USCS	Unified Soil Classification System
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
UV	ultraviolet
UXO	unexploded ordnance
V	volt
VECP	Value Engineering Change Proposal
VMS	variable message sign
VQC	Visual Quality Concept
VQM	Visual Quality Manual
VWR	value of work remaining
W	watt
WAC	Washington Administrative Code
WB	Westbound
WBS	work breakdown structure
WIM	weigh in motion
WMATA	Washington Metropolitan Area Transit Authority
WNY	Washington Navy Yard
WTI	West Texas Intermediate
WZCZ	Work Zone Clear Zone
WZTEM	Work Zone Traffic Engineering Manager
XCU	explosion, collapse, and underground

SECTION 1

General Information

1.1 General

The District Department of Transportation (DDOT) intends to allow the Design-Build (DB) Contractor flexibility in design and construction by accommodating the processes, procedures, and innovative techniques that are preferred by the DB Contractor, as long as they are consistent with the project goals identified and established for the Project, good engineering practices, industry standards, and the standards, guidelines, performance requirements, and procedures identified in the Contract.

1.1.1 Submittal Review and Comment

The DB Contractor's schedule shall allow for a 21-Calendar-Day review and comment period for DDOT to review and provide comment on all design and plan submittals except as follows; The DB Contractor's schedule shall allow for a 28-Calendar-Day review and comment period for Demolition Plans, Roadway Design Plans, and Signal and ITS Design Plans.

DDOT reserves the right to extend the stated review and comment period by up to seven Calendar Days for submittals that are received between November 15 and January 1 and for submittals with overlapping review periods that are being reviewed by the same discipline team. However, failure to provide review comments within the establish time period does not constitute acceptance.

The DB Contractor shall address all comments made by DDOT to the satisfaction of DDOT for each submittal and shall include a comment resolution matrix in subsequent submittals.

The DB Contractor shall schedule comment resolution meetings with DDOT and shall document minutes of all comment resolution meetings. It is intended that all comments will be resolved at these meetings. If agreement is not reached on any specific comment, it shall be resolved as described in the QMP.

1.2 Construction Office and Vehicle Pool

The DB Contractor shall provide and maintain all office and other building space, including office space for DDOT, and all facilities, labor and Equipment necessary to construct the Project and to meet the requirements of the Contract. Sufficient space shall be provided in the DB Contractor's construction office for simultaneous occupancy by both construction and design personnel.

On previous projects, co-locating the DB Contractor with the owner's team has been found to be an effective method of facilitating and expediting communication. The DB Contractor shall co-locate its Key Personnel and design task leads with DDOT Project staff in a Project office. No more than 40 percent of the design team can be located remotely. The DB Contractor shall coordinate with DDOT prior to securing any data or phone connection for a collocated office.

1.2.1 DDOT Facilities

The DB Contractor shall provide an ADA compliant and secure office with space for DDOT, including one office space for FHWA representative. Each office space shall be at least 100 square feet, wired for one personal computer (unless otherwise specified) on the DDOT network, and wired for one telephone. The DB Contractor shall provide the following office and storage spaces for DDOT:

1. Eight full-time, reasonably soundproof, closed-door office spaces wired for two personal computers -- one to the DDOT network and the other to the DB Contractor's network.
2. Fifteen full-time office spaces.
3. One network room meeting the requirements of this Section.
4. Three "drop-in" office spaces.

5. A DDOT dedicated conference room with seating for 25...
6. Twenty-four paved parking spaces.
7. Sufficient storage capacity for hard-copy files; at a minimum, five 8.5-inch by 11-inch, four-drawer locking file cabinets and one 11-inch by 17-inch locking file cabinet.

1.2.2 Location

The DB Contractor's construction office for the Project and the office space for DDOT shall be located within 1 mile of the Project Limits, preferably adjacent to the Project Right-of-Way (ROW).

1.2.3 General Requirements

In addition to the requirements described above, the office space for DDOT that is provided by the DB Contractor shall include the following:

1. One desk, chair, two-drawer locking filing cabinet, bookcase, and telephone in each office space.
2. Copying/scanning, fax equipment, and telephone lines to support each.

One touch-tone speaker telephone for each office space with a status indicator and access to all outside lines and conference call systems. Each telephone shall be connected to a phone service with voice mail for each extension.

1. Meeting facilities for all Project-related meetings. In the event the requirements for any meeting exceed the space available, the DB Contractor shall provide meeting space at a suitable alternate location. The alternate location shall be located within 2 miles of the Project Limits.
2. At least two exits from each building or trailer.
3. A secure door lock plus a deadbolt lock on each entrance.
4. Men's and women's restrooms, including shower facilities, connected to hot and cold water supply and sanitary sewer lines.
5. Trash and paper recycle containers.
6. Daily janitorial service (except Holidays) including trash and paper recycle pickup.
7. Maintained exterior office space areas, including access to parking areas and snow removal.
8. Overhead lighting that meets the requirements of the Occupational Safety and Health Administration (OSHA) and building and electrical codes for office space, which shall include a minimum circuit capacity of 20 amperes, and at least two duplex receptacles for each office space.
9. Heating, ventilation, air conditioning, and cooling systems capable of maintaining temperatures between 65 and 75 degrees Fahrenheit in all spaces, including the network room, throughout the year.
10. Access requirements that meet the Americans with Disabilities Act.
11. Office space that meets all local building code requirements.

DDOT Project office space shall be fully operational and shall have been inspected and Approved by DDOT prior to invoicing for the costs associated with the DDOT Project office. The DB Contractor shall maintain all office space for DDOT until at least 90 Calendar Days after Project Completion Date, unless otherwise agreed to by DDOT in writing.

The DB Contractor shall remove all facilities and perform any required site restoration Work related to the DB Contractor's construction office and the office space for DDOT within 120 Calendar Days after Project Completion.

1.2.4 Information Technology

1.2.4.1 Personal Computer Workstations

DDOT will furnish and install, for its exclusive use, personal computer workstations and network printers in the workspaces described above. DDOT will connect these devices, with its own 12-foot patch cords, to wall plates furnished by the DB Contractor. Equipment and infrastructure provided by the DB Contractor shall not interfere with DDOT's network. Network devices provided by the DB Contractor shall be on a different sub-net than DDOT's and shall not connect to DDOT's hub or other devices.

1.2.4.2 Network Communications

The DB Contractor shall ensure that the office space for DDOT can be wired for one T-1 connection designated for the exclusive use of DDOT. DDOT will arrange for installation of the connection and will pay for the connection charges. In addition, the DB Contractor shall provide 1000-BASET (Category 6) Ethernet wiring from each DDOT closed-door office and workspace to the wiring closet. The wall plates shall be located to permit the use of the 12-foot patch cords provided by DDOT. In addition to the 12-foot patch cords, DDOT will provide its own hub, router, and Data Service Unit/Channel Service Unit (DSU/CSU) to connect its computers to the internet. The DB Contractor may, at its own expense, provide additional infrastructure for its own use, provided that the additional infrastructure does not interfere with DDOT's use.

The DB Contractor shall provide space in the network room for one two-post phone network rack for DDOT equipment. The DDOT equipment may be in the same network room as the DB Contractor's equipment. The DB Contractor shall submit a wiring and office floor plan to DDOT for review and comment.

1.2.5 Vehicle Pool

DB Contractor shall provide a vehicle pool consisting of one (1) full size sport utility vehicle (SUV) and two (2) full size, extended cab pickup trucks for use by approved employees of DDOT. The costs associated with the vehicle pool, including but not limited to, the lease costs, maintenance costs, specific insurance coverage, taxes, tags, and registrations shall be included in the DB Contractor's Lump Sum Price and no separate payment will be made for the vehicle pool. The vehicle pool shall be available for DDOT use beginning no later than thirty days following contract execution and shall remain available until Final Acceptance.

Providing fuel for the vehicle pool will be DDOT's responsibility.

DDOT will reimburse the DB Contractor via change order for any and all costs, legal fees for defending claims, liabilities, damages, vehicle damage, physical loss, theft, or replacement costs, including but not limited to any worker's compensation claims for DDOT employee injuries, or third party claims arising from DDOT's use of vehicles from the vehicle pool, to the extent such costs are not covered by the vehicle pool insurance policy(s).

1.3 Project Documentation

See Section 12 for Project Documentation requirements.

1.4 Software

1.4.1 General

The DB Contractor shall acquire, use, and maintain all software for the Project.

Version – The DB Contractor shall use the current version of the specified software in effect as of Notice to Proceed1 (NTP1), unless otherwise specified in this Section.

Updates – The DB Contractor shall update software programs throughout the Contract within six months of release of a software update, or earlier, if mutually agreed upon with DDOT. DDOT will similarly update its software.

File Server – The DB Contractor shall store all data files for the software programs on, or have them accessible through, the DB Contractor's central file server.

1.4.2 Required Project Software

The DB Contractor, to the maximum extent possible, utilize e-Builder ® (e-Builder) for all submittals. Additionally, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

In addition to any other software specified in the Contract, the DB Contractor shall use the software programs described in each of the appropriate Technical Provisions.

The DB Contractor shall also use the following software:

1. Microsoft Word for word processing
2. Microsoft Excel for spreadsheets
3. Microsoft Access for databases
4. Adobe Acrobat
5. Primavera P6, Version 8 for scheduling

SECTION 2

Mandatory Standards

The Design-Build Contractor shall perform all design and construction work in accordance with all applicable State and Federal Laws, the requirements set forth by the documents contained in the Contract Data and Reports Section of this RFP, and the Mandatory Standards and/or publications contained herein. The DB Contractor shall verify and use the most current version of mandatory manuals, guides, and/or publications as of the Technical Proposal Due Date.

All references to "Contractor" within the DDOT Standard Specifications for Highways and Structures shall be understood to read "Design-Build Contractor" and delete all references to measurement and payment.

All words such as "should," "may," "could," "can," "usually," "normally," and "generally" shall be interpreted in the light most favorable to the District.

When a standard refers to "Chief Engineer" or "Project Manager", such references shall mean the Design-Build Contractor's Engineer of Record or Project Manager as applicable, relative to the design, planning, execution, and overall delivery of the Project, unless otherwise specified. It shall be at DDOT's sole discretion to determine when these terms refer to DDOT's Chief Engineer or Project Manager.

In the event of any conflict between any District of Columbia requirements, Federal Requirements, or other requirements of the Contract Documents, the Federal Requirements shall prevail, take precedence, and be in force over and against any such conflicting provisions, unless the District of Columbia requirements are more stringent as allowed by federal law.

In the event a conflict in requirements exist in an individual Mandatory Standard, the DB Contractor shall request a ruling from DDOT as to which requirement is to be used for this Project. It shall be at DDOT's sole discretion to determine which requirement is to be used.

1. DDOT Standard Specifications for Highways and Structures
2. DDOE Stormwater Management Guidebook
3. DDOT Design and Engineering Manual
4. DDOT Right-of-Way Policies and Procedures Manual
5. DDOT Construction Management Manual
6. DDOT Work Zone Temporary Traffic Control Manual
7. DDOT Pedestrian Safety and Work Zone Standards—Covered and Open Walkways
8. DDOT MicroStation V8 CAD Standards Manual
9. DDOT Standard Drawings
10. DDOT Green Infrastructure Design Standards
11. DDOT Policy and Process for Access to the DC Interstate and Freeway System
12. DDOT DC Streetcar Design Criteria
13. DDOT Work Zone Safety and Mobility Policy
14. DC Office of Planning The Anacostia Waterfront Framework Plan
15. DDOT Environmental Manual
16. DDOT Public Realm Design Manual
17. DDOT Downtown Streetscape Regulations

18. DDOT The Anacostia Waterfront Transportation Architecture Design Guidelines
19. DDOT DC Street Light Policy and Design Guidelines
20. DDOT Utility Work Zone Traffic Control Plans (TCP) Typicals
21. DDOT Wayfinding Signage Program
22. DDOT DB Contractor's Minimum Testing Requirements for Control of Materials
23. DDOH Standards and Specifications for Soil Erosion & Sediment Control
24. DDOE Stormwater Management Guidebook
25. DDOE Notice of Final Rulemaking DC Water Quality Standards
26. NPS Park Road Standards
27. DC Water Project Design Manual
28. DC Water Green Infrastructure Utility Protection Guidelines
29. Government of DC, Department of Public Works, Office of Intermodal Planning, DC Streetscape Design Guidelines
30. DCRA Manual of Practices For Real Property Surveying in the District of Columbia
31. WMATA/JDAC Adjacent Construction Project Manual
32. Washington, DC, Fire and Emergency Medical Services Department Operational Permits
33. International Fire Code
34. NFPA 70 National Electrical Code
35. NFPA 502 Standard for Tunnels, Bridges, and other Limited Access Highways
36. NFPA 14 Standard for Installation of Standpipe and Hose Systems
37. ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data
38. Utility Standards (applicable to the particular Utility Owner)
39. ADA Standards for Accessible Design
40. AASHTO Roadside Design Guide
41. AASHTO Highway Drainage Guide
42. AASHTO A Policy on Geometric Design of Highways and Streets
43. AASHTO A Policy on Design Standards – Interstate System
44. AASHTO Manual on Subsurface Investigations
45. AASHTO Guide for the Design of Pavement Structures
46. AASHTO A Policy on the Accommodation of Utilities Within Freeway Right-of-Way
47. AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities
48. AASHTO Manual for Assessing Safety Hardware (MASH)
49. AASHTO Guide for the Development of Bicycle Facilities
50. AASHTO Load and Resistance Factor Design Bridge Design Specifications
51. AASHTO Guide Specifications for LRFD Seismic Bridge Design
52. AASHTO Guide Specification and Commentary for Vessel Collision Design of Highway Bridges

53. AASHTO Guide Specifications for Design and Construction of Segmental Concrete Bridges
54. AASHTO LRFD Guide Specifications for Design of Pedestrian Bridges
55. AASHTO LRFD Bridge Construction Specifications
56. AASHTO Guide Specifications for Bridge Temporary Works
57. AASHTO Construction Handbook for Bridge Temporary Works
58. AASHTO Manual for Bridge Evaluation
59. AASHTO/National Steel Bridge Alliance (NSBA) Steel Bridge Fabrication Guide Specification
60. AASHTO/AWS D1.5: 2010 Bridge Welding Code
61. AASHTO/NSBA Guide Specifications for Coating Systems with Inorganic Zinc-Rich Primer
62. AASHTO Bridge Security Guidelines
63. AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals
64. ASTM - American Society of Testing Materials
65. Transportation Research Board Highway Capacity Manual
66. NACTO Urban Bikeways Design Guide
67. ITE Standards
68. ITE Traffic Control Devices Handbook
69. ITE Traffic Engineering Handbook
70. ITE Manual of Transportation Engineering Studies
71. EIA Electronic Industries Alliance Standards and Technical Publications
72. IESNA American National Standard Practice for Roadway Lighting, 2000 (ANSI/IES RP-8-00)
73. IESNA American National Standard Practice for Tunnel Lighting, 2005 (IES-RP-22-05)
74. NEMA requirements
75. EIA/TIA Fiber Optic Test Procedure Standards
76. ANSI/ASSE, A10-Construction and Demolition Standards
77. FHWA Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)
78. FHWA Traffic Control Systems Handbook
79. FHWA Standard Highway Signs and Markings (English Version)
80. FHWA Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software
81. FHWA Work Zone Safety and Mobility Rule
82. FHWA Work Zone Safety and Mobility Rule, Implementing the Rule on Work Zone Safety and Mobility
83. FHWA Work Zone Safety and Mobility Rule, Work Zone Public Information and Outreach Strategies
84. FHWA Work Zone Safety and Mobility Rule, Work Zone Impacts Assessment: An Approach to Assess and Manage Work Zone Safety and Mobility Impacts of Road Projects
85. FHWA Traffic Monitoring Guide
86. FHWA GEC No. 11 Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines, Volumes 1 and 2

87. FHWA Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes
88. FHWA Manual for Design and Construction Monitoring of Soil Nail Walls
89. FHWA Post-Tensioning Tendon and Installation and Grouting Manual
90. FHWA Drilled Shafts: Construction Procedures and Design Methods
91. FHWA Handbook on Design and Construction of Drilled Shafts Under Lateral Load
92. FHWA Ground Anchors and Anchored Systems
93. FHWA, Micropile – Design and Construction Guidelines Manual
94. FHWA Flexibility in Highway Design
95. FHWA Hydraulic Design Series No. 1, Hydraulics of Bridge Waterways
96. FHWA Hydraulic Design Series No. 2, Highway Hydrology
97. FHWA Hydraulic Design Series No. 3, Design Charts for Open Channel Flow
98. FHWA Hydraulic Design Series No. 4, Introduction to Highway Hydraulics
99. FHWA Hydraulic Design Series No. 5, Hydraulic Design of Highway Culverts
100. FHWA Hydraulic Design Series No. 6, River Engineering for Highway Encroachments
101. FHWA Hydraulic Engineering Circular Number 11 (HEC-11), Design of Riprap Revetment
102. FHWA Hydraulic Engineering Circular Number 14 (HEC-14), Hydraulic Design of Energy Dissipaters for Culverts and Channels
103. FHWA Hydraulic Engineering Circular Number 15 (HEC-15), Design of Roadside Channels with Flexible Linings
104. FHWA Hydraulic Engineering Circular Number 17 (HEC-17), The Design of Encroachments on Flood Plains using Risk Analysis
105. FHWA Hydraulic Engineering Circular Number 18 (HEC-18), Evaluating Scour at Bridges
106. FHWA Hydraulic Engineering Circular Number 20 (HEC-20), Stream Stability at Highway Structures
107. FHWA Hydraulic Engineering Circular Number 21 (HEC-21), Design of Bridge Deck Drainage Systems
108. FHWA Hydraulic Engineering Circular Number 22 (HEC-22), Urban Drainage Design Manual
109. FHWA Hydraulic Engineering Circular Number 23 (HEC-23), Bridge Scour and Stream Instability Countermeasures Experience, Selection, and Design Guidance
110. FHWA Hydraulic Engineering Circular Number 25 (HEC-25), Highway in the Coastal Environment
111. USACE, HEC-GeoHMS User's Manual
112. USACE, HEC-GeoHMS User's Manual Extension
113. USACE, HEC-HMS, Hydrologic Modeling System Applications Guide
114. USACE, HEC-HMS User's Manual
115. USACE, HEC-RAS Hydraulic Reference Manual
116. USACE, HEC-GeoRAS User's Manual
117. FHA, USDOT – Bicycle and Pedestrian Program, FHWA Accommodating Bicycle and Pedestrian Travel: A Recommended Approach

118. United States Army Corps of Engineers (USACE) Baltimore District Construction Activities at USACE Flood Damage Reduction Projects General Requirements for USACE Review
119. Federal Geographic Data Committee (FGDC) Geospatial Positioning Accuracy Standards, Part 4: Standards for Architecture, Engineering, Construction (A/E/C), and Facility Management
120. American Society for Photogrammetry and Remote Sensing (ASPRS) (Map) Accuracy Standards
121. ISO 14000 – Environmental Management Systems – Requirements with Guidance for Use
122. ISO 19011:2011 – Guidelines for Management Systems Auditing
123. National Cooperative Highway Research Project (NCHRP) Report 350 (Recommended Procedures for the Safety Performance Evaluation of Highway Features)
124. Post-Tensioning Institute (PTI) - Recommendations for Stay Cable Design, Testing and Installation
125. PTI Guide Specification – Acceptance Standards for Post Tensioning Systems
126. NCHRP Report 467 (Performance Testing for Modular Bridge Joint Systems)
127. CEB-FIP Model Code for Concrete Structures (For Time Dependent Behavior of Concrete)
128. Bulletin 34, Model Code for Service Life Design, International Federation for Structural Concrete (fib)
129. US Architectural and Transportation Barriers Compliance Board, Best Practices in Accessible Rights-of-Way Design and Construction
130. ATSSA Quality Guidelines for Temporary Work Zone Traffic Control Devices & Features
131. CSX Transportation Public Project Information For Construction and Improvement Projects That May Involve the Railroad
132. NFPA 30 Flammable and Combustible Liquids Code
133. NFPA 307: Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves

SECTION 3

Demolition

3.1 General

Demolition shall consist of the complete or partial removal and disposal of various materials from within the Project Limits. Demolition includes, but is not limited to, the removal and disposal of pavements, curbs, gutters, sidewalks, rocks, walls, bridge substructures and superstructures, buildings and any contents therein, underground tanks, traffic signal and street light equipment, pole and cabinet foundations, drainage structures and storm drains, signs, and other ancillary items necessary to facilitate the design and construction of the Project.

Demolition shall be performed in accordance with the commitments included in the Section 106 Memorandum of Agreement from the Supplemental FEIS and ROD, permits, and applicable District of Columbia and federal laws.

Unless otherwise specified herein, the material generated from structure, site, and building demolition shall become the Design-Build (DB) Contractor's property. All material removed shall be properly disposed of by the DB Contractor outside the limits of the Project.

The DB Contractor shall obtain all necessary Approvals and permits as required for the performance of demolition activities and the legal disposal of demolished materials, except as noted in Section 8, Environmental.

Adjacent Utilities will be identified and protected in accordance with Section 10, Utilities, and the guidelines provided by each Utility. The DB Contractor will coordinate with affected Utilities and afford the Utilities access to the Project to ensure their respective Utilities are being protected in accordance with each Utility's guidelines.

The DB Contractor will coordinate with the Washington Metropolitan Area Transit Authority (WMATA) for demolition activities in the vicinity of WMATA facilities. Demolition activities will be subject to seismic restrictions and monitoring requirements in accordance with WMATA guidelines.

See Section 8, Environmental, for details regarding hazardous materials inspection and abatement requirements.

See Section 10, Utilities, for details regarding Utility removal and abandonment requirements.

Use of explosives as a method of structure demolition will not be permitted.

3.2 Performance Requirements

3.2.1 Existing Frederick Douglass Memorial Bridge

The DB Contractor will employ side-scan sonar to record pre-construction and post-construction/demolition waterway bed conditions in accordance with U.S. Coast Guard (USCG) and U.S. Army Corps of Engineers (USACE) permits and will provide copies of all soundings to DDOT, the USCG, and USACE, in both hard copy and electronic format. The waterway area to be scanned is an area bound by the established bulkheads and a distance of 100 feet upstream and downstream of the east/west centerline of existing and new bridge piers. Perform side-scan sonar passes both parallel with, and perpendicular to, the centerline of the existing bridge.

The DB Contractor will coordinate demolition activities with, and provide access to the Project at all times for, the USCG and the USACE. The DB Contractor shall coordinate all demolition Work in the vicinity of the levee with the USACE.

The DB Contractor shall submit to DDOT pre-construction side-scan sonar data within 30 days of issuance of Notice to Proceed 2 (NTP2) and prior to any construction activities within the vicinity of the FDMB being performed.

The DB Contractor shall submit to DDOT post-construction/demolition side-scan sonar data for review and comment within 30 Calendar Days of completing all demolition activities and as a prerequisite to Substantial Completion.

3.3 Design Requirements

3.3.1 Demolition Work Plans

Demolition Work Plans will be stamped by a Professional Engineer licensed in the District of Columbia.

Demolition Work Plans for the Frederick Douglass Memorial Bridge (FDMB) will be provided to DDOT, the USCG, the USACE, and DDOE for review and comment.

Demolition Work Plans shall include the following information:

1. A plan and elevation view of the element of section to be demolished;
2. A description of and design computations for temporary Work items;
3. A staging plan identifying the equipment and methods to:
    a. Mobilize to the elevated structures and heavy demolition equipment locations; and
    b. Mobilize to open-water locations.
4. Equipment and methods to install shielding and protective barriers to prevent debris from falling onto roadways or into open water below. The materials to be used as the shielding and protective barrier shall also be identified. The Demolition Work Plan shall show the vertical clearance above roadways available after installation of shielding;
5. Equipment and methods to install cofferdam sheeting;
6. Equipment, methods, and sequence for demolition of the structures and removal of all debris. Method of removal shall include identifying pick points and the estimated size and weight of pieces to be removed;
7. Identify all Work that may require Maintenance of Traffic Plans (MOT) for approval;
8. Procedures to contain and collect debris that may fall on roadway(s);
9. A structural analysis for bridge structures demonstrating that the bridge will remain structurally sound and stable during all phases of removal operations;
10. A schedule of demolition activities;
11. The hours of work and any other restrictions on work to be performed above or adjacent to the roadways, within open water and other Stakeholder facilities;

3.3.2 Precondition Surveys

Demolition Work Plans for structures designated to be demolished incrementally will include a precondition survey to ensure the structural integrity of each structure will be maintained during demolition activities.

Demolition Work Plans will include precondition surveys of adjacent buildings, including photographs, that fall within the 100-foot clear zone, dust control, Utility disconnections, perimeter security, and site safety checks immediately prior to starting demolition activities.

3.4 Construction Requirements

3.4.1 Permits and Approvals

Prior to the start of any demolition operations:

1. Acquire all necessary governmental approvals and third-party approvals for any and all demolition activities to be conducted;
2. Meet all environmental requirements; and
3. Submit all executed permits and approvals to DDOT for records.

3.4.2 Bridge Structure Demolition

The DB Contractor shall develop detailed Demolition Work Plans for each bridge structure to be removed. A detailed analysis of each bridge structure designated for demolition shall be performed to ensure structural stability is maintained during demolition activities.

Demolition of the Frederick Douglass Memorial Bridge shall be performed in accordance with permit conditions and in a manner that keeps the demolished materials from entering the river. Bridge foundations and fenders located within the Federal Channel shall be removed to at least five (5) feet below the Federal Channel project depth of 24 feet. Bridge foundations outside the Federal Channel shall be removed to a depth of five (5) feet below the mudline.

Other bridge abutments, foundations, and piers located within the limits of the proposed roadway, curbs and bike and pedestrian paths shall be demolished to a minimum depth of five (5) feet below proposed subgrade or bottom of proposed structure foundation and backfilled with suitable material. Items being demolished which are outside of the limits of the proposed roadway, curbs and bike and pedestrian paths shall be demolished to a minimum depth of two (2) feet below finished grade, backfilled with suitable material, and landscaped in accordance with Section 15, Visual Quality Requirements, of these Technical Provisions, except as otherwise noted.

Bridge superstructures shall be demolished in accordance with the Demolition Work Plans developed for each structure.

3.4.3 Site and Building Demolition

The DB Contractor shall develop detailed Demolition Work Plans for the Project in accordance with the requirements of Section 24, Right-of-Way, that delineate existing facilities to be removed. Items to be demolished located within the limits of the proposed roadway shall be demolished to a minimum depth of five (5) feet below proposed subgrade or bottom of proposed structure foundation and backfilled with suitable material. Items being demolished which are outside of the limits of the proposed roadway shall be demolished to a minimum depth of two (2) feet below finished grade, backfilled with suitable material, and landscaped in accordance with Section 15, Visual Quality Requirements, of these Technical Provisions, except as otherwise noted.

Items such as pavements, curbs, gutters and sidewalks at locations where depth is in excess of the stated minimum depth requirements, may be wrecked and left in place with no piece of the wrecked material exceeding 18 inches in its greatest dimension.

Building demolition will be performed in accordance with all applicable local and federal regulations and permit requirements. See Section 8, Environmental, and Section 24, Right- of-Way, of these Technical Provisions for additional requirements.

3.4.4 Salvage of Materials

The DB Contractor will salvage materials and deliver them, in good condition, to a location designated by DDOT. For the purpose of salvaged materials, “good condition” is defined as follows: the materials are removed in a manner that does not damage them, and the materials are in such condition that they could be reused immediately for their intended purpose.

Every effort will be made by the DB Contractor to salvage items in good condition and to protect the salvaged materials from theft or damage until such time as they are delivered to DDOT.

3.4.4.1 Frederick Douglass Memorial Bridge

DB Contractor shall salvage and deliver to DDOT any bridge identification / numbering plates and any other historic information pertaining to Frederick Douglass.

3.4.4.2 Traffic Signals

Prior to the removal of existing signal equipment, including cabinets, poles, mast arms, signal heads, and pedestrian signal heads, the DB Contractor shall afford DDOT the opportunity to meet and discuss DDOT's desire to retrieve any parts of components prior to removal. See Section 17, Traffic Signals/Intelligent Transportation Systems, for additional requirements.

3.4.4.3 Intelligent Transportation Systems

Prior to the removal of existing Intelligent Transportation Systems (ITS) equipment, the DB Contractor shall afford DDOT the opportunity to meet and discuss DDOT's desire to retrieve any parts of components prior to removal. See Section 17, Traffic Signals/Intelligent Transportation Systems, for additional requirements.

3.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated within Section 1, General Information, of these Technical Provisions.

TABLE 3-1
Demolition Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Pre-Construction Side-Scan Sonar Record	Submit	Within 30 Calendar Days of issuance of Notice to Proceed 2 (NTP 2) and prior to any construction activities associated with the FDMB being performed	3.2.1
Post-Construction/Demolition Side-Scan Sonar Record	Review and Comment	within 30 Calendar Days of completing all demolition activities and as a prerequisite to Substantial Completion	3.2.1
Demolition Work Plans	Review and Comment	As required by reviewing agencies	3.3.1
Permits and Approvals	Submit	At least 1 month before commencement of associated activities	3.4.1

SECTION 4

Design Deviations

4.1 General

Design deviations include three types of documented decisions of changes to the design criteria for designing a highway element or a segment of highway that do not meet minimum values or ranges established for that highway or project:

1. A Design Exception is required on any project on the National Highway System (NHS) when the minimum AASHTO design criteria cannot be met to any of the 13 controlling criteria as listed by the FHWA. The DB Contractor shall prepare and submit all future Design Exceptions in a timely manner to the DDOT Chief Engineer for review and comment. Following receipt of DDOT concurrence, Design Exceptions will be submitted to FHWA for Approval.
2. A Design Waiver is required on DDOT owned and maintained roadways when design criteria meet or exceed AASHTO and Americans with Disabilities Act Accessibility Guidelines (ADAAG) minimum design standards but fall short of DDOT's minimum design standards and/or manuals. The DB Contractor shall prepare and submit all Design Waivers in a timely manner to the DDOT Chief Engineer for Approval.

The DB Contractor shall be responsible for all work associated with design deviations, up to and including preparation, documentation, submission and comment responses.

DB Contractor shall obtain DDOT Chief Engineer and/or FHWA approval on all design deviations prior to the issuance of Released for Construction plans.

Design exceptions and design waivers that were identified in the development of the Supplemental Final Environmental Impact Statement Revised Preferred Alternative as described by the Transportation Technical Report, Appendix G, are included in Volume II, Book II, Section 4, Table 4-1 for reference. They are subject to DDOT and FHWA approval in accordance with the requirements of the Contract Documents before they, and others identified during design development of the DB Contractor's design, may be incorporated into the Project.

TABLE 4-1
Summary of Potential Design Exceptions and Waivers Request

Road Name	From	To	Alignment Name	From Est. Station	To Est. Station	Side	Design Feature	Proposed Design	Standard Required	Remarks - Existing Condition
I-295	South of Firth Sterling Overpass	North of Anacostia Metro Station Parking Garage	I-295 NB and SB	404+00	442+25	Left	Shoulder Width	10 ft.	12 ft.	Existing Shoulder Width: various 1.5' to 8' LT and 2' to 10' RT.
I-295 SB	Firth Sterling Ave Overpass	Suitland Pkwy Overpass	I-295 NB and SB	407+00	422+00	SB/ NB	Stopping Sight Distance	449 ft.@ Inside Lane 468 ft.@ Outside Lane	Min 495 ft.	Existing median GR will be replaced with 42" concrete barrier, which will obstruct sight.
Ramp F	Howard Rd Overpass	NB I-295	Ramp F	87+00	92+00	Right	Shoulder Width	3 ft.	Min 6 ft.	Proposed Ramp F is located between NB I-295 and Firth Sterling/Existing Ramp, over existing DC Water Sewer/Vent system and WMATA Metro line.
I-295	Ramp A and F Terminals	I-295/I-695 Split point	I-295 NB and SB			N/A	Horizontal Alignment: Ramp Terminal Spacing (for Weaving)	1130 ft. & 1065 ft.	Min 2000 ft.	
Loop Ramp A			Ramp A	11+00	18+00	N/A	Horizontal Alignment: Radius	150 ft.	180 ft.	Current DDOT Standards and AASHTO Greenbook 2004 require min 150 ft. The latest Greenbook (2011), however, requires min 180 ft.
I-295	South of Firth Sterling Overpass	North of Anacostia Metro Station Parking Garage					Shoulder Width	Varies	12 ft. for Mainline; Varies for Ramp.	
Ramps B and C			Ramp B Ramp C				Design Speed	25 MPH	DDOT Std: Loop ramps - 25 mph; Semi direct - 30 mph; Direct Connection - 40 mph	
I-295			I-295				Lateral Offset	0 ft.	2 ft.	Due to site constraints, we

TABLE 4-1
Summary of Potential Design Exceptions and Waivers Request

Road Name	From	To	Alignment Name	From Est. Station	To Est. Station	Side	Design Feature	Proposed Design	Standard Required	Remarks - Existing Condition
Mainline Ramps B, C and F			Ramp A Loop-Ramp B Ramp C Ramp F				from Edge of Paved Shoulder to Barrier			recommend to waive 2' shy offset to the face of barrier at these areas as shown in the basic configuration.
Suitland Pkwy/Firth Sterling Ave							Skewed Existing Intersection Angle	56 Degree	Between 80 and 100 Degree	Existing condition.

4.2 Performance Requirements

Not applicable.

4.3 Design Requirements

All deviations prepared by the DB Contractor shall be prepared by, or under the direct supervision of, a Professional Engineer licensed in the District. Each design deviation request shall carry the Professional Engineer's stamp.

4.4 Construction Requirements

Not applicable.

4.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 4-2
Design Deviation Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Design Deviations	Review and Approve	21 Calendar Days*	4.1

*Note: DDOT will submit DDOT Approved Design Deviations to FHWA for Approval. The time frame for FHWA Review and Approval is beyond the timeline for DDOT Review and Approval listed herein.

SECTION 5

Surveys and Mapping

5.1 General

The DB Contractor shall conduct all Work necessary to complete the land surveying and surveys and mapping for the Project. This Work includes, but is not limited to, horizontal and vertical control surveys, topographic surveys, Right-of-Way (ROW) surveys, bridge surveys, Utility surveys, construction surveys, As-Built surveys, boundary and ROW surveys, Land Corner Records, and all other land surveying services necessary to complete the Project.

5.1.1 Reference Documents

DDOT completed a primary control network to serve as the primary horizontal and vertical control network for all Work completed on the DDOT AWI program. The "South Capitol Street Corridor Primary Control Network Report," dated July 13, 2012, prepared by Mercado Consultants Inc., is available as a Reference Information Document (RID). The control established by DDOT and defined in the survey control report shall be used as the basis of all Work completed on this Project. The DB Contractor shall confirm all survey control prior to using it and shall issue an acceptance notice to verify that all survey control stations to be used have not been disturbed and remain in their original position as reported in the "South Capitol Street Corridor Primary Control Network Report."

The following is provided in Volume II, Book III, Contract Data and Reports.

1. Mapping products in MicroStation V-8 format in DDOT CAD Specifications.
2. DTM data in InRoads Format.
3. Color orthophoto imagery in both Geo-Tiff and Multi-resolution Seamless Image Database (MRSID) format.

Mapping was developed by Aero-Metric, Inc. utilizing fixed wing and helicopter aerial photography flown by Richard Crouse and Associates, Inc.

5.2 Performance Requirements

5.2.1 General

The Design-Build Contractor may consider that the Preliminary Survey Data is accurate within allowable tolerances for the purpose of developing their proposal fee only.

The DB Contractor shall perform additional field survey Work as necessary and suitable for preparation of design documents and Released for Construction Documents, which shall meet the technical requirements defined herein.

The DB Contractor shall obtain all necessary permits prior to beginning field Work. All surveys shall conform to standards referenced herein in addition to technical means, methods, procedures, and standards, record-keeping requirements, equipment use, and safety precautions required by all governing agencies.

The DB Contractor is solely responsible for the accuracy of content and completeness of all survey information developed or used in the design and construction of the Project, including verification of the primary survey control data provided in the "South Capitol Street Corridor Primary Control Network Report" dated July 13, 2012, furnished by DDOT as a RID. Survey accuracy shall be appropriate to the task and shall meet the minimum accuracy standards provided in Table 5-1.

The DB Contractor shall verify and confirm the location, accuracy, and datum of all survey data and survey information, regardless of the source. The DB Contractor shall document their verification of all of the data in accordance with the Quality Management Plan (QMP) requirements in Section 28, Design-Build QMP Requirements, of these Technical Provisions, and submit notice of acceptance of data to DDOT. DDOT does not warrant the accuracy of the survey information provided in this RFP except as described in this Section. Any discrepancies between the survey data and the survey information provided by DDOT shall be brought to DDOT's

attention for resolution. It is the sole responsibility of the DB Contractor to confirm the accuracy and acceptability of all survey data provided by DDOT prior to using the data.

All field survey Work, design, and construction shall be done in the Project's horizontal and vertical datum. The conversion to the Project datum shall be completed using data found in the "South Capitol Street Corridor Primary Control Network Report," dated July 13, 2012, which defines the foot as the U.S. Survey foot. The DB Contractor shall prepare and submit calculations and a statement of acceptance to DDOT to confirm their concurrence with the Project coordinate system and horizontal and vertical datum to be used.

TABLE 5-1
Minimum Survey Accuracy

Deliverable	Accuracy Standards and Methods/ Procedures	Horizontal Accuracy	Horizontal Minimum Point Closure Standard or Equivalent	Vertical Accuracy	Vertical Minimum Point Closure Standard or Equivalent
Control - Primary	FGDC (Note 1)	2nd Order Class I	1:50,000	2nd Order Class I	0.025 √m (m=miles)
Control - Secondary	FGDC (Note 1)	2nd Order Class II	1:20,000	2nd Order Class II	0.035 √m (m=miles)
Supplemental Control	FGDC (Note 1)	Range from 2nd Order Class II for Secondary to 3rd Order for Tertiary control	1:20,000 to 1:5,000	Range from 2nd Order Class II for Secondary to 3rd Order for Tertiary control	0.035 √m for 2nd Order Class II to 0.05√m for 3rd Order Tertiary control (m=miles)
Topo Base Mapping - Upland	ASPRS (Map) Accuracy Standards	Class 1	1"=20 feet	Class 1	1 foot Contour Interval (CI)
Topo Base Mapping - Bathy	ASPRS (Map) Accuracy Standard	Class 1	1"=20 feet	Class 1	1 foot CI
Bridge Survey	FGDC (Note 1)	Positional tolerance of 0.03 foot		Positional tolerances of 0.02-feet on hard surfaces and 0.1-feet on soft surfaces	
Utility Location	Location - Utility ASCE (Note 2) - and FGDC (Note 1)	Quality Level A or B depending on Project needs and FGDC positional tolerance of 0.2 to 0.5 foot per FGDC Part 4		Quality Level A or B depending on Project needs and FGDC positional tolerance of 0.1 to 0.2 foot per FGDC Part 4	
Settlement / Subsidence Monitoring Surveys	FGDC (Note 1)	Positional tolerance range from 0.01 foot to 0.03 foot per FGDC Part 4		Positional tolerance 0.01 foot per FGDC Part 4	
Design Surveys	FGDC (Note 1)	Positional tolerance of 0.05 foot		Positional tolerances of 0.03 foot on hard surfaces and 0.1 foot on soft surfaces	
Construction Layout Survey	FGDC (Note 1)	Positional tolerance range from 0.01 foot to 1.0 foot per FGDC Part 4		Positional tolerance range from 0.01 foot to 0.5 foot per FGDC Part 4	

TABLE 5-1
Minimum Survey Accuracy

Deliverable	Accuracy Standards and Methods/ Procedures	Horizontal Accuracy	Horizontal Minimum Point Closure Standard or Equivalent	Vertical Accuracy	Vertical Minimum Point Closure Standard or Equivalent
As-Built Surveys	FGDC (Note 1)	Positional tolerance range from 0.2 foot to 1.0 foot per FGDC Part 4		Positional tolerance 0.2 foot per FGDC Part 4	
Right-of-Way Acquisition Surveys	ROW Manual (Note 3) and Manual of Practice For Survey in the DC (Note 4)				
ROW Stake out	ROW Manual (Note 3) and Manual of Practice For Survey in the DC (Note 4)				

Note 1: FGDC — FGDC Geospatial Positioning Accuracy Standards, Part 4: Standards for Architecture, Engineering, Construction (A/E/C), and Facility Management

Note 2: Utility ASCE — ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data

Note 3: ROW Manual — DDOT Right of Way Policies and Procedures Manual - June 9, 2011

Note 4: Manual of Practice For Survey in the DC — Department of Consumer and Regulatory Affairs Building and Land Regulations Administration - Manual of Practices For Real Property Surveying in the District of Columbia - January 2010

Note 5: The horizontal and vertical accuracy requirements identified in Table 5-1 may increase to a higher accuracy requirement dependent on Project needs.

5.2.2 Survey Manager

The DB Contractor shall designate a Survey Manager for the Project experienced in all aspects of survey requirements for major bridge and highway construction. The DB Contractor's designee shall have sufficient knowledge, expertise, and experience to supervise the surveying service required to complete this Project which may include establishing supplemental control, topographic surveys suitable for design, recovery, and establishing property and ROW lines. All survey Work shall be prepared by, or under the direct supervision of, the Survey Manager. The Survey Manager shall be the single point of contact for all survey activities and shall document, certify, sign, and seal all survey activities completed under this Contract.

It is the responsibility of the DB Contractor to comply with all federal and local regulations related to the Practice of Surveying, which may require supervision by a Surveyor Licensed in the District of Columbia.

5.3 Design Requirements

5.3.1 General

The DB Contractor shall conduct and complete all surveying and mapping Work necessary for the successful design and construction of the Project. This Work will include horizontal and vertical control surveys, topographic surveys, ROW surveys, bridge surveys, Utility surveys, construction surveys, As-Built surveys, boundary and ROW surveys, permits to disturb and replace all control and land boundary monument, Land Corner Records, and all other land surveying or mapping services necessary to complete the Project. The DB Contractor shall obtain all necessary permits prior to beginning field Work.

5.4 Construction Requirements

5.4.1 General

The DB Contractor shall maintain detailed survey records, including a description of the Work performed on each shift and the methods and control points used on the shift. The records shall include adequate detail to allow the survey to be reproduced, including graphic notes depicting control points used and their relationship to other control points or reference points; descriptions; coordinates; and location descriptions of the points used or set.

Bench marks and temporary bench marks shall also have graphic notes depicting descriptions, elevations, coordinates, and location descriptions.

Furnish survey instruments and supporting equipment that achieve the required tolerances associated with the Work. Checking and calibration of equipment will be according to current best practices.

Survey Work by the DB Contractor shall include the following:

1. Verifying all survey data furnished by DDOT.
2. Expanding and supplementing the control network as additional permanent survey control is needed for the Project.
3. Providing recovery data sheets of permanent control stations to DDOT in both hard and electronic copy.
4. Conducting topographic surveys, including detailed mapping and bathymetry, to support design activities to be completed by the DB Contractor.
5. Conducting construction surveys including, but not limited to: walls, bridges, grading, settlement monitoring, drainage, channelization, pavement markings, illumination, signals, guardrails, barriers, and signage. The DB Contractor shall provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.

All permanent secondary control points shall be shown on a Survey Mark form and shall be tied to the ROW centerline alignment labeled on a Post Construction Record of Survey. Permanent secondary control points shall be established in accordance with the standards, specifications, and methods described and referenced herein.

The DB Contractor shall write a formal Survey Report for all survey calculations related to survey control networks, road alignments, settlement monitoring, property boundaries, public land survey system surveys, and ROW surveys. The intent of each report is to document and perpetuate the information and rationale used to determine the survey data that is part of the Project.

The reports shall include information related to the source data used, the calculations performed, closures achieved and the data produced as part of the survey process.

The DB Contractor shall provide DDOT with copies of all calculations and staking data prior to it being used for construction operations.

The DB Contractor shall maintain copies of all notes, calculations, staking data, drawings, and QC measures. The information will be available for auditing by DDOT upon request and DDOT may request the submittal of calculations and field notes in hard copy or electronic (pdf) or both.

5.4.2 Monumentation

General

The DB Contractor shall document all DDOT and governmental monuments and property corners that will be modified, disturbed, or destroyed during the Contract including geodetic primary control monuments. This includes survey control stations, horizontal and vertical control monuments establish by any agency, and existing boundary and ROW boundary markers. The DB Contractor shall complete a Monument Report to notify DDOT of any and all monuments that could potentially be disturbed, modified, or destroyed, along with a plan to preserve and replace any monument potentially impacted.

DDOT Monumentation

The DB Contractor shall note all DDOT geodetic, highway alignment monuments, and Washington Metropolitan Area Transit Authority (WMATA) and all other government control stations found within the Project Limits on a Record of Survey or Monumentation Map. Upon receipt of the Monument Report, DDOT will determine the monuments to be replaced by the DB Contractor.

The DB Contractor shall notify the appropriate agency, organization, or business for all monuments that will potentially be disturbed, destroyed, or relocated. Monuments removed or disturbed prior to submitting an approved notification and exhibit map will be replaced at the DB Contractor's cost.

The DB Contractor will replace any DDOT geodetic monument within the Project that may be disturbed or destroyed other than highway alignment monuments that are denoted as point of curve (PC), point of tangent (PT), point on the curve, point on the tangent (POT), other baseline stations, and ROW monuments. Highway alignment monuments are required to be replaced, unless exceptions are authorized by DDOT prior to disturbing the affected monument. The DB Contractor shall label all monuments removed, replaced, or set on the Post Construction Record of Survey described in this Section. The DB Contractor shall work with DDOT to determine the best location, as near as possible to the original location, to assure that a replacement monument is in a location that will be out of the area of disturbance and serves the need of the Project.

Existing property corners within the Project Limits that are verified by recorded documents shall be replaced in compliance with District of Columbia regulations and methods and Approved by DDOT and by the District of Columbia Office of the Surveyor.

5.4.3 Preconstruction Survey

Immediately after NTP1, the DB Contractor shall take a sufficient number of pre-construction photographs and a high-quality video of the Site, including roadways, structures, drainage, and all areas necessary to or anticipated to be impacted by the Work, in high-definition format so as to resolve any disputes that may arise regarding the conditions prior to and subsequent to construction. Such preconstruction survey shall be completed prior to NTP2.

Prior to starting any Work, the DB Contractor shall make a detailed inspection of buildings, structures, roadways, sidewalks, retaining walls, landscaping, and related surface improvements adjacent to and in the vicinity of the proposed Work, wherever located. The inspection shall include notes, measurements, and a DVD, with audio sound track, of all facilities prior to the start of construction. The audio description of the inspection shall include the date, time, weather conditions, address/stationing/location, brief description of the facility, and description of physical conditions encountered.

Copies of all notes, measurements, video tapes, reports, and data shall be submitted to DDOT as soon as these records are complete and prior to start of any construction activity.

If a dispute arises where no or insufficient photographic or video evidence of its existing condition is available, the disputed area shall be restored to the extent directed by DDOT at no additional cost to DDOT.

5.4.4 Traffic Control Plans

The DB Contractor shall prepare a Maintenance of Traffic Plan whenever a survey crew or a survey crew’s vehicle will be working within any roadway clear zone. Submittal, review, and Approval of the Maintenance of Traffic Plan shall be in accordance with Section 22, Maintenance of Traffic, of these Technical Provisions.

5.4.5 As-Built Survey

The DB Contractor shall produce reports documenting the location of the As-Built alignments, profiles, drainage structures, Utilities, walls, bridges, and placement of the survey-control monument. These reports shall include descriptive statements for the survey methods used to determine the As-Built location of the feature being surveyed. Where DDOT has provided data to the DB Contractor in x, y, z-coordinate format, the DB Contractor shall provide DDOT with data in x, y, z-coordinate format. Where DDOT has provided data to the DB Contractor in x, y-coordinate format only, or z-coordinate format only, the DB Contractor shall provide DDOT with data in x, y-coordinate format only, or z-coordinate format only, respectively.

All x, y, and z coordinates shall be provided in the Project coordinate system and horizontal and vertical datum.

The DB Contractor shall provide DDOT with an As-Built survey base map file in the Project’s coordinate system l and vertical datum, and in accordance with the format for the software programs provided in Section 1, General Information, of these Technical Provisions.

The DB Contractor shall deliver all As-Built survey files to DDOT within 30 Calendar Days of Substantial Completion of the Project.

5.4.6 Post Construction Record of Survey

The DB Contractor shall provide DDOT with a hard copy and an electronic file of the Post Construction Record of Survey. A draft copy shall be submitted to DDOT for review prior to recording with the District of Columbia Office of Survey. A Mylar hard copy that includes recording numbers and an electronic file shall be delivered at the time of Substantial Completion, unless an earlier delivery is requested by DDOT. The electronic format shall be compatible with DDOT's format. The Post Construction Record of Survey shall include, but is not limited to, the following:

1. All monuments that have been removed by construction activities, with symbols and notes to identify whether they have been replaced.
2. All permanent secondary and tertiary horizontal and vertical control points established by the DB Contractor shall be defined by the Project's State Plane coordinate system and horizontal and vertical datum (x, y and z) and by station, and offset to the ROW centerline alignment. All permanent control points shall be accompanied by a Report of Survey Mark.

All monuments, remaining undisturbed and/or set during this Contract, shall be defined and identified by station and offset to the ROW centerline alignment.

5.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 5-2
Survey and Mapping Deliverable Requirements Summary

Deliverable	DDOT Provided Survey	New Survey Deliverables	DDOT Review	Schedule	Section
Control - Primary and Secondary	Prior to use recover and confirm	New surveys as needed	Submit	Before use of data	5.1.1 5.4.1
Control - Supplemental	N/A	New surveys as needed	Submit	Before use of data	5.4.1
Topo Base Mapping - Upland	Prior to use recover and confirm	New surveys and mapping as needed	Submit	Before use of data	5.1.1 5.4.1
Topo Base Mapping - Bathymetry	Prior to use recover and confirm	New surveys and mapping as needed	Submit	Before use of data	5.1.1 5.4.1
Monument Report	N/A	Survey deliverables (see Note 1)	Review and Comment	30 Days in advance of disturbance	5.4.2
Preconstruction Surveys	N/A	Survey deliverables (see Note 1)	Submit	Prior to any construction activity	5.4.3
Survey Reports	N/A	Survey deliverables (see Note 1)	Review and Comment	Within 30 Days of completion of each survey	5.4.1
Survey Records	N/A	Survey deliverables (see Note 1)	Submit	Within 30 Days of substantial completion	5.4.1

TABLE 5-2
Survey and Mapping Deliverable Requirements Summary

Deliverable	DDOT Provided Survey	New Survey Deliverables	DDOT Review	Schedule	Section
As-Built Surveys	N/A	Survey deliverables (see Note 1)	Review and Comment	Prior to Final Acceptance	5.4.5
Post-Construction Record of Survey	N/A	Survey deliverables (see Note 1)	Review and Comment	Within 30 Days of substantial completion	5.4.6

Note 1: Includes field notes; computations; map products (hardcopy and electronic); dated, signed, and sealed surveyors report including certification.

SECTION 6

Geotechnical Design

6.1 General

The Design-Build (DB) Contractor shall conduct all Work necessary to complete the geotechnical investigation and design for the Project. Elements of the Work shall include, but are not limited to, the following:

1. The DB Contractor shall review the existing geotechnical information, which includes the Geotechnical Data Report (GDR) and the Supplementary GDR; and
2. The DB Contractor shall evaluate the requirements of the Work and perform geotechnical explorations, geotechnical analyses, and laboratory testing sufficient to supplement the existing data. The DB Contractor shall provide geotechnical designs and construction support in accordance with this Section.
3. The WMATA Adjacent Construction Project Manual shall be referenced only for design and construction within the zone of influence of Washington Metropolitan Area Transit Authority (WMATA) facilities. The DC Water and Sewer Authority Project Design Manual and DC Water Green Infrastructure Utility Protection Guidelines shall be referenced only for the design and construction of impacted District of Columbia (DC) Water facilities and Utilities.

6.2 Performance Requirements

6.2.1 Personnel Requirements

The DB Contractor shall provide a Lead Geotechnical Engineer with a minimum of ten (10) years of supervisory experience in geotechnical design and construction support of roadways, bridges, retaining walls, and other highway-related elements. This individual will be responsible for the geo-technical design of the Project. This individual will be a registered Professional Engineer licensed in the District of Columbia.

The DB Contractor's personnel responsible for the installation and monitoring of instrumentation such as inclinometers, piezometers, settlement and lateral movement indicating devices, and standard penetration testing shall have a minimum of two years' experience with the specific type of instrumentation they will be operating.

The DB Contractor's personnel responsible for deep foundation installation, load tests, and ground improvement design and construction shall have a minimum of five years' experience with the each specific design or construction method.

6.2.2 Subsurface Exploration Plan

The DB Contractor shall develop a Subsurface Exploration Plan (SEP) to supplement information provided in the GDR. Additional explorations, as determined necessary by the DB Contractor and to meet the requirements of the Project.

The exploration shall be planned and conducted in accordance with DDOT Design and Engineering Manual, AASHTO LRFD Bridge Design Specifications, and AASHTO Manual on Subsurface Investigations. The DB Contractor shall determine the specific locations, frequency, and scope of the SEP.

The exploration shall be conducted in accordance with the requirements for avoiding or preventing any potential damage from unexploded ordinance (UXO) as specified in Section 8, Environmental, of these Technical Provisions.

The exploration shall be conducted in accordance with all environmental and boring permits. The DB Contractor shall refer to Section 8, Environmental, of these Technical Provisions for acquiring environmental permits or modifications to existing permits needed to complete the SEP. Any borings in river or on land associated with the FDMB requires drilling permits from USACE, District Department of the Environment (DDOE), and National Park

Service (NPS). The permit application process may be time-consuming; therefore, DB Contractor shall adjust the SEP schedule for any time delays because of the application process.

The SEP shall be submitted to DDOT for review and comment before commencement of any earthwork or excavation. This submittal shall include the number and depths of the proposed borings/cone penetration tests and other field investigations and the proposed sampling and testing necessary to meet the minimum requirements of the Project. Instrumentation such as piezometers and slope inclinometers to be used for design and construction monitoring purposes shall also be included in the Geotechnical Instrumentation Plan (GIP) as described in this Section. The submittal shall also include a Maintenance of Traffic Plan in accordance with Section 22, Maintenance of Traffic, of these Technical Provisions for investigations that are on, or adjacent to, active freeway or city streets. The DB Contractor shall secure an access permit from the appropriate agency or entity, if required.

The SEP shall include the following information:

1. Proposed exploration type and location
2. Instrumentation to be installed in explorations and installation procedures
3. Maintenance of Traffic Plan, if required
4. Site access plans and right-of-entry permits
5. Environmental considerations (spoil containment and removal) and best management practices plan
6. UXO avoidance procedure
7. Schedule
8. Utility clearance procedure
9. Emergency procedures and contacts

Soil properties shall be determined in accordance with the acceptable general engineering practice and appropriate AASHTO and DDOT standards. Field tests shall also be conducted in accordance with appropriate AASHTO and DDOT standards.

Following completion of exploratory Work, all boring locations shall be surveyed. The survey shall determine station and offset, elevation, and state plane coordinates, which shall be included on the boring logs. Following drilling and laboratory Work, the DB Contractor shall retain all samples until Final Acceptance and shall provide such samples to DDOT, if requested.

6.2.3 Laboratory Testing Requirements

Laboratory testing of soil and groundwater samples shall be performed in accordance with AASHTO testing procedures. Laboratories conducting geotechnical testing shall be either AASHTO accredited for the testing being performed or fulfill the requirements of AASHTO R18 for qualifying testers and calibrating/verifying of testing equipment for those tests being performed. All test results shall be included in the DB Contractor's Geotechnical Report.

6.2.4 Geotechnical Instrumentation Plan

The DB Contractor shall develop, implement, and maintain a documented Geotechnical Instrumentation Plan (GIP) to satisfy design and Quality Control (QC) requirements. The GIP shall be updated as required by construction activities and submitted to DDOT.

The DB Contractor shall employ the services of qualified instrumentation specialist to design and install geotechnical instrumentation and provide real-time monitoring where necessary to monitor parameters such as the following:

1. Settlement and settlement rates of embankments and structures
2. Pore water pressures
3. Lateral movement
4. Groundwater levels
5. Stability of walls and slopes
6. Vibrations of ground and structures

The DB Contractor shall be responsible for all damage caused by construction activities to structures or public facilities, existing before construction begins, such as Utilities, tunnels, tunnel stations, drainage facilities, streets, and highways on or adjacent to the right-of-way.

Damage to structures may be caused by excessive vibrations, embankment-induced settlement, physical impact, and other construction-related activities. Before construction operations that may cause damage to sensitive facilities commence, the DB Contractor shall identify locations of sensitive facilities, zones of influence, instrumentation types, critical readings, frequency of readings, and a contingency plan in a Settlement and Vibration Monitoring Plan, which shall be coordinated with the development of Demolition Plans. For buildings not owned by DDOT and other sensitive facilities including private residences, businesses, city streets, tunnels, and Utilities within the Project area, the DB Contractor shall conduct a Pre-Construction Survey in accordance with the requirements of Section 5, Surveys and Mapping, of these Technical Provisions.

Where proposed facilities are to be constructed on settlement-sensitive or soft ground, the DB Contractor shall install instrumentation to monitor settlements of structures, utilities, and other features within the zone of influence of the embankment. For embankments, the zone of influence shall be defined as a zone extending a minimum horizontal distance from the toe of the embankment, where the minimum horizontal distance is the height of the embankment. For retaining walls, the zone of influence shall be defined as a zone extending from the toe of the footing to a minimum horizontal distance of twice the height of the wall.

Where impact or vibratory methods are permitted for the installation of shaft casings, shoring, or piles, vibration monitoring shall be conducted where structures or Utilities are within 100 feet of the shaft casing/pile/shoring driving operations. The DB Contractor is required to cease all operations when vibration-recording equipment exceeds a peak particle velocity shown in Figure 6-1 within the 100-foot influence zone.

The DB Contractor shall coordinate with DC Water and WMATA for any special monitoring requirements in the vicinity of their Utilities and facilities. This includes, but is not limited to, the instrumentation details, survey procedure, schedule for survey, data reduction, monitoring frequency, initial readings, threshold limiting values, and contingency plan.

The Settlement and Vibration Monitoring Plan shall include existing impacted sewer structures to determine structural integrity prior to, during, and post construction. Monitoring requires performing an initial survey and establishing monitoring points. The Plan shall include mapping of all cracks inside sewers and include photographic records. This shall be done in three stages:

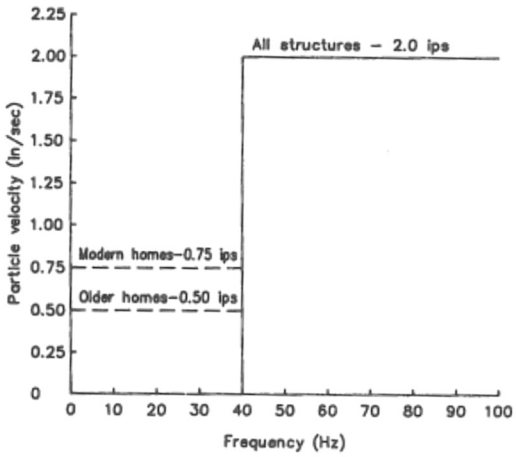
1. Stage 1 – Initial Pre-Construction Monitoring and Structural Evaluation.
2. Stage 2 – Construction Monitoring. Monitor and map cracking during excavation and construction. This shall be done at Approved frequency levels.
3. Stage 3 – Post-Construction Monitoring. This includes final survey monitoring and Structural Evaluation Report documenting the post-construction condition. This shall be completed following Substantial Completion of construction activities.

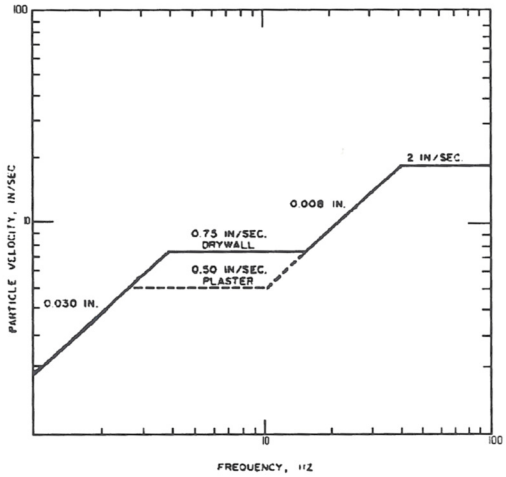
The DB Contractor shall submit all initial surveys to DDOT and DC Water for review and determination of whether immediate remediation is required prior to commencement of construction activities in the vicinity.

Any instruments owned by the DB Contractor that are damaged during construction and require removal and/or recalibration shall be replaced and/or recalibrated by the DB Contractor.

The DB Contractor's Geotechnical Report shall include all instrumentation data and field notes/photographs collected for design and construction-related purposes.

FIGURE 6-1
Safe Vibration Levels (RI 8507, U.S. Bureau of Mines)





6.2.5 Borehole Site Cleanup

Backfilling of borings, test pits, cone penetration test (CPT) holes, and abandonment of piezometers and inclinometers shall be performed in accordance with the provisions of applicable local, state, or federal laws and regulations. Borings shall be abandoned in accordance with District Department of the Environment regulations. No borings are allowed to be backfilled using soil cuttings from the borings. The DB Contractor shall grout all test holes drilled by the DB Contractor in a manner that ensures against subsequent settlement of the backfill and holes that could be hazardous to persons, animals, or equipment.

All investigation-derived waste shall be contained, tested for contaminations, and disposed of at an appropriate disposal facility based on test results.

6.2.6 Boring Logs

The boring logs shall be prepared in accordance with the requirements of the DDOT Design and Engineering Manual and AASHTO Manual on Subsurface Investigations. Logs of all field explorations shall be included in the DB Contractor's Geotechnical Report.

6.2.7 Geotechnical Analysis

The DB Contractor shall perform geotechnical engineering and geologic analyses in accordance with the requirements of the Project. The geotechnical engineering and analyses shall be based on the findings from the DB Contractor's subsurface exploration and laboratory testing programs included in the submitted Geotechnical Report; the results of engineering analyses, including information provided in the GDR; and additional geotechnical studies included in the RIDs.

6.2.8 Geotechnical Reports

The DB Contractor shall prepare Geotechnical Reports in accordance with all applicable Standards and this Section that summarizes the results of the field testing, all instrumentation data, laboratory investigation programs, engineering studies, and geotechnical design recommendations. Geotechnical Reports shall at a minimum include but not be limited to the following information:

1. Review of the geological information
2. Review of the preliminary and historical geotechnical information
3. Results of the additional subsurface exploration program which includes and not limited to the field testing, laboratory testing, borings logs, soil profiles, and pavement cores information.

4. Engineering Analyses and Recommendations for all the retaining and abutment walls, fill and cut slopes, bridge foundations, minor structures, drainage facilities, and pavement design. The analyses should demonstrate that the project design and performance requirements have been met.
5. Construction Considerations
6. Quality control, assurance (QC/QA) and Instrumentation and monitoring requirements

Final versions of the DB Contractor's Geotechnical Report (after addressing DDOT comments) shall be stamped, dated, and signed by a Professional Engineer licensed in District of Columbia.

6.3 Design Requirements

Geotechnical design including, but not limited to, foundation and ground improvement design shall be coordinated and approved by the Utility owners for Work in conflict with existing Utilities. The design and construction shall consider the impact of UXO and contamination as discussed in Section 8, Environmental, of these Technical Provisions.

The DB Contractor shall develop Technical Memoranda that define the design basis, calculation method and results for each element of the geotechnical design of the Project.

6.3.1 Reserved

6.3.2 Bridge Foundation Design

The DB Contractor shall meet the bridges and structures requirements described in Section 13, Bridges and Structures, of these Technical Provisions. The performance criteria of the bridge foundation at service limits are also provided in Section 13, Bridges and Structures, of these Technical Provisions.

6.3.3 Wall Design

All retaining walls and wall foundations shall be designed using the AASHTO LRFD Bridge Design Specifications, the AASHTO Guide Specifications for LRFD Seismic Bridge Design, and DDOT Design and Engineering Manual.

The DB Contractor shall meet the landscape and aesthetic requirements described in Section 15, Visual Quality Requirements, Section 13, Bridges and Structures, of these Technical Provisions.

6.3.4 Foundation Design for Signals and Signs

The DB Contractor shall meet the bridge and structure, traffic signal, ITS, and signing foundation requirements described in Sections 13, Bridges and Structures, 16, Illumination, 17, Traffic Signals and ITS, and 19, Signing, of these Technical Provisions.

6.3.5 Settlement of Embankment and Pavement Subgrade

Design and construction of pavement subgrade, embankments, and the entire ovals including unpaved area shall meet the following post-construction settlement tolerances:

1. Total vertical post-construction settlement (including immediate, primary consolidation and secondary compression settlement) shall be less than 2.0 inches and less than 1.0 inch within 100 feet of bridge abutments within the design life of the strucutre.
2. Settlement that will not impede positive drainage of the pavement surface especially within the travel lanes nor subject the roadway to flooding in areas where it is applicable.
3. Settlement that does not result in damage to adjacent or underlying structures, including Utilities.
4. For pavement sections of approach slabs, bridge decks, and tie-ins to the Project, grade tolerances shall be measured with a 10-foot straightedge. The variation of the surface from the testing edge of the straightedge between any two contacts with the surface shall not be more than plus (+) 0.25-inch to minus (-) 0.125-inch at structures and +/- 0.25-inch at Project tie-ins.

5. Settlement monitoring including settlement plates and surface monuments (settlement points) shall be included to verify estimated results versus actual performance.
6. Humps, depressions, and irregularities exceeding the specified tolerance will be subject to correction by the DB Contractor. The DB Contractor shall notify the Quality Assurance Manager (QAM) and DDOT for any non-conformance items.

6.3.6 Slope Stability

All cut and fill slopes shall be designed to be stable for interim construction stages, at the end of construction and for design-life conditions. Soil cut slopes and fill slopes shall be designed to satisfy the following criteria:

1. The maximum slope ratio to be used for cut and/or roadway embankment fill slopes shall not be steeper than 2H:1V; and
2. The stability of the slopes shall meet the requirements specified in the AASHTO LRFD Bridge Design Specifications; and
3. Use ground improvement or lightweight fill as needed to satisfy the stability of slopes.

For critical slopes, defined as a slope that is greater than 25 feet in height, affects or supports a structure (that is, irrespective of height), or whose failure would impact third party facilities or the traveling public, the DB Contractor shall incorporate reliability assessments in conjunction with standard analysis methods. An acceptable design will provide a probability of success equal to or greater than 99 percent.

6.3.7 Best Management Practice

No drainage or best management practice (BMP) drainage facilities collecting surface water with potential deicing chemicals that may corrode mechanically stabilized earth (MSE) wall metal reinforcing strips shall be located within 75 feet from the MSE wall reinforced zone, except where the BMP is located at the bottom elevation of the MSE wall.

Where drainage or BMP facilities are located within 200 feet of an MSE wall reinforced zone, they shall be encapsulated with an impermeable liner and at least 20-foot thickness of low permeability embankment fill with permeability coefficient less than $1x10^{-5}$ centimeters per second (cm/second) in accordance with American Society for Testing and Materials (ASTM) D 5084 and meeting embankment fill requirements.

Seepage force and hydrostatic pressure shall be considered in slope-stability evaluation where BMPs are located on top or near the crest of cut/fill slopes or where seepage water may saturate and soften cut/fill slopes. If the slope consists of cohesive soils, fully softening shear strength parameters shall be used for the slope-stability evaluation.

Water pressures shall be considered in the design of retaining walls or structures considering the location of BMP or drainage facilities where appropriate.

6.3.8 Utilities

There are numerous existing Utilities located within the Project Limits. All Utilities shall be relocated or protected in place as described in Section 10, Utilities, of these Technical Provisions.

6.3.8.1 DC Water

Two effluent trunk sewers that carry all influent to the DC Water Blue Plains Treatment Plan are located within the Project limits. These existing facilities are known to be of fragile condition and DC Water records indicate that these structures may have been originally constructed on friction piles. In addition to DC Water requirements, the following provisions apply for these existing facilities:

1. No net increase in loads will be allowed within the influence zone of the pipes as agreed with the owner. No ground/soil improvement shall be allowed which may affect the soil these sewers are founded in. For unreinforced concrete pipes that rely on the surrounding soil for structural performance, the settlement/deflection criteria under new impacts is “zero” inches.

2. Any proposed ground improvement shall not induce settlement around or under the pipe, friction piles or surrounding soils that would cause pipe settlement beyond DC Water settlement criteria.

There are four vents for the 96-inch DC Water sanitary sewer within the Project limits. Any work which impacts these vents shall be coordinated with DC Water and in accordance with DC Water and Sewer Authority Project Design Manual.

Any work located within the proposed DC Water Anacostia River Tunnel zone of influence shall be coordinated with and approved by DC Water. Specific requirements for tunnel-induced settlement are provided in Section 13.4.23.1, Bridges and Structures, of these Technical Provisions.

6.3.8.2 WMATA

Any work adjacent to or over the existing WMATA Anacostia Station or Green Line shall be in accordance with WMATA Adjacent Construction Project Manual. Under no circumstances shall any work damage the Anacostia station. The DB Contractor shall coordinate the design and construction with WMATA and obtain approval from WMATA before any construction activities within the zone of influence of WMATA facilities, as defined in the WMATA Adjacent Construction Project Manual.

6.3.9 Ground Improvement

Ground improvement shall be expected for the construction of some fill, retaining walls and embankments in order to meet global stability, sliding, bearing capacity, and settlement criteria. The ground improvement technique to be selected for specific locations shall consider the construction schedule, protection of Utilities, UXO, contamination, and maintenance of traffic. The DB Contractor shall coordinate with all Utility owners for any proposed ground improvement and shall follow each Utility owner's requirements.

6.3.10 Levee

Under no circumstances shall any work damage or undermine the Anacostia Levee located at the east bank of the Anacostia River. The DB Contractor shall obtain USACE approval for all construction activities in the vicinity of the Levee and as required by the USACE document, "Construction Activities at USACE Flood Damage Reduction Projects General Requirements for USACE Review," included in the RIDs.

The DB Contractor shall coordinate with USACE early and often during the design phase to facilitate the review and approval process with USACE.

Given the potential for a lengthy USACE review process, any design proposal by the DB Contractor which would impact, damage, or potentially undermine the Anacostia Levee shall be deemed unacceptable and will be rejected by DDOT.

The *Manual - Operation and Maintenance - Local Flood Protection Works Anacostia Levee, Washington, D.C.* by United States Engineer Office, dated December 1944, is found in the RIDs and includes the Anacostia Levee As-Built plans.

6.3.11 Scour

Foundation design shall consider the effect of scour in accordance with AASHTO LRFD Bridge Design Specifications. Section 14, Hydrology and Hydraulics, of these Technical Provisions provides detailed requirements regarding scour evaluation and scour depth. The abutments shall be protected against scour. Additionally, the river pier immediately next to the sea wall at the east bank of the Anacostia River shall be protected against scour as needed to ensure the long-term stability of the sea wall.

6.4 Construction Requirements

6.4.1 Slope Stability and Protection

The DB Contractor is responsible for slope stability throughout the Project, both within and adjacent to the ROW. If any unstable slope or ground develops as a result of construction activities, the DB Contractor shall cease all activities in the immediate area within and around the unstable ground until the situation is fully assessed by the

DB Contractor. The DB Contractor shall immediately contact DDOT informing them of the situation. Before the DB Contractor returns to Work in the immediate area of unstable ground, the DB Contractor shall implement temporary slope stabilization measures to ensure the safety of the public and the DB Contractor's personnel. Permanent slope stabilization measures shall be designed and constructed by the DB Contractor. DDOT will review and comment on the temporary and permanent slope stabilization measures.

6.4.2 Unexploded Ordnance

The Project shall be constructed in accordance with the requirements for avoiding or preventing any potential damage from UXO as specified in Section 8, Environmental, of these Technical Provisions. The limits and nature of UXO is defined in Section 8, Environmental, of these Technical Provisions.

6.4.3 Contaminated Soils/Groundwater

The construction shall consider the impact of contaminated soils and groundwater as specified in Section 8, Environmental, of these Technical Provisions. The construction of deep foundations and ground improvement shall not cause cross-contamination (that is, contaminating the deeper, uncontaminated soil or ground water).

6.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 6-1
Geotechnical Design Deliverable Requirements Summary

Item	DDOT Review Type	Schedule	Section
Subsurface Exploration Plan	Review and Comment	Before commencing geotechnical investigation	6.2.2
Geotechnical Instrumentation Plan	Submit	Prior to commencing earthwork or excavation	6.2.4
Settlement and Vibration Monitoring Plan	Submit	Prior to commencing earthwork or excavation	6.2.4
Pre-Construction Survey	Refer to Section 5	Refer to Section 5	Refer to Section 5
Geotechnical Reports	Review and Comment	Prior to commencing earthwork or excavation	6.2.8
Technical Memoranda	Review and Comment	Prior to commencing earthwork or excavation	6.3
Drilled Shaft Installation Plan	Review and Comment	30 Calendar Days prior to beginning drilled shaft construction	Attachment 6A, III. A.

Attachment 6A
DDOT Special Provision for Drilled Shafts

Attachment 6A
DDOT Special Provision for Drilled Shafts

The standard specifications are amended by the following modifications and additions and shall prevail over requirements published in the standard specifications.

January 18th, 2015

I. DESCRIPTION

This work shall consist of all labor, materials, equipment and services necessary to perform all operations to complete the drilled shaft installation in accordance with the specifications, this Special Provision, and with the details and dimensions shown on the plans. Drilled shafts are reinforced concrete, deep foundation elements, cast-in-place against insitu material through augured holes. Drilled shafts are straight and vertical. In this Special Provision, the terms "Design-Build team" and "Contractor" are generic terms that refer to the party under contract with DDOT to design and construct the Project.

II. QUALIFICATIONS OF DRILLED SHAFT CONTRACTOR

The Contractor performing the work described in this specification shall have experience consisting of successful installation of at least ten (10) drilled shaft projects installed within the past 5 years, two (2) of which shall be similar or greater size, in similar geologic conditions, and in the river using a barge. The Contractor shall provide documentation of his superintendent's qualifications, record of experience, and prior project references demonstrating that he can handle unusual site conditions and equipment breakdowns. The drilled shaft work shall be performed under the supervision of the Contractor's superintendent, who shall have at least 5 years of experience installing drilled shafts within the last 8 years and shall be fully knowledgeable and experienced in construction of drilled shaft foundations of similar size, geologic conditions, and in-river as those shown on the plans.

The mentioned documentation shall reference, for each project, the names and phone numbers of owner's representatives who can verify the Contractors' participation on those projects, detail the size and number of the shafts, methods used during installation, methods used for wall stabilization, local soil conditions, actual construction time, and contract time.

DDOT may accept or reject the Drilled Shaft Subcontractor based on his qualifications and previous field performance.

III. SUBMITTALS

A. Installation Plan

This plan shall provide the following information:

1. A list of the ten (10) projects performed in the last 5 years by the Contractor performing the work specified as required experience in Section II. QUALIFICATIONS OF DRILLED SHAFT CONTRACTOR. The documentation shall reference, for each project, the names and phone numbers of owner's representatives who can verify the Contractors' participation on those projects, detail the size and number of the shafts, methods used during installation, methods used for hole stabilization, local soil conditions, actual construction time, and contract time. The Contractor shall provide documentation of his superintendent's qualifications, record of experience, and prior project references demonstrating that he can handle unusual site conditions and equipment breakdowns. The mentioned documentation shall reference, for each project, the names and phone numbers of owner's representatives who can verify the Contractor's superintendents' participation on those projects, detail the size and number of the shafts, methods used during installation, methods used for hole stabilization, local soil conditions, actual construction time, and contract time.

2. List of proposed equipment to be used, including cranes, barges, drills, augers, bailing buckets, final cleaning equipment, core sampling equipment, tremies or concrete pumps, environmental sampling tools, etc.
3. Details of overall construction operation sequence and the sequence of shaft construction in bents or groups including the time for driving casing, sealing casing, excavation and/or drilling time, drilled shaft cleaning, drilled shaft inspection and concrete placement.
4. Details of shaft excavation methods. Methods for monitoring verticality of the drilled shaft walls during excavation and details of proposed corrective measures to be implemented for shafts out of tolerance.
5. Details of methods to clean the excavated shaft.
6. Details of Steel Reinforcement Placement during Construction. Include methods to ensure cage centering and cover; cage integrity while lifted during placement (number of cranes, lift points, and spreader bars); number and location of bottom and side spacers; cage support; and tie downs during concrete placement.
7. Details of concrete placement, including proposed operational procedures for free fall, tremie or pumping methods.
8. Details of casing installation and removal methods.
9. Plan to Protect Existing Structures. The Contractor shall outline the steps he will take during drilled shaft installation to protect adjacent or nearby structures.
10. Details of Environmental Control Procedures. Indicate plan to prevent loss of soil, slurry, or concrete into waterways, Project areas, or protected areas and to comply with all state and federal environmental regulations.
11. Method to install and secure the Crosshole Sonic Logging (CSL) tubes to the reinforcing cage.
12. Concrete Mix Design. Include the details of the concrete mix design to be used. Mix design shall include a Slump Loss Graph. The Slump Loss Graph for a proposed drilled shaft mix design shall illustrate the slump reducing slowly and still exceeding 4 inches slump 4 hours after batching.
13. Concrete Placement Plan. The proposed Concrete Placement Plan shall ensure that sufficient concrete is at the job site or in transit to the job site so that the entire pour can be done without delay. Include location of the concrete plant, number of trucks, estimated delivery times, estimated time between trucks, and number of trucks at the site before placement begins. Indicate the use of tremie or concrete pump, de-air lines, details of the seal to be used at the bottom end of the tremie or concrete pump line. Breakdowns of concrete plants, trucks, or traffic problems shall be considered under this Concrete Placement Plan. Include an estimate of the concrete placement and over-pouring time per drilled shaft.
14. Methods of Disposal of Spoil Excavation, Waste Concrete, and Drilled Shaft Cutoffs. Sufficient details shall be presented to DDOT to evaluate the adequacy and compliance of the Contractor's methods of disposal with the DDOT specifications, including all related environmental permits and local regulations.
15. Method of avoiding any potential Munitions and Explosives of Concern (MEC)

The Engineer will evaluate the drilled shaft installation plan for conformance with the plans, specifications and special provisions within 14 Calendar Days after receipt of the installation plan and will notify the Contractor of any additional information required and/or changes necessary to meet the Contract requirements. All procedural Approvals given by the Engineer shall be subject to trial in the field and shall not relieve the Contractor of the responsibility to satisfactorily complete the work as detailed in the plans and specifications.

B. Preconstruction Conference

A shaft preconstruction conference will be held with the Contractor prior to the start of shaft construction to discuss construction and inspection procedures. This conference will be scheduled by the Engineer after the Contractor's submittals are Approved by the Engineer.

IV. FIELD DEMONSTRATION OF THE TRIAL SHAFT AND LOAD TEST

A. TRIAL SHAFTS

After the Drilled Shaft Installation Plan has been Approved, a trial (non-production) drilled shaft(s) will be constructed to the dimension(s) and at the location(s) indicated in the plans or as directed by the Engineer. The trial drilled shaft must be constructed in identical manner as that proposed for the production shafts, including the method of installation, CSL tube installation and testing, steel reinforcement, and concreting. The diameter and depth of the trial drilled shaft shall be the maximum diameter and maximum depth of any the production drilled shafts shown on the plans unless otherwise directed by the Engineer. During the construction of the trial drilled shaft, the Contractor must demonstrate the adequacy of his Drilled Shaft Installation Plan.

The location of the trial shaft(s) shall be shown on the plans and is subject to the Approval of the Department. For bridges having five (5) spans or less and if the entire bridge footprint will be constructed within the same geologic formation, at least one (1) trial shaft shall be installed per bridge for each drilled shaft size category proposed for the structure. For bridges having greater than five (5) spans but less than fifteen (15) spans, at least two (2) trial shafts shall be installed per bridge for each drilled shaft size category proposed for the structure. For bridges having fifteen (15) spans or more, at least three (3) trial shafts shall be installed per bridge for each drilled shaft size category proposed for the structure. If multiple trial shafts will be constructed, they shall be well spaced across the site of the structure. Construction of the trial drilled shaft(s) will be used to determine if the Contractor's methods, equipment, and proposed procedures are effective to produce a drilled shaft excavation and concreting that meet the requirements of the plans and specifications.

Drilled Shaft Size Category	Ranges of Drilled Shaft Diameter, D (feet)
1	Less than 5 feet
2	5 feet ≤ D ≤ 7 feet
3	7 feet < D ≤ 10 feet
4	Greater than 10 feet

Failure by the Contractor to demonstrate to the Engineer the adequacy of methods and equipment shall be reason for the Engineer to require alterations in equipment and/or methods by the Contractor to eliminate unsatisfactory results. Any additional trial shafts required to demonstrate the adequacy of altered methods or construction equipment shall be at the Contractor's expense. Once Approval has been given to construct production shafts, no changes will be permitted in the methods or equipment used to construct the satisfactory trial shaft without written Approval of the Engineer.

The concreted trial shafts shall be cut off 2 feet below finished grade and left in place. The disturbed areas at the sites of the trial shaft holes shall be restored as nearly as practical to their original condition or as directed by the Engineer.

Trial shaft will be deemed acceptable if the results all of the test procedures performed on the shaft during, and subsequent to, construction are determined to be acceptable. The required testing procedures are described below.

If, based on the test results, a trial shaft is deemed unacceptable, the Contractor shall revise his methods and/or equipment, and a subsequent trial shaft shall be constructed in the same general area to determine if the corrective measures were adequate. The subsequent trial shaft shall be tested for acceptance in the same manner as the previous shaft.

B. LOAD TEST

Load testing in this case shall be assumed to refer to the axial, compressive static load test. If a project requires either lateral or tensile load testing, the Contractor shall follow the procedures outlined in the latest versions of ASTM D3966 and ASTM D3689, respectively.

The static load test can be performed using one of the following methods: 1) the traditional method in accordance with ASTM D1143; 2) the Osterberg Load Testing method (O-cell); 3) Statnamic testing. The test shall be performed under the supervision of a registered Professional Engineer provided by the Contractor and in the presence of the Chief Engineer.

A minimum of one (1) load test shall be performed for each bridge for each shaft size category on the Project. For bridges having more than 30 shafts, two (2) load tests shall be performed for each shaft size category.

If multiple load tests will be performed, they should be located, generally, at opposite ends of the structure. The load tests shall be performed on non-production trial shafts, unless, based on the criteria above, the number of required load tests exceeds the number of trial shafts. If this occurs, additional load tests can be performed on production shafts, provided Approval has been given by the Quality Assurance manager.

1. If the traditional load test method is used, it will be permissible to use the Quick Load Test method, with the maximum test load equal to the required Nominal Axial Resistance of the drilled shaft.
2. If the Statnamic load test method is used, it shall be performed according to American Society for Testing and Materials designation number ASTM D7383-08.
3. If the O-cell method is used, it shall be performed as follows:

This work shall consist of furnishing the required materials and labor necessary for conducting the O-cell load test on the trial shaft. The Contractor will not be responsible for applying test loads or recording test data but will be required to supply material and labor as hereinafter specified and including prior to, during and after the load test as required by the O-cell supplier. A Specialty Subcontractor retained by the Contractor shall be responsible for monitoring the load test under the direction of the Engineer. The drilled shaft(s) used for the load test program shall be instrumented as described herein or as required by the Engineer. At least seven (7) Calendar Days in advance of the start of the trial shaft installation, the Contractor shall submit to the Engineer for review and Approval a detailed plan prepared by the Specialty Subcontractor showing the intended instrumentation placement.

The Contractor shall supply all materials and personnel (unless specified otherwise on the plans or in other Contract Documents) required to install the O-cell and other instrumentation and to assist during the load test. The Contractor shall be responsible for coordinating with the Specialty Subcontractor who will supply the O-cell to determine and/or verify all required equipment, materials quantities, procedures and other applicable items necessary to complete the O-cell load testing shown on the plans.

Materials supplied by the Contractor that do not become a part of the finished test shafts become the responsibility of the Contractor at the conclusion of each load test and shall be removed from the job site. All costs for removal and disposal shall be the responsibility of the Contractor.

Materials required include, but are not limited to, the following:

1. Osterberg Load Cell(s).
2. Piping and Supplies including:
    a. Telltale Casing
    b. Compressed Air-Actuated Hydraulic Pump
    c. Hydraulic Lines
    d. Certified Hydraulic Gauge
    e. Air Lines
3. Fresh water from an Approved source to mix with a water-soluble oil to form the hydraulic fluid shall be used to pressure the O-cell.
4. Materials sufficient to construct a protected work area with a minimum area of 25 feet by 25 feet (including provisions such as a tent or shed for protection from inclement weather or direct sunlight for the load test equipment and personnel).

5. Electric power, as required for lights, welding, instruments, etc.
6. Lighting as required.
7. Steel bearing plates and angle iron, as required.
8. Surveyor's level and tripod. Level shall be checked for vertical tolerance using the peg method before field measurements are begun.

The Contractor shall provide minimum of six(6) pairs of Geokon Model No. 4911 vibrating wire strain gages (sister bars) or equivalent and appropriate lengths of cable in accordance with the requirements shown on the plans. All cable runs from each sister bar to the readout device shall be unspliced. Locate gages in pairs on opposite sides of the reinforcement cage. The gages shall be distributed along the shaft length based on the changes in the soil stratification or as approved by the testing agency engineer.

The Contractor shall supply a suitable strain gauge readout box compatible with the vibrating wire strain gauges and capable of reading and recording at least 48 channels of data.

The Contractor shall supply minimum of four telltales for each test shaft, or as directed by the Engineer. Telltale rods shall extend approximately 12 inches above the elevation of the working surface platform, to be established by the Contractor, and as Approved by the Engineer. Telltale casing shall be attached to the test shaft rebar cage as directed by the Engineer. A sufficient length of telltale rods shall be provided for the load tests. The telltales shall be located at the following points on the rebar cage as a minimum:

1. Two (2) at the top of the O-cell
2. Two (2) at 12-inches above the tip (bottom) of the shaft

The Contractor shall supply equipment and personnel required to assist the Specialty Subcontractor in installing the O-cell and instrumentation, conducting the load tests, and removing the load test apparatus as required. Equipment and personnel required includes, but is not limited to:

1. Furnishing the load test Specialty Subcontractor with personnel to assist with the assembly, welding, and placing of all O-cell and to assist with the O-cell load tests.
2. Welding equipment and certified welding personnel, as required, for assembling the test equipment, attaching pipes and fittings to the O-cell, attaching O-cell to reinforcement cages, and preparing the work area.
3. An acceptable pressurized gas source consisting of either an Approved air compressor or compressed nitrogen.
4. Equipment and operators for handling the O-cell and piping, and test shaft reinforcing cages during the installation of the O-cell and during the performance of the tests, including, but not limited to, a crane or other lifting device for the O-cell and piping, manual labor, and hand tools as required by the load test Specialty Subcontractor.
5. Equipment and labor sufficient to erect the protected work area and monitoring reference beam system, to be constructed for each O-cell load test in accordance with the requirements of the Engineer.
6. Approved power grout pump with experienced operator, for placing grout below the O-cell prior to conducting the load tests. Grouting below the O-cell shall be conducted under the supervision of the Specialty Subcontractor.
7. Approved mortar mixer with suitable mortar box to discharge grout, with an experienced operator as required by the load test Specialty Subcontractor.
8. Screen with approximately ¼-inch mesh to screen grout prior to placement in the grout pump to prevent clogging of pump and piping.
9. Wood reference beams, supports, and dial gauges necessary to measure axial deflections.

The O-cell piping and other instrumentation shall be assembled and made ready for installing under the direction of the Specialty Subcontractor, in a suitable area, adjacent to each test shaft. The following guidelines shall be followed:

1. Steel top and bottom bearing plates, as required, shall be welded to the O-cell.
2. If steel bearing plates are used, the upper surface of the bottom bearing plate shall be coated with grease prior to installation into the shaft, to prevent concrete bonding with the bottom plate.
3. Attach the O-cell(s) and plate assembly to the reinforcement cage or carrier bars. Install all instrumentation as indicated on the plans. All hydraulic hoses, telltale casings, slip joints, strain gauges, etc. shall be securely fastened to the rebar cage and/or the O-cell. Prior to installation into the shaft, the top of any piping should be protected to keep dirt, concrete, or other deleterious materials from entering the piping.
4. The Contractor shall limit the deflection of the reinforcing cage to 2 feet between pick points while lifting the cage from the horizontal position to vertical. A minimum of three pick points shall be used. Provide additional support, bracing, strong backs, etc. to maintain the deflection within the specified tolerance.
5. Place approximately 6 inches of concrete or Approved grout into the bottom of the drilled shaft as a seating bed for the O-cell immediately prior to placing the rebar cage. After placement of the rebar cage, continue with concrete placement as described in this Special Provision.
6. After the completion of the load test, and at the direction of the Engineer, the Contractor shall remove any equipment, material, waste, etc., which is not a part of the test shaft.
7. After testing is completed on all trial shafts, the shafts shall be abandoned by cutting off the tops of the shafts so that they remain 2 feet below existing site grades. The abandoned shaft shall be covered with at least 2 feet of suitable fill and compacted to the satisfaction of the Engineer.

The Specialty Subcontractor shall apply the test loads and record the data from the instrumentation. The Contractor shall maintain the test area and support equipment and supply labor assistance as directed by the Specialty Subcontractor.

For each load test, the load shall be placed on the shaft in increments equal to approximately 5 percent of the maximum test load specified until the failure load (assuming that the failure load is less than the maximum test load), as indicated by the instruments, is approached. Increments of approximately 2.5 percent of the maximum test load shall then be applied until the limiting load is attained or the shaft top deflection reaches the calculated “failure deflection” as defined in this Section. The Engineer may elect to stop the loading increments when it is determined that the failure criterion has been met or a settlement equal to 10 percent of the shaft diameter is reached. Each subsequent load increment shall be applied immediately after a complete set of readings is recorded and verified from all gauges and instruments. Each increment of load shall be applied within the minimum length of time practical and the instrument system readings shall be taken immediately. It is intended that the addition of a load increment and the completion of the instrument system readings shall be completed within 5 to 10 minutes. The readings shall be taken at 2 and 4 minutes for 5 minute hold times; however, 0.5 times the maximum test load, 0.75 times the maximum test load, and 1.0 times the maximum test load shall remain applied for 30 minutes before the next increment is applied. The readings shall be taken at 2, 5, 10, 20, and 29 minutes for 30-minute hold times. Level readings on the reference beam supporting gages shall be made during the load test by a positioning leveling instrument located about 50 feet from the trial shaft location.

The load shall be removed in decrements of about 10 percent of the maximum load test. Each decrement of load shall be held for 5 minutes with readings taken at 2 and 4 minutes. Third and sixth decrements shall be held for 15 minutes with readings at 2, 5 and 14 minutes. The Engineer may also require up to two (2) reloading cycles with five (5) loading increments and three (3) unloading decrements. The final recovery of the shaft shall be recorded for a period up to one (1) hour after the last unload interval.

The criteria described herein shall be used to establish the failure load unless otherwise modified by the Engineer prior to the start of the test. The shaft top deflection and the associated load used to determine the failure load shall be obtained from the "Equivalent Top Load/Deflection Curves" generated from the O-cell test data.

The Specialty Subcontractor shall reduce and analyze the data collected during each load test and prepare a written report that shall be received by the Engineer within 2 weeks of the load test. Installation of the production shafts shall not begin until the load testing report is Approved by the Engineer. The report shall include at least the following items:

1. Drawing showing the location of all instrumentation.
2. Plots of shaft tip movements vs. applied load.
3. Discussion of load distribution in the shaft with appropriate supporting graphs.
4. Equivalent Top Load/Deflection Curves.
5. Printouts of strain, load, and deflection readout.

A load test will be considered acceptable if it satisfies the required deflection and load carrying requirements cited in the Special Provisions, the Plans and the Specifications, as determined by the Contractor's Geotechnical Engineer. If, for a specific project, modifications to these deflection criteria are deemed necessary, the Contractor shall submit these modifications to the QAM for Approval.

V. MATERIALS

A. Self-consolidating concrete for Drilled Shafts

1. Self-consolidating concrete (SCC) shall conform to the requirements of Section 817 of DDOT specifications for Concrete Mix Class B Structural Concrete, except as noted herein.

2. Specifications for Concrete Mixture

   a. Requirements for Self-consolidating concrete

Class of Concrete	Design Min. Laboratory Compressive Strength at 28 Days (f'c) (psi)	Design Max. Laboratory Permeability at 28 Days (Coulombs)	Maximum Aggregate Size No.	Min. Cementitious Content (lbs/cu yd)	Max. Water/ Cementitious lb. water / lb. cement	Consistency (slump flow (in)	Air Content (percent)
Drilled Shaft Concrete	5,000 or as specified on the plans	2000	C.A. No. 67	640	0.44	20-26	4 ½ ± 1 ½

   b. Requirements for Low Permeability

      i. Fly Ash, granulated iron blast-furnace slag (slag cement) and silica fume shall conform to the following requirements:

      Fly ash used in hydraulic cement concrete shall conform to the requirements of ASTM C618, Class F

      Granulated iron blast-furnace slag shall conform to the requirements of ASTM C989, Grade 100 or 120.

      Silica fume shall conform to the requirements of AASHTO M307.

      One of the following shall be used as a percent mass of the cementitious material:

      20 percent minimum Class F Fly Ash

      40 percent minimum slag cement

      7 percent minimum silica fume

      Silica fume with a range of 2.5 – 5 percent combined with a minimum 15 percent Class F Fly Ash

Silica fume with a range of 2.5 – 5 percent combined with a minimum of 30 percent slag cement

ii. Quality Assurance for Low Permeability Concrete in Drilled Shafts

When required on the plans, testing for permeability shall be conducted and submitted as part of the concrete mix design required in Section IV.A. Installation Plan. At least two trial batches, using job materials, with permissible combination of cementitious materials shall be prepared, and test specimens shall be cast by the Contractor and tested by the Department for permeability and strength at least a month before the field application. The permeability samples shall be cylindrical specimens with a 4-inch diameter and at least 4-inches in length. They shall be moist-cured as the strength cylinders for acceptance except that the last 3 weeks of cure shall be at 100 degrees Fahrenheit ± 10 degrees Fahrenheit. Cylinders shall be tested at 28 Calendar Days in accordance with VTM 112. The test value shall be the result of the average values of tests on two specimens from each batch. Permeability values obtained from trial batches shall be 500 coulombs below the maximum values specified.

c. Consistency of Concrete

Self-consolidating concrete (SCC) shall be used for all the drilled shafts. Self-consolidating concrete (SCC) shall meet the requirements of regular concrete with modification to the slump requirement. Instead the slump flow (ASTM C 1611) shall be measured, which is the diameter of the concrete spread. The slump flow shall be 23 ± 3 inches, and there shall be no visible segregation in the spread. A visual stability index (VSI) value of 0 or 1 shall be acceptable; a value of 2 or 3 shall be rejected (ASTM C 1611). The Engineer shall be the sole authority in this determination. The slump flow shall be compared to slump flow with the J-Ring (ASTM C 1621), and the difference shall be 2 inches or less. Combined aggregate grading, workability retaining admixture, and viscosity modifying admixture (VMA) can be used. The Contractor shall perform all tests under the supervision of the Engineer, or a Department representative.

The Contractor shall demonstrate by documents indicating successful experience or by trial batching that satisfactory SCC can be produced that meets the specification requirements. A concrete technologist (such as the admixture supplier), experienced in the production of SCC and representing the Contractor or the producer, shall be present during placement. Concrete shall stay plastic and within the slump flow specified during the placement. Concrete placement will be conducted that air is not encapsulated and segregation is not occurring.

Ensure that drilled shaft concrete maintains a slump of more than 4 inches throughout the drilled shaft concrete elapsed time. Ensure that the slump loss is gradual as evidenced by slump loss tests described below. The concrete elapsed time is the sum of the mixing and transit time, the placement time, and the time required for removal of any temporary casing that could cause the concrete to flow into the space previously occupied by the temporary casing.

Provide slump loss tests before drilled shaft concrete operations begin, demonstrating that the drilled shaft concrete maintains a slump of at least 4 inches throughout the drilled shaft concrete elapsed time. Perform slump loss testing of the drilled shaft mix using a laboratory acceptable to the Engineer.

Conduct the slump loss test as follows:

i. Batch the actual mix design at a slump flow of 20 to 23 inches and at the highest concrete temperature expected on the job, but no less than 60°F.

ii. Batch at least 4 cu. yd. in a mixer truck. Begin timing the test when the mixing water is introduced into the mix.

iii. After initial mixing, measure and record the slump, ambient and concrete temperature, and percent air. Ensure all concrete properties are within specifications.

iv. Mix the concrete intermittently at agitation speed for 30 seconds every 15 minutes.

v. Measure and record the slump, ambient and concrete temperatures, and percent air after every second 15-minute interval until the slump is 3½ inches.

vi. After batching, ensure that the concrete maintains a minimum slump of 4 inches throughout the drilled shaft concrete elapsed time as defined in section V. A. (c).

B. Reinforcing Steel

Deformed reinforcing bars shall comply with the size, spacing, dimension, and details shown on the plans and shall conform to all the pertinent requirements of Section 812 of the DDOT Specifications.

C. Casing

Casing shall be steel, rigid, smooth, clean, watertight, and of ample strength to withstand both handling and driving stresses and to withstand pressure from concrete, the surrounding earth materials and water. The outside diameter of casing shall not be less than the specified size of the drilled shaft. The thickness of steel casings shall not be less than that specified in the plans. The dimensions are subject to American Pipe Institute tolerances applicable to regular steel pipe. When Approved by the Engineer, the Contractor may elect to provide a casing larger in diameter than shown in the plans. All casing diameters shown on the plans refer to O.D. (outside dimension).

Casing pipe shall conform to ASTM A 252, Grade 2, for temporary and permanent applications. All casing, except permanent casing, shall be removed from drilled shaft excavations. Splices for permanent casing shall be welded in accordance with the specifications with no interior splice plates, producing a true and straight casing. All welding shall be in accordance with ANSI/AWS D1.1.

D. Crosshole Sonic Logging Tubes

All drilled shafts shall be equipped with access tubes for Crosshole Sonic Logging (CSL) tests according to Section XVI of these Specifications. Access tubes for CSL testing shall be 2 inches I.D. Schedule 40 steel pipe conforming to ASTM A 53, Grade A or B, Type E, F, or S. Pipes shall have a round, regular internal diameter, be free of defects or obstructions including any defect at the pipe joints, to permit the free unobstructed passage of source and receiver probes. CSL probes should be 1.35 inches diameter or smaller and 6 to 10 inches long. Each tube or steel pipe shall be fitted with a watertight shoe onto the bottom and a removable cap at the top. Both, shoe and cap shall be watertight and free from corrosion, and the internal and external faces of the tubes clean to ensure passage of the probes and good bond with the concrete.

VI. CONSTRUCTION METHODS AND EQUIPMENT:

A. Protection of Existing Structures

All reasonable precautions shall be taken to prevent damage to existing structures and Utilities in accordance with Section 205 of the Specifications. These measures shall include, but are not limited to, vibration monitoring and subsidence control during driving of casing, sheets, or drilling.

B. Construction Sequence

Excavation to bottom of footing elevation shall be completed before shaft construction begins unless otherwise noted in the Contract Documents or Approved by the Engineer. Any disturbance to the footing area caused by shaft installation shall be repaired by the Contractor prior to the footing pour.

When drilled shafts are to be installed in conjunction with embankment placement, the Contractor shall construct drilled shafts after the placement of fill unless shown otherwise in the Contract Documents or Approved by the Engineer.

Drilled shafts, constructed prior to the completion of the fill, shall not be capped until the fill has been placed as near to final grade as possible, leaving only the necessary work room for construction of the caps.

C. General Methods and Equipment

1. General

The method used for drilled shaft installation shall be suitable for the intended purpose and materials encountered. The dry method, wet method, temporary casing method, or permanent casing method may be used as necessary to produce a sound and durable foundation free of defects. When a particular installation method is required in the Contract, that construction method shall be used. If no particular method is specified for use, the Contractor shall select and use one of the construction methods cited above, appropriate for the site conditions, to properly accomplish the work. The permanent casing method shall be used only when required in the Contract or authorized by the Engineer. The Contractor shall submit his selected method of construction in the Drilled Shaft Installation Plan described in Section III herein to the Engineer for Approval.

Where soil and groundwater conditions vary along the site, a combination of methods may be used, as a single method of construction may be not appropriate for the entire job site. The Contractor may propose alternative methods of drilled shaft installation in his Drilled Shaft Installation Plan as appropriate, or a contingency plan to change installation method when new conditions are encountered.

2. Dry Construction Method

The dry construction method shall not be used.

3. Wet Construction Method

The wet construction method may be used at sites where a dry excavation cannot be maintained for placement of the shaft concrete. This method consists of using water or slurry (mineral or polymer) to maintain stability of the borehole perimeter while advancing the excavation to final depth, placing the reinforcing cage, and concreting the shaft. Where drilled shafts are located in open water areas, exterior casings shall be extended from above the water elevation into the ground to protect the shaft concrete from water action during placement and curing of the concrete. The exterior casing shall be installed in a manner that will produce a positive seal at the bottom of the casing so that no piping of water or other materials occurs into or from the shaft excavation.

The wet construction method may be used in combination with the dry method and temporary or permanent casing methods. The wet method may involve desanding and cleaning the slurry (for mineral slurries); final cleaning of the excavation by means of a bailing bucket, air lift, submersible pump or other Approved devices; and placing the shaft concrete with a tremie or concrete pump beginning at the shaft bottom. Temporary surface casings should be provided to aid shaft alignment and position and to prevent sloughing of the top of the shaft excavation, unless the Contractor demonstrates to the satisfaction of the Engineer that the surface casing is not required. When using the wet method, all drilled shaft operations shall be accomplished while maintaining at least 5 feet of positive head of fluid above the water table.

4. Temporary Casing Construction Method

The temporary casing method shall be used when the dry or wet construction methods are inadequate to prevent hole caving or excessive deformation of the hole. In this method the casing may be either placed in a predrilled hole or advanced through the ground by twisting, driving or vibration before being cleaned out.

When the casing is placed in a predrilled borehole and the temporary stability of the hole is needed, drilling slurry shall be used. The slurry that is trapped in the annular space behind the casing must be forced out of that space by the rising column of fluid concrete as the casing is being pulled. The slurry used to stabilize a borehole temporarily prior to the placement of casing must satisfy all of the criteria of drilling slurry for the wet method of construction.

5. Permanent Casing Construction Method

The permanent casing method is used to construct drilled shafts through weak caving soils and the soils above the scour elevation that do not contribute significantly to the drilled shaft shear capacity. In this method, before beginning the excavation, a permanent casing is installed to the projected depth by advancing it through the caving material by twisting, driving, or vibration. Unless Approved by the Engineer, placement of permanent casing in an oversized hole or temporary casing outside the permanent casing beneath the ground surface will not

be allowed. If full penetration of the permanent casing cannot be attained to the projected depth, excavate a selected depth inside the permanent casing, resume casing advancing, and repeat the process as necessary until the casing reaches the projected depth. Once the required elevation is reached, clean the excavation as indicated in XI of these specifications, lower the reinforcing cage, and concrete to completion.

VII. EXCAVATION AND DRILLING EQUIPMENT

The excavation and drilling equipment shall have adequate capacity, including power, torque and down thrust to excavate a hole of both the maximum diameter and to a depth of 20 percent beyond the depths shown on the plans or 15 feet whichever is greater.

The excavation and over-reaming tools shall be of adequate design, size and strength to perform the work described herein. When the material encountered cannot be drilled using conventional earth or rock augers and/or under-reaming tools, the Contractor shall provide special drilling equipment, including, but not limited to: rock core barrels, rock tools, air tools, and other equipment as necessary to construct the shaft excavation to the size and depth required.

The Contractor shall stabilize all drilled shaft excavations with steel casing and/or as Approved by the Engineer. Stabilize excavations at all times from the beginning of drilling through concrete placement. When slurry is not used, do not leave a partially excavated shaft open overnight.

When slurry is used, the Contractor shall adjust the excavation operations so that the maximum time the slurry is in contact with the sidewalls of the uncased portions of the drilled shaft excavation (from time of drilling to completing concrete placement) does not exceed 24 hours. The slurry shall be agitated in the drilled shaft excavations a minimum of every 4 hours. If the 24-hour time limit is exceeded, over-ream the drilled shaft excavation a minimum of 1 inch and a maximum of 3 inches, or as required by the Engineer, prior to performing other operations in the excavation. Over-ream with a grooving tool, over-reaming bucket or other Approved equipment at a minimum spacing of 12 inches. The Contractor bears all costs associated with both over-reaming and additional shaft concrete placement at no additional cost to the Department. If concrete placement is not completed within three (3) Calendar Days of beginning drilling, enlarge the design drilled shaft diameter by a minimum of 6 inches, or as required by the Engineer, the entire length of the shaft at no additional cost to the Department. Enlarging the drilled shaft includes replacing the steel casing with steel casing the same size to which the drilled shaft is enlarged at no additional cost to the Department.

VIII. EXCAVATIONS

A. General

Shaft excavations shall be made at locations, shaft geometry and dimensions shown in the Contract Documents. The Contractor shall extend drilled shaft tip (base) elevations when the Engineer determines that the material encountered during excavation is unsuitable and/or differs from that anticipated in the design of the drilled shaft.

The Contractor shall maintain a construction method log during shaft excavation. The information recorded shall be as indicated in the “DDOT Excavation Form” provided by DDOT. For each drilled shaft installed, record on the DDOT Excavation Form the location, dimensions, verticality, description of the materials encountered at all elevations, drilling time, elevation of the water table during excavation and seepage, description of any change in excavated material, elevation of top and bottom of the finished shaft, condition of the bottom of the excavation, deviation from plan location, concrete data, a description of the tools and drill rigs used and any changes necessitated by changing ground conditions and other pertinent data to the drilled shaft operations. Submit a draft of this form for each completed drilled shaft within 24 hours of shaft completion. Report any unusual observation to the Engineer as soon as possible.

The Contractor shall provide areas for the disposal of unsuitable materials and excess materials removed from drilled shaft excavations and shall dispose them in accordance with applicable requirements.

The Contractor shall not permit any worker to enter the drilled shaft excavation for any reason.

B. Obstructions

Surface and subsurface obstructions at drilled shaft locations shall be removed by the Contractor. Such obstructions may include, but are not limited to, man-made materials such as old concrete foundations and natural materials such as boulders. Special procedures and/or tools shall be employed by the Contractor after the hole cannot be advanced using conventional augers, drilling buckets and/or under-reaming tools. Such special procedures/tools may include, but are not limited to, chisels, boulder breakers, core barrels, air tools, hand excavation, temporary casing, and increasing the hole diameter. Blasting shall not be permitted.

C. Lost Tools

Drilling tools that are lost in the excavation shall not be considered obstructions and shall be promptly removed by the Contractor. All costs due to lost tool removal shall be borne by the Contractor including, but not limited to, costs associated with the repair of hole degradation due to removal operations or an excessive time that the hole remains open.

IX. CASINGS

Casings shall be steel, smooth, clean, watertight, and of ample strength to withstand both handling and driving stresses and the pressure of both concrete and the surrounding earth materials. The outside diameter of casing shall not be less than the specified diameter of shaft, and the outside diameter of any excavation made below the casing shall not be less than the specified diameter of the shaft. All casings, except permanent casings, shall be removed from shaft excavations.

When the shaft extends above ground or through a body of water, the portion exposed above ground or through a body of water may be formed with removable casing. Removable casing shall be stripped from the shaft in a manner that will not damage the concrete. Casings can be removed when the concrete has attained sufficient strength provided: curing of the concrete is continued for a 72-hour period; the shaft concrete is not exposed to salt water or moving water for seven (7) Calendar Days; and the concrete reaches a compressive strength of at least 2500 psi, as determined from concrete cylinder breaks.

A. Temporary Casing

All subsurface casing shall be considered temporary unless specifically shown as permanent casing in the Contract Documents. The Contractor shall be required to remove temporary casing before completion of concreting the drilled shaft.

If the Contractor elects to remove a casing and substitute a longer or larger-diameter casing through caving soils, the excavation shall be backfilled before the new casing is installed. Other methods, as Approved by the Engineer, may be used to control the stability of the excavation and protect the integrity of the foundation materials.

Before the casing is withdrawn, the level of fresh concrete in the casing shall be a minimum of 10 feet above either the hydrostatic water level in the formation or the level of drilling fluid in the annular space behind the casing, whichever is higher. As the casing is withdrawn, care shall be exercised to maintain an adequate level of concrete within the casing so that fluid trapped behind the casing is displaced upward and discharged at the ground surface without contaminating or displacing the shaft concrete.

Temporary casings which become bound or fouled during shaft construction and cannot be practically removed shall constitute a defect in the drilled shaft. The Contractor shall be responsible to improve defective shafts to the satisfaction of the Engineer. Such improvement may consist of, but is not limited to, removing the shaft concrete and extending the shaft deeper to compensate for loss of frictional capacity in the cased zone, providing straddle shafts to compensate for capacity loss, or providing a replacement shaft. All corrective measures including redesign of footings caused by defective shafts shall be done to the satisfaction of the Engineer without an extension of the Completion Date of the Project.

B. Permanent Casing

If Approved by the Engineer, the casing shall be continuous between top and bottom elevations prescribed in the plans. After installation is complete, the permanent casing shall be cut off at the prescribed elevation and the shaft completed by installing necessary reinforcing steel and concrete in the casing.

In cases where special temporary casings are authorized in writing by the Engineer to be used in conjunction with permanent casing, the Contractor shall maintain both alignment of the temporary casing with the permanent casing and a positive, watertight seal between the two casings during excavation and concreting operations.

X. SLURRY

Mineral or polymer slurries shall be employed when slurry is used in the drilling process unless other drilling fluids are Approved by the Engineer. Mineral slurry shall have both a mineral grain size that will remain in suspension and sufficient viscosity and gel characteristics to transport excavated material to a suitable screening system. The percentage and specific gravity of the material used to make the mineral suspension shall be sufficient to maintain the stability of the excavation and to allow proper concrete placement.

In locations with hard water or acidic groundwater, the slurry manufacturer shall measure the hardness, acidity, chloride and organic content of the mix water and groundwater and furnish for review and Approval recommendations for modifications to the slurry that will ensure successful results in the conditions at the Project site.

In locations or areas where saline or chemically contaminated ground water occurs, the use of attapulgite or sepiolite and/or additives instead of bentonite maybe needed. Furnish for review and Approval recommendations for the type and modification to the proposed mineral slurry that will ensure successful results in the conditions at the Project site.

During construction, the level of the slurry shall be maintained at a height sufficient to prevent caving of the hole. In the event of a sudden significant loss of slurry to the hole, the construction of that foundation shall be stopped until either a method to stop slurry loss or an alternate construction procedure has been Approved by the Engineer.

The level of mineral slurry in the shaft excavation shall be maintained at a level not less than 5 feet above the highest expected piezometric pressure head along the depth of the shaft, and the level of polymer slurry shall be maintained at a level not less than 6 feet above the highest expected piezometeric pressure head along the shaft. It is anticipated that the highest piezometric pressure head is the static water elevation or the ground water elevation, however, the Contractor is responsible for determining the highest piezometric pressure head. If at any time the slurry construction method fails to produce the desired final results in the opinion of the Engineer, the Contractor shall both discontinue this method and propose an alternate method for Approval by the Engineer.

A. Mineral Slurry

Mineral slurry shall be premixed thoroughly with clean fresh water with adequate time (as prescribed by the mineral manufacturer) allotted for hydration prior to introduction into the shaft excavation. Slurry tanks of adequate capacity will be required for slurry circulation, storage, and treatment. No excavated slurry pits will be allowed in lieu of slurry tanks without the written permission of the Engineer. Desanding equipment shall be provided by the Contractor as necessary to control slurry sand content to less than 4 percent by volume at any point in the borehole at the time the slurry is introduced, including situations in which temporary casing will be used. The Contractor shall take all steps necessary to prevent the slurry from “setting up” in the shaft. Such methods may include, but are not limited to, agitation, circulation and/or adjusting the properties of the slurry. Disposal of all slurry shall be done off site in suitable areas by the Contractor.

It is the responsibility of the Contractor to maintain a stable suspension at all times and keep the stability of the excavation. The Contractor shall adjust the slurry properties as necessary to bring the slurry to specifications.

Property at 70°F (Units)	At the Time of Slurry Introduction in the Drilled Shaft	During Drilling and Before Concrete Placement in the Drilled Shaft	Test Method
Density in Fresh Water[a] lb/ft^3)	63 to 69	64 to 75	Mud density balance API-13B-1, Section 1
Viscosity (sec per quart)	28 to 45	28 to 45	Marsh Cone Method API-13B-1, Section 22
pH	8 to 11	8 to 11	Electric pH meter or pH indicator paper strips
Sand Content[b](%)	4% maximum	4% maximum	API-13B-1

1. Density values shall be increased by two pounds per cubic foot (lb/ft^3) in salt water.
2. At time of concreting, sand content at any point in the drilled shaft excavation shall not exceed 4 percent (by volume); test for sand content as determined by the American Petroleum Institute.
3. Minimum mixing time shall be 10 minutes.
4. Storage time to allow for hydration shall be a minimum of 6 hours.

B. Polymer Slurry

If the Contractor proposes to use a polymer slurry, either natural or synthetic, it must be a product Approved for use by the Department. Mixing of polymer slurry in the borehole will not be permitted. Slurry properties at the time of mixing and at the time of concreting must be in conformance with the written recommendations of the manufacturer. However, whatever product is used, the sand content at the base of the drilled shaft excavation shall not exceed 1 percent when measured by Method API 13B-1, Section 5, immediately prior to concreting.

The Contractor's slurry management plan shall include detailed provisions for controlling the quality of the slurry, including tests to be performed, the frequency of those tests, the test methods, and the maximum and/or minimum property requirements that must be met to ensure that the slurry meets it intended functions in the subsurface conditions at the construction site and with the construction methods that are to be used. The slurry management plan shall include a set of the slurry manufacturer's written recommendations.

Polymer slurry shall have the following properties:

Property at 70°F (Units)	At the Time of Slurry Introduction in the Drilled Shaft	During Drilling and Before Concrete Placement in the Drilled Shaft	Test Method
Density in Fresh Water[a] lb/ft^3)	63 to 65	65 to 67	Mud density balance API-13B-1, Section 1
Viscosity (sec per quart)	32-50	32-50	Marsh Cone Method API-13B-1, Section 2.2
pH	8 to 10	8 to 10	Electric pH meter or pH indicator paper strips
Sand Content[b](%)	0.3% maximum	1% maximum	API-13B-1

1. Density values shall be increased by two pounds per cubic foot (lb/ft^3) in salt water.
2. At time of concreting, sand content at any point in the drilled shaft excavation shall not exceed 1 percent (by volume); test for sand content as determined by the American Petroleum Institute.
3. Minimum mixing time shall be 15 minutes.
4. Storage time to allow for hydration shall be minimum of 4 hours.

C. Water as Drill Fluid

If Approved by the Engineer, the Contractor may use only water as a drilling fluid. All of the provisions in the table shown in this Section for mineral slurries shall be met, except that the maximum density shall not exceed 70 pcf.

D. Slurry Testing

Slurry testing shall include the following tests, as a minimum: Density test (API 13B-1, Section 1), viscosity test (Marsh funnel and cup, API-13B-1, Section 2.2 or Approved viscometer), pH test (pH meter, litmus paper), and sand content test (API sand content kit, API 13B-1, Section 5).

Tests should be performed when the slurry temperature is above 40 degrees Fahrenheit. However, the Contractor can use heated water in the slurry to raise the temperature.

Tests to determine density, viscosity and pH value shall be performed during the shaft excavation to establish a consistent working pattern. A minimum of four (4) sets of tests shall be made during the first 8 hours of slurry use. When the results show consistent behavior, the testing may be decreased to one (1) set every 4 hours of slurry use.

The Contractor shall ensure that a heavily contaminated slurry suspension, which could impair the free flow of concrete, has not accumulated in the bottom of the shaft. Prior to placing concrete in any shaft excavation, the Contractor shall take slurry samples using a sampling tool Approved by the Engineer. Slurry samples shall be extracted from the base of the shaft and at intervals not exceeding 10 feet up the slurry column in the shaft, until two (2) consecutive samples produce acceptable values for density, viscosity, sand content, and pH.

When any slurry samples are found to be unacceptable, the Contractor shall take whatever action is necessary to bring the slurry within specifications requirements. Concrete shall not be poured until the slurry in the hole is re-sampled and tests results produce acceptable values.

Reports of all tests required above, signed by an authorized representative of the Contractor, shall be furnished to the Engineer on completion of each drilled shaft.

XI. EXCAVATION INSPECTION

A. Inspection Equipment

The Contractor shall maintain at the job at all times, all equipment suitable for use in the shaft inspection.

B. Removal of Excess Sediment and Water

Final shaft depth shall be measured with Approved methods after final cleaning. Unless otherwise stated in the Contract Documents, a minimum of 50 percent of the base of each shaft shall have less than 1/2 inch of sediment at the time of concrete placement. The maximum depth of sediment or any debris at any place on the base of the shaft shall not exceed 1-1/2 inches. For dry excavations, the maximum depth of water shall not exceed 3 inches prior to concrete pour.

The primary means of inspecting the shaft cleanliness shall be by using the mini-shaft Inspection Device (mini-SID) or an Approved alternate down-hole camera for wet or dry shafts.

C. Shaft Inspection Device (SID)

Furnish all power and equipment necessary to inspect the bottom conditions of a drilled shaft excavation for all the bridge foundations and to measure the thickness of bottom sediment or any other debris using a SID or an Approved alternate down-hole camera as Approved by the Engineer for wet or dry shafts. The television camera and lighting equipment shall be capable of operating in dry or slurry-submerged conditions encountered during the inspection. Provide a means to position and lower the SID into the shaft excavation to enable the bell housing to rest vertically on the bottom of the excavation. Continuously videotape the inspection of each drilled shaft excavation after final cleaning. Clearly identify in the recordings by audio or other means, the location and items being observed.

Furnish a SID meeting the following requirements:

1. A remotely operated, high-resolution, color video camera sealed inside watertight bell housing.
2. Provides a clear view of the bottom inspection on a video monitor at the surface in real time.
3. Provides a permanent record of the entire inspection with voice annotation on a quality DVD with a resolution of not less than 720 x 480.
4. Provides a minimum field of vision of 110 square inches, with a graduated measuring device to record the depth of sediment on the bottom of the shaft excavation to a minimum accuracy of 1/2 inch and a length greater than 1-1/2 inches.
5. Provides sufficient lighting to illuminate the entire field of vision at the bottom of the shaft in order for the operator and inspector to clearly see the depth measurement scale on the video monitor and to produce a clear recording of the inspection.
6. Provides a compressed air or gas system to displace drilling fluids from the bell housing and a pressurized water system to assist in determination of bottom sedimentation depth.

D. Equipment

Methods and equipment for controlling the camera will be subject to Approval from the Engineer and achievement of a satisfactory video record.

E. Drawings

The Contractor shall submit layout drawings to the Engineer showing the relative position of all components of the television inspection system, including type and size of barge or other work area. The information submitted shall include a written description of the operating procedure in a step-by-step sequence and shall state the source of power.

F. Shaft Inspection

Inspection of a shaft by television camera shall be performed as directed by the Engineer. The excavated shaft shall be thoroughly cleaned of all loose fragments, sediment and turbidity prior to inspection. The camera shall be operated such that optimum clarity of detail can be obtained and all surface areas of the shaft can be observed. Tapes shall be furnished to, and shall become the property of, the Engineer upon completion of the work. If additional pier excavation cleaning is required based on the initial SID inspection, additional inspection shall be performed to confirm acceptable bottom cleanliness

G. Reinforcing Ties, Splices and Clearances

All reinforcing steel in the shaft shall be double-wire tied and supported such that the steel remains within the allowable tolerances specified herein during placement of concrete or casing removal. Splices shall be located as shown on the plans and in accordance with plan details.

Welding of reinforcing steel will not be permitted. The reinforcing steel cage shall have sufficient rigidity to prevent racking or permanent deformations during delivery or installation.

H. Spacers

Rolling spacers for reinforcing steel shall be used to minimize disturbance of the shaft sidewalls and to facilitate removal of the casing during concrete placement. Concrete spacers or other Approved non-corrosive spacing devices shall be used at sufficient intervals, near the bottom and along the shaft at intervals not exceeding 5 feet, to ensure concentric location of the cage within the shaft excavation. When the vertical steel is greater than 1 inch in diameter, the maximum spacing may be increased to 10 feet. As a minimum, a set of spacers shall be provided within 2 feet of the top of the shaft and 2 feet above the bottom of the cage. In addition, one (1) set of spacers shall be provided at both 2 feet above and below each change in shaft diameter. Non-corrosive spacers shall be provided at a minimum of one (1) spacer per 30 inches of circumference of cage with a minimum of three (3) at each level to maintain the required reinforcement clearances. The spacers shall be of adequate dimension to maintain the specified clearance between the outside of the reinforcing cage and the side of the excavated hole or casing.

I. Bottom Supports

Approved non-corrosive bottom supports shall be provided for the reinforcing cage to ensure that the reinforcing is the correct distance above the bottom of shaft. The bottom supports shall not be used to support the weight of the cage. In the event that the shaft has been excavated below the anticipated tip elevation, the reinforcing cage shall be extended at the lower tip end by lap lengths for No. 11 bars or smaller or by use of mechanical connectors. Splices of adjacent bars will not need to be staggered in this situation and all of the reinforcing bars may be spliced at a given location. Reinforcement will not be required for the bottom 12 inches.

J. Durability of Spacers

Concrete spacers and bottom supports shall be constructed of concrete equal in quality and durability to the concrete specified for the shaft. Spacers fabricated from reinforcing steel shall be epoxy coated.

K. Protection of Reinforcing Cage.

The reinforcing cage bottom supports shall be positioned such that the reinforcing steel is not allowed to come into contact with the soil to ensure that the bottom of the cage is maintained at the proper distance above the base as identified in the Contract Documents or directed by the Engineer.

L. Check of Tolerances for Placement of Reinforcing Cage

The elevation of the top of the reinforcing cage shall be checked before and after the concrete is placed. The reinforcing cage shall be maintained within the specified tolerances, and the Contractor shall make corrections to those tolerances, as required, to the satisfaction of the Engineer. No additional shafts shall be constructed until the Contractor has modified the reinforcing cage support to obtain the required tolerances.

XII. CONSTRUCTION TOLERANCES

The following construction tolerances apply to drilled shafts unless otherwise stated in the Contract Documents:

1. The center of the drilled shaft shall be within 3 inches of plan position in the horizontal plane at the plan elevation for the top of the shaft.
2. The vertical alignment of a vertical shaft excavation shall not vary from the plan alignment by more than 1.5 percent of the total length of the shaft.
3. After the concrete is placed, the top of the reinforcing steel cage shall be no more than 6 inches above and no more than 3 inches below plan position.
4. All casing diameters shown on the plans refer to O.D. (outside diameter) dimensions. The dimensions of casings are subject to American Pipe Institute tolerances applicable to regular steel pipe.
5. The top elevation of the shaft shall have a tolerance of plus 1 inch or minus 3 inches from the plan top-of-shaft elevation.
6. Excavation equipment and methods shall be designed so that the completed shaft excavation will have a planar bottom. The cutting edges of excavation equipment shall be normal to the vertical axis of the equipment within a tolerance of ± 3/8 inch per foot of diameter.

Drilled shaft excavations and completed shafts not constructed within the required tolerances are unacceptable. The Contractor shall be responsible for correcting all unacceptable shaft excavations and completed shafts to the satisfaction of Engineer. If the deviation from the tolerance is minimal, the contractor may provide a justification study to show that the deviation from the tolerance will not impact the long term performance of the drilled shaft and this should be reviewed and approved by the department. Materials and work necessary, including engineering analysis and redesign, to complete corrections for out-of-tolerance drilled shaft excavations shall be furnished to the Department.

XIII. REINFORCING STEEL CAGE CONSTRUCTION AND PLACEMENT

The reinforcing steel cage, consisting of longitudinal bars, ties, cage stiffener bars, spacers, centralizers, and other necessary appurtenances, shall be completely assembled and placed as a unit immediately after the shaft excavation is inspected and accepted, and prior to concrete placement. Internal stiffeners shall be removed as the cage is placed in the shaft so as not to interfere with the placement of concrete.

The reinforcing steel in the shaft shall be tied and supported so that the reinforcing steel will remain within allowable tolerances given in Section XII of this specification. Plastic spacing devices shall be used at sufficient intervals (near the bottom and at intervals not exceeding 10 feet up the shaft) to ensure concentric spacing for the entire cage length. Use a minimum of one (1) spacer per 30 inches of circumference of the casing with a minimum of three (3) at each layer. The spacers shall be of adequate dimension to ensure a minimum 3-inch annular space between the outside of the reinforcing cage and the side of the excavated hole. Approved cylindrical feet (bottom supports) shall be provided to ensure that the bottom of the cage is maintained the proper distance above the base.

Hooks at the top of the reinforced steel cage shall not be bent outward if a temporary casing is to be used. Interior hooks must be designed to permit adequate clearance for the concrete tremie pipe (i.e. 10 inches minimum space). Hooks may be placed on dowels that may be rotated after concrete placement or casing removal and repositioned after the tremie is removed. The concrete must be fluid during dowel repositioning.

The elevation of the top of the steel cage shall be checked before and after the concrete is placed. If the upward displacement of the rebar cage exceeds 6 inches or if the downward displacement exceeds 3 inches, the drilled shaft will be considered defective. Corrections shall be made by the Contractor to the satisfaction of the Engineer. No additional shafts shall be constructed until the Contractor has modified his rebar cage support in a manner satisfactory to the Engineer.

If the bottom of the constructed shaft elevation is lower than the bottom of the shaft elevation in the plans, a minimum of one half of the longitudinal bars required in the upper portion of the shaft shall be extended the additional length by adding longitudinal reinforcing bars at the bottom of the cage. Tie or spiral bars shall be continued for the extra depth and the stiffener bars shall be extended to the final depth. All longitudinal and transverse bars must be lap spliced or spliced with mechanical splices. Welding to the reinforcing steel will not be permitted unless specifically shown in either the plans or special provisions.

When concrete placement does not follow immediately after cage placement, remove the steel from the excavation. If the cage is removed, recheck excavation cleanliness in accordance with this Special Provision prior to reinstallation of the cage.

XIV. INSTALLATION REQUIREMENTS FOR CSL INTEGRITY TESTS

All Drilled shafts shall be fitted with CSL test tubes to evaluate their integrity. Install the access tubes or pipes as nearly parallel and far as possible from the longitudinal bars. The number of tubes to be installed per each drilled shaft size category is as indicated in the table below:

Drilled Shaft Size Category	**Number of CSL Tubes**	**Tube Spacing[a]**
1	4 minimum	90 degrees
2	6 minimum	60 degrees
3	8 minimum	45 degrees
4	10 minimum	36 degrees
(a) Spacing based on a central angle in degrees		

The tubes shall be securely attached to the interior of the reinforcement cage with a minimum concrete cover of 3 inches, and they shall be wire-tied to the reinforcing cage every 5 feet to secure the tubes in position during placement of the reinforcing steel cage. In all cases the tubes shall be as near to vertical and parallel as possible. The Contractor shall install the tubes in the drilled shafts in a regular and symmetric pattern such that each tube is spaced a maximum distance possible from its adjacent tube and distributed around the drilled shaft perimeter as indicated by the central angle in the table above.

The tubes shall extend from the bottom of the drilled shaft to at least 3 feet above the top of the drilled shaft, or 2 feet above the ground surface for shafts with cut-offs below the ground surface. The tubes must be capped to prevent concrete or debris from entering during manipulation of the cage and concreting. Care must be taken during lifting and lowering the steel reinforcement so as not to damage the tubes. The CSL tubes shall be filled with clean water no later than 4 hours after concrete placement. Do not break the bond between the tube and the concrete by applying excessive torque, hammering, or other sort of stress while removing the caps or plugs from the pipes. For production shafts and upon completion of the CSL tests, remove all the water from the access tubes or drilled holes and fill with an Approved grout. CSL testing procedures are found in Section XVI of these Specifications.

XV. CONCRETE PLACEMENT

A. General

Concrete placement shall be performed in accordance with the applicable portions of the general specifications on concrete materials in Section V.A of this Special Provision and with the requirements herein.

Concrete shall be placed as soon as possible after reinforcing steel placement. Concrete placement shall be continuous from the bottom to the top elevation of the shaft. Concrete placement shall continue after the shaft excavation is filled until good quality concrete is evident at the top of shaft. If SCC was not used, mechanical vibration shall be used for consolidation of at least the top 25 feet of each shaft. Concrete shall be placed either by free fall or through a tremie or concrete pump. The free-fall placement shall only be permitted in dry holes. Concrete placed by free fall shall fall directly to the base without contacting either the rebar cage or hole sidewall. Drop chutes may be used to direct concrete to the base during free-fall placement.

The elapsed time from the beginning of concrete placement in the shaft to the completion of the placement shall not exceed 2 hours. Admixtures such as water reducers, plasticizers, and retarders shall not be used in the concrete mix unless permitted in the Contract Documents. All admixtures, when Approved for use, shall be adjusted for the conditions encountered on the job. The Contractor may request a longer placement time provided he supplies a concrete mix that will maintain a slump of 4 inches or greater over the longer placement time as demonstrated by trial mix and slump loss tests. Subject to performance satisfactory to the Engineer in the construction of the first shaft, concrete to be placed in dry shafts less than 5 feet in diameter may be placed by allowing the concrete to free fall up to 25 feet into the excavation; for shafts at least 5 feet in diameter the free-fall distance may be increased to 100 feet.

During concrete placement, the Contractor is required to plot the theoretical and actual concrete volume curves on the “DRILLED SHAFT CONCRETE VOLUMES FORM.”

Within the first 16 hours after a drilled shaft has achieved its initial concrete set (as determined by the Engineer), do not drill adjacent shafts or allow any equipment wheel loads or excessive vibrations to occur at any point within a 20-foot radius of the drilled shaft unless the concrete has reached a strength of at least 1500 psi as determined by the Maturity Test Method in accordance with ASTM C 1074.

B. Adjustment of Concrete Free Fall or Rate of Concrete Flow.

If the free-fall concrete causes the shaft excavation to cave or slough, the Contractor shall control the movement of concrete by reducing the free fall of the concrete or the rate of flow of concrete into the excavation. The Contractor shall be responsible for proposing, developing, Approval from the Engineer, and after implementing corrective work.

C. Extent of Concrete Placement.

Concrete placement shall continue after the shaft is filled until good quality concrete is evident at the plan construction joint at the top of the shaft and until a minimum of 18 inches of concrete, measured vertically, has been expelled. Immediately after concrete placement has been completed, all contaminated concrete and deleterious material accumulated above the top of shaft shall be removed to within 1 foot of plan top of shaft. Any concrete remaining above the top of shaft shall be carefully removed to the plan construction joint after curing and excess casing removal to allowable tolerances.

D. Time Limitations.

The elapsed time from the beginning of concrete placement in the shaft to the completion of the placement shall not exceed two hours. All admixtures shall be adjusted for the conditions encountered on the job so the concrete remains in a workable plastic state throughout the two-hour placement limit. Prior to concrete placement, the Contractor shall provide test results of both a trial mix and a slump loss test conducted by an Approved testing laboratory using Approved methods to demonstrate that the concrete meets the two-hour requirement. The Contractor may request a longer placement time if a concrete mix is provided that will maintain a slump of 6 inches or greater over the longer placement time in the entire shaft as demonstrated by trial mix and slump loss tests. The trial mix and slump loss tests shall be conducted using concrete and ambient temperatures Approved for site conditions.

E. Concrete Placement by Tremie.

Tremies may be used for concrete placement in either wet or dry holes. Tremies used to place concrete shall consist of a tube of sufficient length, weight, and diameter to discharge concrete at the shaft base elevation. The tremie shall not contain aluminum parts that will have contact with the concrete. The tremie inside diameter shall be at least 6 times the maximum size of aggregate used in the concrete mix but shall not be less than 10 inches. The inside and outside surfaces of the tremie shall be clean and smooth to permit both flow of concrete and unimpeded withdrawal during concreting. The wall thickness of the tremie shall be adequate to prevent crimping or sharp bends. Tremie pipe clamps shall not be placed below water or below an area where they cannot be observed or are inaccessible to personnel unless otherwise Approved in writing by the Engineer.

The tremie used for wet excavation concrete placement shall be watertight. Underwater or under-slurry placement shall not begin until the tremie is placed to the shaft base elevation, and the concrete shall be kept completely separated from the water or slurry prior to the time it is discharged. Valves, bottom plates or plugs may be used for this purpose only if concrete discharge can begin within one tremie diameter of the base of the drilled shaft. Plugs shall either be removed from the excavation or be of a material, Approved by the Engineer, which will not cause a defect in the shaft if not removed. The discharge end of the tremie shall be constructed to permit the free radial flow of concrete during placement operations. The tremie discharge end shall be immersed at least 7 feet in concrete at all times after starting the flow of concrete. The flow of the concrete shall be continuous. The level of the concrete in the tremie shall be maintained above the level of slurry or water in the borehole at all times to prevent water or slurry intrusion into the shaft concrete.

If at any time during the concrete pour, the tremie line orifice is removed from the fluid concrete column and discharges concrete above the rising concrete level, the shaft shall be considered defective. In such case, the Contractor shall remove the reinforcing cage and concrete, complete any necessary sidewall removal as directed by the Engineer and repour the shaft. All costs of replacement of defective shafts shall be the responsibility of the Contractor.

F. Pumped Concrete

Concrete pumps and lines may be used for concrete placement in either wet or dry excavations. All pump lines shall have a minimum 4-inch diameter and be constructed with watertight joints. Concrete placement shall not begin until the pump line discharge orifice is at the shaft base elevation. Pipe clamps or pipe welded shall not be below water or below an area where they cannot be observed or inaccessible to personnel unless otherwise Approved in writing by the Engineer.

For wet excavations, a plug or similar device shall be used to separate the concrete from the fluid in the hole until pumping begins. The plug shall either be removed from the excavation or be of a material, Approved by the Engineer, that will not cause a defect in the shaft if not removed.

The discharge orifice shall remain at least 7 feet below the surface of the fluid concrete. When lifting the pump line during concreting, the Contractor shall temporarily reduce the line pressure until the orifice has been repositioned at a higher level in the excavation.

If at any time during the concrete pour the pump line orifice is removed from the fluid concrete column and discharges concrete above the rising concrete level, the shaft shall be considered defective. In such case, the Contractor shall remove the reinforcing cage and concrete, complete any necessary sidewall removal as directed by the Engineer, and repour the shaft. All costs of replacement of defective shafts shall be the responsibility of the Contractor.

G. Drop Chutes

Drop chutes shall be used to direct placement of free-fall concrete in excavations where the maximum depth of water does not exceed 3 inches. Free fall placement is not permitted in wet excavations. Drop chutes shall consist of a smooth tube of either one piece construction or sections that can be added and removed. A drop chute can also be a hopper with a short tube to direct the flow of concrete. Concrete may be placed through either the hopper at the top of the tube or side openings as the drop chute is retrieved during concrete placement. If concrete placement causes the shaft excavation to cave or slough, or if the concrete strikes the rebar cage or sidewall, the Contractor shall reduce the height of free fall and/or reduce the rate of concrete flow into the excavation. If caving or sloughing of the shaft walls occurs during free-fall placement of concrete, the shaft shall be considered defective. In such case, the Contractor shall remove the reinforcing cage and concrete, complete any necessary sidewall removal as directed by the Engineer, and repour the shaft. All costs of replacement of defective shafts shall be the responsibility of the Contractor. If concrete placement cannot be satisfactorily accomplished by free fall in the opinion of the Engineer, the Contractor shall use either tremie or pumping techniques to accomplish the pour.

XVI. NONDESTRUCTIVE EVALUATION

A. General

All drilled shafts shall be subjected to nondestructive tests to evaluate their structural integrity. The Contractor shall be responsible for performing and submitting reports of such tests to the Engineer in a timely manner. All testing shall be conducted after the concrete has cured for at least 48 hours. The Contractor shall employ a Professional Engineer registered in District of Columbia who has been qualified by the Department to perform, evaluate and report the tests. The report on the tests on any given shaft must be submitted to the Engineer within three (3) Business Days of the performance of the tests on that shaft. The Engineer will evaluate and analyze the results and provide to the Contractor a response regarding the acceptability of the shaft that was tested within three (3) Business Days of receipt of the test report.

The Contractor may continue to construct drilled shafts before the receipt of notice of acceptance of the tested shaft or shafts by the Engineer; however, if the Engineer finds the tested shaft(s) to be unacceptable, the Contractor shall be required to repair, at the Contractor's expense, the unacceptable shaft to the satisfaction of the Engineer and (a) prove to the satisfaction of the Engineer, at no expense to the Department, the acceptability of all shafts constructed since the unacceptable shaft was constructed and the acceptability of the procedure to be used in constructing future shafts, or (b) cease all drilled shaft construction until a new construction procedure acceptable to the Engineer has been proposed by the Contractor and accepted by the Engineer. In the latter case, those drilled shafts constructed after the unacceptable shaft shall be repaired to the satisfaction of the Engineer at the Contractor's expense. If any repair procedures or revisions to the Contractor's installation procedure are proposed by the Contractor, the Contractor shall submit a written plan to the Engineer to repair defects and revise construction procedures. If these plans involve changes to the structural design of the shafts, shaft caps, or to the geometry of the shafts, any redesign proposed in the Contractor's plan to the Engineer shall be performed at the Contractor's expense by a Professional Engineer registered in the District of Columbia.

The Engineer may require that additional shafts be tested. If the testing of the additional shaft(s) indicates the presence of a defect in any additional shaft, the testing cost for that shaft will be borne by the Contractor and the Contractor shall repair the shaft at the Contractor's expense, as above. Otherwise, the cost of the testing will be borne by the Department

B. Crosshole Sonic Logging CSL Test

1. General

Crosshole Sonic Logging (CSL) is a nondestructive testing (NDT) method that measures the time for an ultrasonic pulse to travel from a signal source inside an access tube to a receiver inside another access tube and evaluates the integrity of drilled shafts. In uniform, good-quality concrete, the travel time between these equidistant tubes will be relatively constant from the bottom to the top of the drilled shafts and corresponds to a reasonable concrete pulse velocity. In uniform, good-quality concrete, the CSL test will also produce records with good signal amplitude and energy. Longer travel times and lower amplitude/energy signals indicate the presence of irregularities such as poor-quality concrete, voids, honeycombs, or soil intrusions. The signal will be completely lost by the receiver and system recorder for more severe defects such as voids and soil intrusions.

The Contractor must install access tubes intended for Crosshole Sonic Logging (CSL) testing. The Engineer will be responsible for hiring qualified independent testing agency to perform the CSL test(s). The Contractor shall provide necessary assistance, access, and coordination to Engineer for the CSL testing. All CSL testing must be completed within forty (40) Calendar Days of concrete placement.

The CSL independent testing agency shall have successfully performed at least five (5) CSL testing projects with similar or greater size drilled shafts within the last two years. Submit to the Engineer for Approval the resume of the credentials of the proposed testing agency at least 14 Calendar Days before the drilled shaft pre-construction conference. The mentioned documentation shall reference and detail the size and number of the shafts, names and phone numbers of owner's representatives who can verify the testing agency's participation on those projects.

Prior to beginning the CSL test, the Contractor shall assure that the test probes can pass through and down the tubes to the bottom of every installed tube. If a tube is obstructed, the Contractor must core a hole within the drilled shaft and near the obstructed tube to the depth indicated in the plans for that CSL tube, and the core shall be large enough to accommodate the probe through its full length. Core equipment, procedure, and location of the hole shall be Approved by Engineer prior to beginning coring. Logged results of the core drilling shall be submitted to Engineer along with the cores. The CSL test can commence after the core hole is inspected and the probes can pass through.

2. Equipment for the Crosshole Sonic Logging (CSL) Test

The CSL test equipment consists of the following components:

1. Microprocessor-based CSL system or analyzer for display of individual CSL records, analog-digital conversion and recording of CSL data, analysis of receiver responses, and printing of CSL logs.
2. Ultrasonic emitter and receiver probes for 2 inches I.D. pipe.
3. Ultrasonic voltage pulse to excite the source with a synchronized triggering system to start the recording system.
4. Winch and tripod and connecting cables.
5. Depth measurement device to determine recorded depths.
6. Appropriate filter/amplification and cable systems for CSL testing.

3. Logging Procedures for Crosshole Sonic Logging (CSL) Test

The test should proceed from the bottom to the top of the test tubes and in depth increments of about 3 inches to include the full depth of both tubes. Any slack shall be removed from the cables prior to pulling the probes providing accurate depth measurement records. Test a pair of perimeter and/or diagonal tubes and include

evaluation of the condition of the drilled shaft bottom. The source and receiver should be lifted simultaneously at a speed less than 1 foot per second, and a set of readings carefully taken at their corresponding depths. The CSL tests shall be carried out with the source and receiver probes in the same horizontal plane unless test results indicate potential anomalies/defects, in which case the questionable zone may be further evaluated with fan shape or angled tests (source and receiver are vertically offset inside the tubes). Equipment, procedure, and evaluation shall be adjusted to detect, locate, and assess the extent of any irregularity or void that appears in the path of the sonic pulse. Any anomalies/defects indicated by longer pulse arrival times and significantly lower amplitude/energy signals should be reported to Engineer on site and any further tests should be carried out as necessary to evaluate the extent of such anomalies/defects.

Additional testing may be conducted in the event anomalies should be detected or suspected during the test. Information of the drilled shaft bottom and top elevations, length, along with construction dates shall be provided to the testing organization before or at the time of the CSL tests. Levels will be taken on top of each tube, and actual tube plumbness and length be recorded. CSL tests shall be conducted between pairs of tubes, and the determination of which pairs to be tested made by the independent testing agency.

4. Sonic Logging Test Procedure.

The drilled shaft shall be tested between 2 and 40 Calendar Days after concrete placement. The following procedures shall apply:

1. Pipes shall be checked to ensure the pipes are free from blockages and are filled with water; any addition of water shall be noted and reported.
2. Levels shall be taken on top of each pipe. Each pipe shall be plumbed, and the length shall be recorded.
3. Testing shall be performed between each pair of adjacent pipes around the shaft perimeter and also in pairing combinations between each pipe as determined by the testing agency. If concrete coring is performed to confirm the nature of an anomaly identified during CSL testing, a subsequent CSL survey shall be performed using the concrete core hole(s) and the CSL access pipes.
4. All tests shall be carried out with the probes in the same horizontal plane unless the Engineer directs that defects be further evaluated with the probes on different horizontal planes.
5. The probes shall be raised simultaneously from the bottom of the pipes ensuring that all slack is taken out of the cables before the analyzer is switched on and that the distance between transducers remains constant during the course of the test. The speed of ascent shall be less than 12 inches per second. Measurements shall be taken at 3-inch intervals or less. Anomalies indicated by reduced velocity in the drilled shaft concrete and significantly lower energy shall be reported. If anomalies are detected, additional tests with two or more sources per receiver with vertical offsets of greater than or equal to 20 inches may be conducted at the request of the Engineer between the same tubes unless the anomaly is within 20 inches of the bottom of the shaft.
6. The Contractor shall provide accurate measurements of probe depths on the logs.

5. Record of Testing

Preliminary results of the testing shall be provided on site prior to the CSL consultant leaving the site. A detailed CSL report and test data shall be submitted to the Engineer. The CSL report shall be signed and sealed by a Professional Engineer. The CSL report shall include, but is not limited to, the following: Project identification and dates of testing, a table and schematic showing shafts tested with accurate identification of tube coordinates and collar elevation, name of personnel that performed the tests and interpretation and those personnel's affiliation, equipment used, data logs, interpretation, analysis, and results. The data logs shall include XY plots of velocity and energy versus depth. CSL data shall be processed to provide easy to understand 2D cross-sections between tubes for all tube pair combinations. These plots shall be annotated by the CSL consultant as appropriate to delineate anomalous results. If offset surveys are performed as part of 3D tomography, data plots shall include 3D volumetric images for the entire shaft, color-coded, to indicate velocity or energy variations along the shaft. Locations and geometry of anomalies or unconsolidated zones shall be identified in 3D color images with detailed

discussion. The results for CSL and 3D surveys shall be based on the percentage decrease in velocity as correlated to the following Concrete Condition Rating Criteria (CCRC). The velocity of good concrete shall be established from a nearby zone of good concrete. Deviations from the velocity shall be used for determining the Concrete Condition Rating.

Concrete Condition Rating Criteria			
Concrete Condition Rating	**Rating Symbol**	**Velocity Reduction**	**Indicative Results**
Good	G	0 to 10%	Acceptable concrete
Questionable	Q	10% to 25%	Minor concrete contamination or intrusion. Questionable quality concrete.
Poor	P/D	> 25%	Possible defects exist, possible water slurry contamination, soil intrusion, and/or poor-quality concrete.
Water	W	V = 4760 to 5005 ft/sec	Water intrusion, or water filled gravel intrusion with few or no fines present.
No Signal	NS	No signal received	Soil intrusion or other severe defect absorbed the signal, tube debonding if near top.

6. Correction of Unacceptable Results.

The Contractor shall immediately inform the Engineer of any suspected anomalies, honeycombing or poor concrete quality detected by testing. The Contractor and CSL consultant shall duly perform further tests as directed by the Engineer to evaluate the extent of any detected anomalies. Core drilling, or other investigative methods as Approved by the Engineer, shall be performed to further investigate the anomaly. If a defect is confirmed, the Contractor shall bear all costs involved with the shaft coring, grouting and remediation. If no defect is found, the length of the core will be eligible for payment. Within 14 Calendar Days of the completion of testing, the Contractor shall provide a report signed and sealed by a Professional Engineer registered in the District of Columbia providing the results of the additional investigations and recommendations to accept or repair the shaft. The report shall also contain recommendations for modification of construction procedures to prevent defects in subsequent shaft installations. The dates of the completion of drilling, cleaning, steel placement and concrete pour shall also be provided. Construction above the top of shaft shall not be performed until the shaft has been accepted by the Engineer.

XVII. ACCEPTANCE OF DRILLED SHAFTS

Acceptance of drilled shafts shall be based on meeting the requirements as set forth in the Contract Documents. Drilled shafts will not be acceptable if:

A. Based on Specifications

1. Drilled shafts are constructed disregarding any requirements of the Specifications or this Special Provision for Drilled Shaft.
2. Drilled shaft excavations are constructed out of tolerance. The Contractor shall correct completed drilled shaft to acceptable tolerances before proceeding with new drilled shaft construction and submit correction for the Engineer’s Approval.
3. When applicable, slurry out of tolerance, especially during late introduction into the drilled shaft and before concreting.
4. Cave-in of the drilled shaft walls due to improper use of casing or slurry; or failure to use weighting agents in the slurry in running groundwater.
5. Temporary casing that cannot be removed.

6. Horizontal separations or severe neck in the drilled shaft walls when pulling temporary casing with concrete adhering to it.
7. Failure to agitate slurry or to place concrete in a timely manner causing excessive build-up of mud cake on the wall of the excavation.
8. Horizontal sand lens in concrete produced by tremie or pump line pulled out of concrete when concreting under slurry or water.
9. Quarter-moon-shaped soil intrusion on the side of the drilled shaft created by interruption in flow of concrete being pumped or tremied into slurry-filled hole or use of telescoping casing where concrete from inner casing spills into the over break zone behind outer casing.
10. Soft or loose drilled shaft bottom caused by incomplete bottom cleaning, side sloughing, or sedimentation of cuttings from slurry column where base bearing is required.
11. Voids outside of the reinforcing steel cage when low slump concrete is introduced into the drilled shaft.
12. Honeycombing, washout of fines, or water channels in the concrete if concrete is placed directly into water.
13. Folded-in debris from insufficient cleaning of the drilled shaft excavation or excessive sand in the slurry.
14. Drilled shafts for which the mix design has been altered or extra water has been added without the Approval of the Engineer.
15. Drilled shaft constructed in such a manner that the drilled shaft cannot be completed within the required tolerances. The Contractor shall submit correction methods for the Engineer's Approval.

Final acceptance decision on whether repairs can or should be made or if the drilled shaft is rejected and must be replaced will be made by the Engineer as necessary applying criteria set forth herein and sound engineering judgment on a drilled shaft by drilled shaft basis.

B. Based on the Cross Hole Sonic Logging (CSL) Tests

Rejection of a drilled shaft based on the drilled shaft cross hole sonic logging testing shall be conclusive evidence that a defect exists in the drilled shaft that will result in inadequate or unsafe performance of the drilled shaft under service loads. The acceptance of each drilled shaft shall be the decision of the Engineer based on the results of the drilled shaft integrity testing report(s) and other information on the drilled shaft placement. The CSL test report shall include all the test results as outlined in section XVI.B of this special provision. If the CSL records are inconclusive, the Engineer may require coring or excavation of the drilled shaft to verify drilled shaft conditions. If a defect is confirmed, the Contractor shall be responsible for all coring or excavation costs. If no defect is encountered, the Department will pay for all coring or excavation costs, including grouting of all core holes. Cores that cannot be advanced to the location of interest will not be paid for.

In the event testing discloses voids or discontinuities in the concrete which indicate that the drilled shaft is not structurally adequate, the drilled shaft shall be rejected, and construction of additional drilled shafts shall be suspended until the Contractor repairs, replaces or supplements the defective work, and the Engineer Approves the remedial work. The Contractor shall suspend drilled shaft construction until the Engineer Approves proposed changes to the methods of drilled shaft construction submitted in writing by the Contractor.

In the case that any drilled shaft is determined to be unacceptable, the Contractor shall submit a plan for remedial action to the Engineer for Approval. Any modifications to the foundation drilled shafts and load transfer mechanisms caused by the remedial action will require calculations and working drawings prepared by and stamped by a Professional Engineer, hired by the Contractor and registered in the District of Columbia, for all foundation elements affected. The Contractor shall provide all labor and materials required to design and repair or remediate drilled shafts at no additional cost to the Department and with no extension of the Contract time.

XVIII. Drilled Shaft Quality Control

The Contractor shall submit to the Engineer the qualifications of the Drilled Shaft Quality Control Inspector(s) and Drilled Shaft Licensed Professional Geotechnical Engineer (LPGE) for Approval prior to start of drilled shaft construction.

A. Drilled Shaft Quality Control Inspector

The Drilled Shaft Quality Control Inspector (Inspector) will possess a minimum of 3 years' experience inspecting bridge drilled shaft foundations and related testing of similar size and depth and in similar subsurface conditions. The Inspector will meet with the LPGE prior to start of drilled shaft construction to discuss the design intent of the shafts and Inspector's duties, including to log and classify drilled shaft excavation materials and compare to the design materials identified in the boring logs and geotechnical report. The Inspector has the authority to reject defective work and material, and suspend work that is being improperly performed, subject to the concurrence of the LPGE.

B. The Inspector Duties

The Inspector will assure that all Contract drilled shafts plans, notes, and special provisions are being adhered to. The Inspector will attend the preconstruction meeting in the presence of the LPGE to establish an understanding of the critical stages of work that will be performed. The Inspector will open and maintain a line of communication with the LPGE, DDOT and/or their representative with the daily drilled shaft operations, especially with respect to the timing of the drilled shaft concrete placement and testing operation. Additional duties of the Inspector include:

1. Fill out daily required Quality Control drilled shaft related forms including but not limited to the DDOT Excavation Form required in Section VIII.A and Drilled Shaft Concrete Volumes Form required in Section XV.
2. Review boring logs, bridge geotechnical reports, plans and specifications.
3. Monitor the Contractor's daily drilled shafts operations.
4. Log and classify all drilled shaft excavation materials and compare to the design material classifications for each shaft.
5. Verify shafts are excavated to the plan elevation and match the design material classifications and depths.
6. When material classifications and depths within the shaft length or at the bottom of the shaft vary from design, immediately contact LPGE for consultation or possible adjustment to shaft length.
7. Inspect the drilled shafts final elevation, location and vertical alignment (plumb).
8. Final inspect ion to the sides and bottom of drilled shaft excavation after final cleanout.
9. Monitor all drilled shafts required testing (O-cell).
10. Receive and distribute to all related parties the drilled shafts initial O-cell tests data.
11. Assemble and submit final drilled shaft records and O-cell test reports to the LPGE for review.
12. Maintain all drilled shafts records and data on site for As-Built Documentation.

C. Drilled Shaft Licensed Professional Geotechnical Engineer

The Inspector will work directly under the supervision of a licensed Professional Geotechnical Engineer who possesses a minimum of five (5) years' experience in the design, construction, CSL and O-cell testing of bridge drilled shafts of similar size and depth and in similar subsurface conditions.

D. Drilled Shaft Licensed Professional Geotechnical Engineer (LPGE) Duties

1. LPGE will meet with the Inspector prior to start of drilled shaft construction to discuss the design intent of the shafts and Inspector's duties, including to log and classify drilled shaft excavation materials and compare to the design materials identified in the boring logs and geotechnical report.

2. LPGE will maintain an open line of communications with the Inspector at all times.
3. LPGE will make frequent visits to the Project site throughout the construction to review the drilled shaft operations.
4. LPGE will be available for consultation with the Inspector at all times.
5. LPGE will review and determine the O-cell test locations.
6. When required by EOR, the LPGE will attend drilled shaft resolution meetings regarding Geotechnical issues.
7. LPGE shall review Drilled Shaft Quality Inspector daily diary.
8. LPGE will evaluate CSL tests and advise if further investigations are required.
9. LPGE will evaluate O-cell tests, confirm shaft design parameters, and recommend if further tests are required.
10. LPGE will review drilled shafts Geotechnical Nonconformance repair procedures.
11. LPGE will review any required modifications to the drilled shaft installation procedures.

SECTION 7

Pavement

7.1 General

The Design-Build (DB) Contractor shall perform all Work necessary to design and construct pavements required to complete the Project. The term pavement, or pavement section, shall be defined as the entire pavement structural section, including Hot Mix Asphalt (HMA), Warm Mix Asphalt (WMA), Portland Cement Concrete Pavement (PCCP), base, and sub-base material. The DB Contractor shall review the geotechnical information included in Volume II, Book III, Contract Data and Reports (CDR), these Technical Provisions, and the Reference Information Documents (RID) and perform geotechnical explorations, geotechnical analyses, and laboratory testing sufficient to supplement the existing data as required.

Elements of Work shall include, but are not limited to, the following:

1. Constructing new pavement for all new lanes and shoulders and all widened lanes and shoulders required to complete the Project;
2. Reconstructing pavement by removing the existing pavement section and replacing with a new pavement section;
3. Resurfacing existing HMA and PCCP pavements; and
4. Sidewalks, bikeways, shared-use paths, raised medians, curbs and curbs and gutters.

7.2 Performance Requirements

7.2.1 New and Temporary Roadway Pavement

This Project requires new pavement for new and widened roadways and reconstructed roadways. The pavement ride quality and performance shall meet the requirements of DDOT Standard Specifications for Highways and Structures, except that the incentive pay is not applicable. The DB Contractor shall be liable for the disincentive, defect cost, and failure cost specified in Appendix I of DDOT's Standard Specifications for Highways and Structures.

7.2.2 Bicycle and Pedestrian Pavement

The surface treatment for the bike and pedestrian paths shall be in accordance with the requirements in Section 15, Visual Quality Requirements, of these Technical Provisions.

Where bike or pedestrian paths cross roadway pavement, the structural section, including aggregate base and asphalt or cement concrete of the roadway pavement, shall not be reduced because of surface treatment required for the bike or pedestrian paths. The DB Contractor's design shall ensure that no differential settlement shall develop at the joint between roadway pavement and crossing bike/pedestrian paths.

7.2.3 Subgrade Drainage

The DB Contractor shall ensure that all new, widened, and reconstructed pavement sections have adequate subgrade drainage. Adequate subgrade drainage is defined as: a path perpendicular to centerline which allows water to flow through the base-course layer into a subgrade underdrain. If underdrains are necessary, underdrains shall not be placed under travel lanes except where necessary to cross intersecting roadways. Underdrain pipes shall be a minimum of 6 inches in diameter.

The DB Contractor shall ensure that no drainage becomes trapped at the intersection of the new pavement widening and the existing pavement.

7.2.4 Repair of Damaged Pavement

The DB Contractor shall repair any pavement damaged during construction. The damaged pavement shall be replaced with new pavement to pre-construction condition or better. Damaged PCCP panels require a full panel replacement. Damaged pavement and sidewalks shall be replaced to DDOT's standards. The DB Contractor shall conduct a pre-condition survey to include existing pavement as described in Section 5, Surveys and Mapping, of these Technical Provisions.

7.3 Design Requirements

New and temporary pavement shall be designed and constructed in accordance with the DDOT Design and Engineering Manual, AASHTO requirements, the Standard Specifications, and requirements specified herein.

7.3.1 Project-Specific Design Criteria

The pavement type may be flexible, rigid, or composite pavement. All pavement designs shall be provided to DDOT with design inputs, and supporting calculations, including design life calculations.

A minimum 30 year design life shall be used for all pavements.

See Table 11-1 for roadway designations.

The uppermost 3 feet of subgrade shall meet the DB Contractor's pavement design minimum CBR value and shall extend laterally from the edge of pavement for a distance of 2 feet, from the back face of curb or curb and gutter for a distance of 1 foot, or to the shoulder break, whichever distance is furthest from the edge of pavement.

The DB Contractor should expect that subgrade materials can vary throughout the Project Limits. The DB Contractor shall verify that the materials encountered or imported meet the required CBR value by performing CBR tests at 100-foot intervals along the centerline of the proposed roadways before placing the base course to ensure the material in place, to a minimum depth of 3 feet below subgrade, meets a minimum CBR value required by the DB Contractor's pavement design.

7.3.1.1 Equivalent Single Axle Loads (ESAL) Factors

If traffic classification or Weight in Motion (WIM) data is available, use Appendix D of the 1993 AASHTO Design Guide for Pavement Structures to determine ESAL factors. When no WIM or vehicle classification data is available to determine actual 18-kip ESAL Factors, use the following values:

TABLE 7-1
ESAL Factors

	ESAL Factor (ESALs/Vehicle)	
Vehicle Classification	**Flexible**	**Rigid**
Cars/Passenger Vehicles	0.0002	0.0003
Single Unit Trucks	0.42	0.59
Tractor Trailer Trucks	1.05	1.59

7.3.1.2 Design Subgrade Resilient Modulus

The subgrade resilient modulus shall be obtained using methods provided in the Recommended Reconstruction Pavement Catalog for the District of Columbia. When correlations with CBR are considered, the following correlations shall be used:

1. For fine-grained soils with a soaked CBR less than 10, use the following equation to correlate CBR to resilient modulus (Mr): Mr (pounds per square inch [psi]) = 1,500 x CBR
2. For non fine-grained soils with a soaked CBR greater than 10, use the following equation:

Mr = 3,000 x CBR0.65

When Falling Weight Deflectormeter (FWD) testing is conducted and the back-calculated resilient modulus is determined, use the following equation:

1. Mr = 0.33 x back-calculated Mr

Average subgrade resilient modulus shall not be used as the Design Mr if the coefficient of variation (Cv) is greater than 10 percent. If the Cv is greater than 10 percent, then the pavement engineer should look at sections with similar Mr values and design those section based on that average Mr. If no sections clearly exist, then use the average Mr multiplied by 0.67 to obtain the Design Mr. For those locations with an actual Mr less than the Design Mr, then the pavement engineer shall consider a separate design for that location or treating the materials as unsuitable soils and remediate as specified in the paragraph 7.3.3 of this Section.

For all pavement designs, if the Design Mr is greater than 15,000 psi, use a Design Mr value of 15,000 psi.

7.3.1.3 Load Transfer Factor

Use the following Load Transfer Values (J) for designs of rigid pavements:

TABLE 7-2
Load Transfer Factors (J)

Design Parameter	J
Jointed Plain with AC Shoulder	3.2
Jointed Plain with Tied PCC Shoulder	2.7
Continuously Reinforced with AC Shoulder	3.0
Continuously Reinforced with Tied PCC Shoulder	2.6

Notes:
PCC – Portland cement concrete
AC – Asphalt concrete

7.3.2 Minimum Pavement Sections

7.3.2.1 Temporary Pavement for Detours and Maintenance of Traffic

DB Contractor shall design temporary pavement to meet field conditions and all temporary pavements shall be removed by the DB Contractor in their entirety when no longer needed.

7.3.2.2 Paving under Guardrail

Pavement shall be placed under all guardrails. Where asphalt curb is specified for drainage requirements, the pavement under the guardrail shall also be placed in accordance with applicable asphalt curb standards.

7.3.3 Unsuitable Soils

Any material for use in the following locations that meet the requirements defined below shall be deemed unsuitable.

Locations:

1. Material for use as embankment fill;
2. In cut areas within a depth of 3 feet below pavement subgrade;
3. Within 2 feet beneath the bedding of minor structures and 2 feet beyond the normal excavation limits on either side of minor structures;
4. Extending laterally from the edge of pavement for a distance of 2 feet; or
5. One foot from the back face of curb or curb and gutter, or to the shoulder break, whichever distance is furthest from the edge of pavement.

Requirements:

1. Material classified as CH, MH, OH and OL in accordance with the Unified Soil Classification System (USCS);
2. Material that contains more than 5 percent by weight organic matter;
3. Material that exhibits a swell greater than 5 percent as determined from the CBR test;
4. Material that exhibits strength, consolidation or any other characteristics that are deemed unsuitable by the DB Contractor's geotechnical engineer or as denoted in the Contract Documents for use in the Work.

All materials within the uppermost 3 feet of the pavement subgrade that exhibits a CBR or resilient modulus value less than that stipulated in the DB Contractor's pavement design shall also be considered unsuitable. Saturated or very dry and/or loose or very soft coarse and fine-grained soils that exhibit excessive pumping, weaving, or rutting under the weight of construction equipment are also considered unsuitable unless they can be moisture conditioned through either mechanical or chemical means to an acceptable moisture content that allows adequate compaction to meet Project specifications, and classification testing indicates they are not otherwise unsuitable. Topsoil, peat, coal, and carbonaceous shale should also be considered unsuitable material.

Unsuitable materials shall be legally disposed of offsite. Unsuitable materials and methods of treatment shall be identified on the plans and cross sections. The DB Contractor's geotechnical engineer shall inspect pavement subgrade immediately before placement of aggregate base, subbase, or bedding materials to identify excessively soft or saturated soils that exhibit pumping, weaving, or rutting under the weight of the construction equipment. Such soils are considered unsuitable and must be removed or modified in place to provide adequate support for pavement subgrade.

7.4 Construction Requirements

The pavement shall be constructed in accordance with the DDOT Standard Specifications for Highways and Structures, Supplemental Specifications, Standard Drawings, and applicable special provisions.

7.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 7-3
Pavement Deliverable Requirements Summary

Deliverable	DDOT Review Type	Schedule	Section
Pavement Designs	Review and Comment	30 Days before starting any pavement construction	7.3

Attachment 7A
DDOT Special Provision for HMA Production and Construction Acceptance

Attachment 7A
DDOT Special Provision for HMA Production and Construction Acceptance

The Standard Specifications are amended by the following modifications and additions and shall prevail over requirements published in the Standard Specifications.

February 28, 2014

(a) Material Production – Tests and Evaluations.

The Engineer will conduct acceptance tests and will base acceptance on the DDOT acceptance test results, i.e. the asphalt cement quality, the Contractor's QC Plan work, and the comparisons of the acceptance test results to the QC test results. The Engineer may elect to utilize test results of the Contractor in some situations towards judging acceptance. All acceptance tests shall be performed by qualified technicians at qualified laboratories following AASHTO procedures and shall be evaluated using Percent within Limit.

The Contractor shall supply, capture, and mark samples, as directed, from delivery trucks before the trucks leave the production plant. The sample size shall represent the material produced by the Contractor and shall be of sufficient size to allow the Engineer to complete all required acceptance tests. The Engineer will direct the Contractor when to capture these samples on a statistically random basis, and the sample will be immediately collected by the Contractor as directed by the Engineer. The captured sample shall be from the Engineer-specified delivery truck. If the Contractor visually observes the specified delivery truck sample and does not want this sample to be tested for acceptance, that delivery truck will be considered rejected and will not be sent to a Department project. The next visually acceptable delivery truck to the Contractor shall be sampled for acceptance testing.

The first acceptance test sample of the production Day will be randomly generated by the Engineer between 1 – 250 tons. Subsequent samples will be randomly generated by the Engineer on 500-ton sub-lots for the production Day. Insufficient or segregated samples may be a basis for rejection of material if the QC plan is not followed during the sample retrieval process.

If the Contractor desires to perform parallel testing with the Engineer, or to capture samples to be retained for possible Dispute Resolution, each of the samples for these purposes shall be obtained at the same time and location as the acceptance test sample. Either splitting a large sample or getting multiple samples that equally represent the material is acceptable. The Engineer will perform all splitting and handling of samples after they are obtained by the Contractor. The Engineer will collect all samples that are retained for possible Dispute Resolution.

The Engineer will evaluate and accept the material on a lot basis. All the material within a lot shall have the same JMF (mixture ID). The lot size shall be targeted for 2000 tons or a maximum period of three consecutive production Days, whichever is reached first. If the 2000th ton target lot size is achieved during a production day, the lot size shall extend to the end of that production day. The Contractor may stop the production of current approved mix in order to produce a different mix; this type of interruption will not alter the determination of the size or limits of the HMA mixture. The Engineer will evaluate each lot on a sub-lot basis. For each sub-lot, the Engineer will evaluate one sample, and the testing for each sub-lot will be completed on a daily basis.

The target size of a sub-lot within each lot, except for the first sample of the production Day, is equal-sized, 500-ton sub-lot and will be based upon anticipated production; however, more or fewer sub-lots, with differing sizes, may result due to the production schedule and conditions. If the actual production is less than anticipated and it is determined a sample will not be obtained (based upon the anticipated tonnage), the Engineer will determine a new sample tonnage on a statistically random, unbiased basis based upon the new actual production. If the

actual tonnage production is to be10 percent more than the original anticipated daily tonnage, the Engineer will generate a new randomly selected tonnage value.

If the Engineer is present and the quantity exceeds 25 tons, a statistically random sample will be used for analysis. When the anticipated production is less than 100 tons and greater than 25 tons and the Engineer is not present, the Contractor shall randomly select a sample using the Engineer's random location program. The captured sample shall be placed in a suitable box, marked to the attention of the Engineer, and submitted to the Engineer for testing. A box sample shall also be obtained by the Contractor at the same time and will be used as the Dispute Resolution sample if requested by the Engineer. The Contractor shall also obtain one liquid asphalt sample (1 pint) per grade of asphalt used per day and properly label it with all pertinent information.

The Engineer will conduct the following tests in order to characterize the material for the pavement compaction quality and to judge acceptance and the pay adjustment for the material:

1. AASHTO T312 – Preparing a mixture sample using a gyratory compactor.
2. AASHTO T166 – Bulk specific gravity of compacted samples.
3. AASHTO T308 – Asphalt cement content.
4. AASHTO T30 – Aggregate gradations, using samples from the asphalt cement content test.
5. AASHTO T209 – Theoretical maximum specific gravity.

(b) Pavement Construction – Tests and Evaluations.

The Engineer will directly base acceptance on the compaction acceptance test results and on the inspection of the construction, ride smoothness as referenced in the Contract Documents, lift thickness as referenced in the Contract Documents, joint quality as referenced in the Contract Documents, surface texture as referenced in the Contract Documents. For the compaction acceptance testing, the Engineer will sample the work on a statistically random basis and will test and evaluate the work using lots.

Prior to paving a road segment, the Contractor shall notify the Engineer of any locations within that road segment that may not be suitable to achieve required compaction due to existing conditions. The Contractor shall schedule and hold a meeting in the field with the Engineer in order to discuss all areas that may potentially be applicable to Table 3 before paving starts. Areas of allowable exemptions that will not be cored include the following: partial-depth patch areas, driveway entrances, areas around manholes and driveway entrances, and areas of paving that are under 100 feet in continuous total length and/or 5 feet in width.

The exempt areas around manholes will be a maximum of 4 feet transversely on either side from the center of the manhole and 8 feet longitudinally on either side from the center of the manhole. The exempt areas around driveway entrances shall be the entire width of the driveway and 3 feet from the edge of the longitudinal joint next to the driveway. Areas of exemption that will be cored for informational purposes only shall include: areas where the mat thickness is less than three times the nominal maximum aggregate size. Failure to obtain core samples in these areas will result in zero payment for compaction regardless of the exempt status.

The Engineer will evaluate and accept the compaction work on a daily basis. Payment for the compaction will be calculated by using the material production lots as referenced in the Acceptance Plan (a) Material Production – Tests and Evaluation and analyzing the compaction results over the individual Days covered in the material production lot. The compaction results will be combined with the material results to obtain a payment for this item.

The minimum size of a compaction lot shall be 100 tons. If the compaction lot is between 101 and 1000 tons, the Engineer shall randomly determine four compaction acceptance test locations. If the compaction lot is between 1001 and 1500 tons, the Engineer shall randomly determine six compaction acceptance test locations. If the compaction lot is between 1501 and 2000 tons, the Engineer shall randomly determine eight compaction acceptance test locations. If the compaction lot is greater than 2000 tons, the Engineer shall randomly determine two compaction acceptance test locations per 500 tons.

If a randomly selected area falls within an Engineer-Approved exemption area, the Engineer will select one more randomly generated location outside the exempt area to be tested per the requirements of this Specification. If that cannot be accomplished, or if an entire location has been declared exempt, the compaction testing shall be performed as per these Specifications, but a note will be added to the results that the location was an Engineer-Approved exempt location.

Testing locations will be a minimum of ± 0.5 feet from the newly placed longitudinal joint. If the Contractor chooses to cut companion cores, they shall be located within one (1) foot of the Engineer's cores along the longitudinal direction and in-line with the Engineer's cores in the longitudinal plane.

Exactly at the locations marked by the Engineer, the Contractor shall cut a core, 4 inches in diameter, through the full lift depth. Cores submitted that are not from the location designated by the Engineer will not be tested and will be paid at zero pay.

The Contractor shall notify the Engineer prior to starting paving operations with approximations of the tonnage to be placed. The Contractor is then responsible for notifying the appropriate Engineer test personnel within 24 hours of material placement. The Engineer will then have 24 hours to mark the core locations. After determination of locations, the Contractor shall complete testing within two operational Days of the locations being marked. The Engineer will witness the coring operation and take immediate possession of the cores. If the cores are not cut within two operational Days, the area in question will be paid at zero pay for compaction testing.

The Contractor shall provide any traffic control required for the structural number investigation, sampling, and testing work at no additional cost to the Department.

The Contractor shall cut each core with care in order to prevent damaging the core. The pavement shall have a maximum temperature of 140 degrees F when cores are cut from it. Immediately upon removal of a core from the roadway, the Contractor shall adequately label it. The Contractor shall protect the core by supplying a 4-inch plastic concrete cylinder mold, or an approved substitute, and placing the core in it. If more than one core is in the same mold, the Contractor shall place paper between them. The Contractor shall attach a completed QC test record for the representative area to the corresponding core. The Engineer will also complete a test record for areas tested for the QA report and provide to DDOT QA/QC Division.

The Contractor shall repair the core hole per Appendix A, Repairing Core Holes in Hot-Mix Asphalt Pavements. Core holes shall be filled immediately. Failure to repair core holes at the time of coring will result in zero pay for compaction testing for the area in question.

The Engineer will conduct the following tests on the applicable portion of the cores in order to evaluate their quality:

1. AASHTO T166, Method C (Rapid Method) – to determine the bulk specific gravity of the cores.
2. AASHTO T209 – to calculate the theoretical maximum specific gravity and the density of the non-compacted mixtures.
3. ASTM Provisional Test Method – Rapid Drying of Compacted and Loose Bituminous Asphalt Specimens using Vacuum Drying Method.

The Engineer will use the average of the last five test values of the same JMF (mixture ID) material at the production plant in order to calculate the average theoretical maximum specific gravity of the cores. The average will be based on the production Day's test results and as many test results needed from previous Day's production to have an average of five samples. If there are less than five values available, the Engineer will use the JMF design value in addition to the available values to calculate the average theoretical maximum specific gravity.

Payment and Pay Adjustment Factors

The Contractor shall include the costs for all materials, labor, equipment, tools, and incidentals necessary to meet the requirements of this Specification in the bid price per ton for the hot-mix asphalt. Payment to the Contractor for the hot-mix asphalt item(s) will be based on the Contract price per ton and the pay adjustments described in this Specification. The Engineer will determine pay adjustments for the hot-mix asphalt item(s) based on the Acceptance Plan. The Engineer will determine both a pay adjustment for the material and a pay adjustment for the pavement construction. Note that the material portion of the total pay adjustment is 70 percent and the pavement construction portion is 30 percent. For replaced material or work, the Engineer will not apply the pay adjustment applicable to the material or work replaced; a new pay adjustment will be calculated based on the qualities of the new material. Even if one portion of the pay adjustment (material or construction) is not applied, the Engineer may apply the pay adjustment to the other portion. All adjustments (bonus or penalty) shall be paid under this item number in the Contract.

(a) Material Production – Pay Adjustment.

The Engineer will determine the material pay adjustment by evaluating the production material based on the following parameters:

1. Gradation of the 2.36 mm (#8) sieve.
2. Gradation of the 0.075 mm (#200) sieve.
3. Asphalt-cement content.
4. Air-void content

Using the JMF target value, the single test tolerance (from Table 2), and the test values, the Engineer will use the following steps to determine the material pay adjustment factor for each lot of material:

1. For each parameter, calculate the mean value and the standard deviation of the test values for the lot to the nearest 0.1 unit.
2. For each parameter, calculate the Upper Quality Index (QU): QU = ((JMF target) + (single test tolerance) – (mean value)) / (standard deviation).
3. For each parameter, calculate the Lower Quality Index (QL): QL = ((mean value) - (JMF target) + (single test tolerance)) / (standard deviation).
4. For each parameter, locate the values for the Upper Payment Limit (PU) and the Lower Payment Limit (PL) from Table 1 – Quality Level Analysis by the Standard Deviation Method. (Use the column for “n” representing the number of sub-lots in the lot. Use the closest value on the table when the exact value is not listed).
5. Calculate the PWL for each parameter from the values located in the previous step: PWL = PU + PL – 100.
6. Calculate each parameter’s contribution to the payment adjustment by multiplying its PWL by the weight factor shown in Table 2 for that parameter.
7. Add the calculated adjustments of all the parameters together to determine the Composite PWL for the lot.
8. Calculate the pay adjustment factor (PF) by the following formula: PF = 55 + 0.5PWL
9. For each lot, determine the final material price adjustment:

Final Pay Adjustment = (Lot Quantity) x (Item Bid Price) x (Pay Adjustment Factor) x 70%. This final pay calculation will be paid to the tenth of a percent.

In lieu of being assessed a pay adjustment penalty, the Contractor may choose to remove and replace the material at no additional cost to the Department. If the PWL of any single material characteristic is below 60, the Engineer may require the removal and replacement of the material at no additional cost to the Department.

The test results from the Engineer on production that is less than 100 tons will be combined with the two most recently completed Engineer tests with the same Mixture ID to calculate payment for the lot encompassing the single test. If that cannot be accomplished, the approved JMF will be used to calculate payment for the lot encompassing the single test. Payment for previously closed lots will not be affected by the analysis.

When a sample is out of the acceptable tolerance for any Materials pay criteria, that sample will be isolated. For payment purposes, the test result of the out of acceptable tolerance sample will be combined with the two previous acceptable samples of the same JMF and analyzed per this Specification. The material that is considered out of the acceptable tolerance will only include the material within the represented sub-lot (i.e., a maximum of 500 tons). If the previous acceptable test result is from the previous production Day, only the material produced on the second production Day will be considered out of tolerance. All future sub-lots will not include the isolated test.

If, during production, a QA sample test result does not meet the acceptable tolerances and the Contractor's QC sample duplicates the QA sample test result, the Contractor can make an appropriate change to the mixture (within the JMF boundaries) and request to have that sample further isolated. If this request is Approved and the Contractor has made a change, the third load after the change will be tested. If that sample test result shows compliance with the specifications, the material that is considered out of the acceptable tolerance will include the material from the previous acceptable test result to the third load after the initially sampled and tested sample. If the sample does not meet the specification requirements, the Engineer will no longer accept material; Production may resume when changes have been made and an acceptable sample and test result is obtained.

TABLE 1
Quality Level Analysis by the Standard Deviation Method

PU or PL	QU and QL for "n" Samples						
	n = 3	n = 4	N = 5	n = 6	n = 7	n= 8	n = 9
100	1.16	1.50	1.79	2.03	2.23	2.39	2.53
99		1.47	1.67	1.80	1.89	1.95	2.00
98	1.15	1.44	1.60	1.70	1.76	1.81	1.84
97		1.41	1.54	1.62	1.67	1.70	1.72
96	1.14	1.38	1.49	1.55	1.59	1.61	1.63
95		1.35	1.44	1.49	1.52	1.54	1.55
94	1.13	1.32	1.39	1.43	1.46	1.47	1.48
93		1.29	1.35	1.38	1.40	1.41	1.42
92	1.12	1.26	1.31	1.33	1.35	1.36	1.36
91	1.11	1.23	1.27	1.29	1.30	1.30	1.31
90	1.10	1.20	1.23	1.24	1.25	1.25	1.26
89	1.09	1.17	1.19	1.20	1.20	1.21	1.21
88	1.07	1.14	1.15	1.16	1.16	1.16	1.17
87	1.06	1.11	1.12	1.12	1.12	1.12	1.12
86	1.04	1.08	1.08	1.08	1.08	1.08	1.08
85	1.03	1.05	1.05	1.04	1.04	1.04	1.04
84	1.01	1.02	1.01	1.01	1.00	1.00	1.00

TABLE 1
Quality Level Analysis by the Standard Deviation Method

PU or PL	QU and QL for "n" Samples						
	n = 3	n = 4	N = 5	n = 6	n = 7	n= 8	n = 9
83	1.00	0.99	0.98	0.97	0.97	0.96	0.96
82	0.97	0.96	0.95	0.94	0.93	0.93	0.93
81	0.96	0.93	0.91	0.90	0.90	0.89	0.89
80	0.93	0.90	0.88	0.87	0.86	0.86	0.86
79	0.91	0.87	0.85	0.84	0.83	0.82	0.82
78	0.89	0.84	0.82	0.80	0.80	0.79	0.79
77	0.87	0.81	0.78	0.77	0.76	0.76	0.76
76	0.84	0.78	0.75	0.74	0.73	0.73	0.72
75	0.82	0.75	0.72	0.71	0.70	0.70	0.69
74	0.79	0.72	0.69	0.68	0.67	0.66	0.66
73	0.75	0.69	0.66	0.65	0.64	0.63	0.63
72	0.74	0.66	0.63	0.62	0.61	0.60	0.60
71	0.71	0.63	0.60	0.59	0.58	0.57	0.57
70	0.68	0.60	0.57	0.56	0.55	0.55	0.54
69	0.65	0.57	0.54	0.53	0.52	0.52	0.51
68	0.62	0.54	0.51	0.50	0.49	0.49	0.48
67	0.59	0.51	0.47	0.47	0.46	0.46	0.46
66	0.56	0.48	0.45	0.44	0.44	0.43	0.43
65	0.52	0.45	0.43	0.41	0.41	0.40	0.40
64	0.49	0.42	0.40	0.39	0.38	0.38	0.37
63	0.46	0.39	0.37	0.36	0.35	0.35	0.35
62	0.43	0.36	0.34	0.33	0.32	0.32	0.32
61	0.39	0.33	0.31	0.30	0.30	0.29	0.29
60	0.36	0.30	0.28	0.27	0.27	0.27	0.26
59	0.32	0.27	0.25	0.25	0.24	0.24	0.24

TABLE 2
Material Parameter Weight Factors

Material Parameter	Single Test Tolerance (+/-)	Weight Factor
Asphalt Content	0.40	0.25
#8 Sieve (19mm or >)	7.0	0.20
#8 Sieve (12.5mm or <)	5.0	0.20
#200 (0.075 mm) Sieve	2.0	0.25
Air Voids (4.0 % Target)	1.5	0.30

(b) Pavement Construction – Pay Adjustments.

The Engineer will determine the pavement construction pay adjustment by evaluating the construction of the pavement, based on the degree of compaction of the in-place material.

Using the test values for the cores, the Engineer will use the following steps to determine the pavement construction pay adjustment for each lot of work. Note that the material portion of the total pay adjustment is 70 percent, and the pavement construction portion is 30 percent.

1. Calculate the average density values from the sub-lot tests values to the nearest 0.1 unit.
2. Calculate the Degree of Compaction: Degree of Compaction = ((Core Bulk Specific Gravity) / (Theoretical Maximum Specific Gravity)) x 100%.
3. The average compaction for the sub-lots shall be averaged together for the compaction level of the lot. The lot's compaction test level shall be averaged to the whole percent.
4. Locate the value of the Payment Adjustment Factor corresponding to the calculated degree of compaction from Table 3 or Table 3(a)
5. Determine the pavement construction price adjustment by using the following formula:
6. Pay adjustment = (Lot Quantity) x (Bid Price) x (Pay Adjustment Factor) x 30%.

TABLE 3
Compaction Price Adjustment Surface Course Mixes

Degree of Compaction (%)	Pay Adjustment Factor (%)
≥99.0	-100*
98.0	-10
97.0	-3
96.0	0
95.0	0
94.0	0
93.0	0
92.0	0
91.0	-15
90.0	-25
89.0	-30

TABLE 3
Compaction Price Adjustment Surface Course Mixes

Degree of Compaction (%)	Pay Adjustment Factor (%)
88.0	-100*

*or remove and replace at Engineer's discretion.

TABLE 3(A)
Compaction Price Adjustment Base Course Mixes

Degree of Compaction (%)	Pay Adjustment Factor (%)
≥98.0	-100*
97.0	-10
96.0	-3
95.0	0
94.0	0
93.0	0
92.0	0
91.0	0
90.0	0
89.0	-15
88.0	-30
87.0	-100

*or remove and replace at Engineer's discretion.

Dispute Resolution

Disputes or questions about any test result shall be immediately brought to the attention of the Contractor and the Engineer. When there is a significant alleged discrepancy regarding the Engineer's acceptance test results, the Contractor must claim a dispute within two operational Days of the test date. The following Dispute Resolution procedures will be used.

The Engineer and the Contractor will review the sample quality, the test method, the laboratory equipment, and the laboratory technician. If these factors are not the cause of the dispute, a third-party Dispute Resolution will be used.

For third-party resolution testing, it can be either the Engineer's laboratory or an independent accredited laboratory. Unless otherwise mutually agreed upon by the Engineer and Contractor, the Engineer's qualified laboratory in DDOT Materials & research laboratory and qualified personnel shall conduct the necessary testing for third-party Dispute Resolution after the Engineer has provided reasonable notice to allow the Contractor to witness this testing.

When disputes over production testing occur, the samples used for Dispute Resolution testing will be those samples the Contractor properly captured, labeled, and the Engineer stored, as described in the second paragraph of the section of these specifications titled, **Acceptance Plan, (a) Material Production – Tests and Evaluations**. If no samples are available, the original testing results will be used for payment calculations.

If there is a discrepancy between the Engineer's acceptance test result and the Contractor's test result, the Contractor may ask for the Dispute Resolution sample to be tested. If the Dispute Resolution sample substantiates the original acceptance test result, the Contractor, after two such Dispute Resolution samples, will be charged a fee of $125 for all further Dispute Resolution cores that substantiate the acceptance test result. If the Dispute Resolution sample substantiates the Contractor's test result, the Contractor will not be charged a fee.

When disputes over compaction core test results occur, the Engineer's acceptance core will be used for the Dispute Resolution sample. The Contractor will be advised on when the testing will occur as referenced above to witness the testing.

The results of the Dispute Resolution testing shall replace all of the applicable disputed test results for payment purposes.

Appendix A
Repairing Core Holes in Hot-Mix Asphalt Pavement

Description

This appendix describes the procedure required to acceptably repair core holes in a bituminous concrete pavement.

Materials and Equipment

The following material shall be available to complete this work:

1. Patch Material – A DDOT-approved Cold Patch material shall be used.
2. The following equipment shall be available to complete this work:
3. Sponge or other absorbent material – Used to extract water from the hole.
4. Compaction Hammer – Shall be mechanical, with a flat, circular tamping face smaller than 4 inches in diameter. The tamping head shall be connected to an electrical, pneumatic, or gasoline-driven tamping device.

Construction Method

After core removal from the hole, remove all excess water from within the hole, and prevent water from re-entering the hole.

Place the patch material in lifts no greater than 3 inches. If the hole is deeper than 3 inches, use two lifts of approximately equal depths so that optimum compaction is achieved. Make sure that the patch surface matches the grade of the existing roadway. Make every effort to achieve the greatest possible compaction

Performance Requirements

1. The Engineer will judge the patch on the following basis:
2. The patch shall be well compacted;
3. The patch surface shall match the grade of the surrounding roadway surface.

Basis of Payment

No measurement or payment will be made for the patching work. The Contractor must gain the Engineer's acceptance of the patching work before the Engineer will accept the material represented by the core.

SECTION 8

Environmental

8.1 General

Unless expressly stated otherwise in the Design-Build Contract or these Technical provisions, the DB Contractor shall conduct all Work necessary to deliver the Project while maintaining existing and necessary environmental and community commitments and further enhancing the environment and community where possible. A summary of these elements that shall be conducted by the DB Contractor include the following activities:

1. Maintain existing environmental or community commitments as defined in the Final Environmental Impact Statement (FEIS) (as applicable to the Final Design), the Supplemental FEIS, the Section 4(f) Determination, the Section 106 Memorandum of Agreement (MOA) and Net Benefit Agreement, the Record of Decision (ROD) from the Federal Highway Administration and any other permit and/or decision document issued by a Cooperating Agency, the DB Contract, and any other permits, approvals, or agreements attained as required for the Project.
2. Identify new opportunities to enhance the environment or further reduce or avoid environmental or community impacts as the engineering design is completed.
3. Communicate to the District Department of Transportation (DDOT) any changes in the design that may increase or decrease the environmental or community impacts or commitments beyond what has been disclosed in the documents described above.
4. Foster good relationships with federal, District, local agencies, and Stakeholders by conducting a comprehensive and transparent public outreach program and ensuring that the commitments DDOT has made are reflected in the Project's final design and are fulfilled during construction.
5. Comply with all federal and District laws, regulations, policies, and ordinances.

The above items are a summary only and should not be taken as a comprehensive listing of the environmental and community commitments which are the responsibility of the DB Contractor.

8.2 Performance Requirements

8.2.1 Documentation and Approval

The DB Contractor shall prepare and implement an Environmental Management Plan (EMP) that identifies the required environmental commitments, timeframe for compliance, roles and responsibilities of Key Personnel, procedures for environmental compliance, procedures to identify and correct non-compliance events, and procedures for emergency response. DDOT's goal is to ensure environmental compliance and no permit violations.

The DB Contractor shall provide DDOT with a complete Draft EMP prior to, or concurrent with, the first Preliminary Design Submittal for review and Comment. The Environmental Compliance Manager (ECM) shall be responsible for submitting the Draft EMP.

The DB Contractor shall provide DDOT with the Final EMP a minimum of 60 Calendar Days prior to the commencement of any construction activities.

The EMP shall consist of three parts:

1. Part I: Environmental Commitments
2. Part II: Environmental Personnel, Communications, and Training
3. Part III: Environmental Plans and Compliance Strategies

The Final EMP shall be stored in an electronic format and location easily accessible by DDOT. A hard copy of the EMP shall be maintained by the ECM at the DB Contractor's construction office or on-site at the Project. The EMP shall be reviewed and updated throughout the Project to reflect changes in design or planned/executed means and methods for Project delivery. The EMP review and update shall be in Track Change (or comparable) mode so a revision history is readily accessible. All proposed updates to the EMP shall be submitted to DDOT for review and Approval.

8.2.2 Environmental Commitments

The EMP shall clearly identify all of the environmental and community commitments for the Project. This will, at a minimum, include items from the FEIS (as necessary), the Supplemental FEIS, the Section 4(f) Determination, the Section 106 MOA, the ROD, the DB Contract, or any other permits, approvals, or agreements attained or necessary for the Project.

For each of the items listed above, a copy of the original document shall be attached to the EMP and included with the DDOT-accessible electronic copy of the EMP.

A matrix shall be developed that clearly describes all of the environmental commitments, who will be responsible for implementing each one, when they should be initiated and completed, who will be responsible for ensuring it is completed, what agency or entity requires approval of the Work, and the date it was completed and approved. A hardcopy updated version of the matrix, dated and with all the revisions since the previous version clearly highlighted, shall be provided to DDOT not less than biweekly.

8.2.3 Environmental Personnel, Communications, and Training

8.2.3.1 Environmental Compliance Manager

The Environmental Compliance Manager (ECM) shall be responsible for the overall environmental compliance for the Project and shall function as principal technical advisor and coordinator for environmental issues for the Project. The ECM shall report directly to the Design-Build Project Manager and shall have the authority to stop Work which is not being performed in accordance with the EMP. The EMP shall identify all critical roles, responsibilities, and authorities of the ECM. The EMP shall identify the roles and responsibilities of other staff and their roles in ensuring environmental compliance for the Project.

The ECM shall be onsite full time for the duration of the Project. If the DB Contractor replaces the ECM, the DB Contractor shall provide an equally or more qualified replacement, contingent upon DDOT's Approval. If during the course of the Contract DDOT finds that the ECM is not ensuring full environmental compliance with all permits, provisions, policies, and commitments, DDOT may require the replacement of the ECM.

The ECM must have at least five years of experience managing environmental compliance on active construction projects. At least three of those five years must be specific to transportation projects. The ECM must have knowledge of and experience with the environmental regulations and permits relevant to the Project, a good understanding of heavy construction techniques and issues of engineering design, and the experience and ability to read engineering plans. DDOT shall Approve the person proposed to be the ECM by the DB Contractor.

If the DB Contractor choses to have a Deputy ECM, that person shall have the same qualifications and DDOT Approval requirements as the ECM. The ECM shall also be responsible for the following:

1. Integrating with the design team during plan preparation and advising on avoiding and minimizing adverse effects to the natural environment and communities through design and construction means and methods.
2. Reviewing all engineering plans to ensure the Project's design accurately reflects environmental commitments and requirements.
3. Ensuring and providing documentation to DDOT that the design and construction activities comply with all environmental commitments agreed to in the environmental documents, permits, agreements, and approvals of the Project.

4. Acting as a liaison to DDOT, regulatory agencies, the design team, and the construction personnel (e.g., submitting reports, discussing changes to the Project, communicating compliance issues, and discussing non-compliance events).
5. Having the authority and means to bring the Project into compliance and/or stop Work if the Project is in violation of an environmental regulation or commitment.
6. Overseeing preparation, implementation, and review and updating of the EMP and associated documents.
7. Preparing or providing direct supervision to individuals assigned to prepare and implement the plans described in Section 8.2.4
8. Identifying when a non-compliance event is occurring, or has occurred, and communicating that immediately to DDOT.
9. Attending field visits conducted by regulatory agencies. Preparing and implementing a monitoring plan to ensure erosion/sedimentation and spill control devices and best management practices (BMPs) are effective and maintained.
10. Conducting field inspections on a weekly basis, at a minimum, and within 24 hours of each inclement weather event to ensure that environmental compliance measures and BMPs are meeting environmental requirements.

8.2.3.2 Environmental Communications Protocol

As part of the EMP, the ECM shall develop, document, and implement an Environmental Communications Protocol. The Environmental Communications Protocol shall describe the process to be used for compliance and non-compliance reporting; procedures for internal and external communications; and communications with DDOT.

The Environmental Communications Protocol shall include organizational charts that identify the DB Contractor's ECM and other personnel who will be assisting the ECM to ensure compliance with all permit conditions, performance standards, and environmental commitments. It shall specify environmental personnel roles and communication procedures that will be used for internal and external communications and communications with DDOT. In the event of changes to listed staff, the Environmental Communications Protocol shall be updated by the DB Contractor with current staff and contact information. Staff and process changes must be submitted to and Approved by DDOT.

8.2.3.3 Bi-Weekly Environmental Coordination Meetings

The DB Contractor's ECM shall organize and implement bi-weekly meetings conducted with DDOT during design and construction to ensure that the Project design meets the Project environmental commitments and to identify which construction elements such as locations, Work activities, weather conditions, and times of day present the greatest risk to the environment. The ECM shall prepare and distribute a written agenda at least two Business Days before each scheduled meeting. The environmental compliance matrix shall be a topic on the meeting agenda and comments shall be included in the meeting minutes. The frequency of these meetings may be increased to address specific issues within a particular timeframe.

DDOT shall be invited to attend these meetings. The ECM shall use the Commitments List and the construction schedules to identify environmental commitments pertaining to upcoming Work activities. The ECM shall verify that environmental commitments are implemented. When commitments are implemented, the EMP shall be updated to communicate the completion of an activity to DDOT.

8.2.3.4 Environmental Pre-Construction Meeting

The DB Contractor shall organize and lead an environmental pre-construction meeting with DDOT and the regulatory agencies a minimum of 60 Calendar Days prior to the planned start of construction. During the environmental pre-construction meeting, the DB Contractor shall discuss the EMP, including its environmental protection training program, to demonstrate how the DB Contractor shall meet permit requirements and fulfill environmental commitments. The DB Contractor Key Personnel shall have read each of the signed permits

required to complete this Project and review each permit with the agency representatives attending the pre-construction meeting. The DB Contractor shall discuss its construction schedule and identify the early construction elements.

8.2.3.5 Environmental Protection Training

The DB Contractor shall develop and implement an environmental protection training program for the DB Contractor's design and construction staff, quality control and quality assurance personnel, Subcontractors, and vendors. The DB Contractor shall be responsible for all Work, including Subcontracted and supplied Work, and associated personnel should their Work practices lead to a negative effect on the environment or result in a non-compliance event or permit violation. Therefore, the DB Contractor's training program shall orient employees, Subcontractors, and all other parties brought onto the Project to complete Work in support of the Project to the following activities prior to the start of Work:

1. Permit conditions, performance standards, environmental commitments, and environmental regulations related to the Project.
2. Overall importance of environmental issues.
3. Specific environmental sensitivities of the Project.
4. Erosion and sediment control procedures and certification.
5. Environmental compliance monitoring and reporting procedures.
6. Management of known or suspected contamination.
7. Unanticipated historic or archaeological discoveries or discovery of potential human remains.
8. Discovery of hazardous materials including unexploded ordinance.
9. Emergency response procedures.

The DB Contractor's ECM shall notify DDOT of environmental training sessions and invite DDOT to participate.

The DB Contractor shall provide training to those conducting water quality monitoring to ensure that monitoring is conducted in accordance with the District of Columbia Municipal Regulations (DCMR) (Title 21, Chapter 19, Water Quality Monitoring Regulations) protocols, Project-specific permit conditions, performance standards, and environmental commitments. This training shall include a field visit with DDOT environmental staff prior to construction to establish monitoring sites and to review monitoring and reporting procedures.

8.2.4 Environmental Plans and Strategies

8.2.4.1 Erosion and Sediment Control Plan

DDOT has adopted the D.C. Department of Health, Environmental Health Administration, Bureau of Environmental Quality Watershed Protection Division Stormwater Management Guidebook and Standards and Specifications for Soil Erosion and Sediment Control. All Work shall be performed in strict conformance with the requirements specified in the above referenced manuals, of Best Management Practices, and of Sections I (Temporary Structural Practices), and II (Permanent Structural Practices) as applicable of the DCRA Standards and Specifications, and in accordance with the erosion control regulations in the current Title 21 of the D.C. Municipal Regulations (DCMR 21, Chapter 5).

The DB Contractor shall prepare and implement an Erosion and Sediment Control (ESC) Plan that describes measures to minimize and contain erosion during construction activities. The DB Contractor shall identify a certified ESC Lead who shall develop, implement, inspect and update the ESC Plan. The ESC Plan shall be modified to reflect field-implemented changes and shall be kept up to date in the field office of the Project.

The ESC Plan (narrative and plan sheets) shall be prepared and implemented in accordance with DOEE's Standards and Specifications for Soil Erosion & Sediment Control and Section 618 of DDOT Standard Specifications for Highways and Structures. The Plan will also address offsite stormwater in accordance with the DDOT Standard Specifications. The DB Contractor's ESC Plan shall accommodate all Project-specific permit

conditions, performance standards, and environmental commitments. The DB Contractor shall develop and implement a Project-specific Stormwater Management Plan (SMP) as part of the ESC Plan since some designed Stormwater management facilities can be used as temporary ESC facilities and then converted back to permanent SWM structures. The Stormwater Management Plan shall address the minimum requirements identified in DOEE's Stormwater Management Guidebook. The General Retention Compliance Calculator and the Rainwater Harvesting Retention Calculator will be used to prepare the Stormwater Management Plan that is required as part of the permit process for regulated construction and redevelopment sites. The Stormwater Retention Credit (SRC) Calculator should be used to calculate the eligible retention capacity of any site that is applying to generate SRCs. The ESC Plan and the SWM plan shall be submitted to DDOT and DOEE for review and Approval a minimum of 60 Calendar Days prior to the commencement of planned construction activities.

The DB Contractor shall submit an ESC Plan to DDOT that addresses early construction elements as a part of the Preliminary Design Submittal. Updated ESC Plans, including a narrative and plan sheets, shall be submitted as part of the Final Design Submittal. Construction shall not proceed on any element of Work until the relevant ESC Plans, including narratives, are stamped "Released for Construction" and permit has been issued by the DOEE.

Erosion and Sediment Control Maintenance

The DB Contractor shall select, install, monitor, and maintain all erosion and sediment control BMPs. The DB Contractor shall ensure sediment controls remain in effective operating condition and are protected from activities that reduce their effectiveness during permit coverage. The DB Contractor shall not use experimental BMPs unless they have been Approved by DDOT prior to their use (e.g., chemically enhanced sand filtration systems). Monitoring activities and inspection protocols shall be described in the DB Contractor's EMP. Failure to install and/or repair ESC Plan measures will result in Project Work stoppage until environmental compliance is achieved.

The DB Contractor shall remove all temporary BMPs from the Right-of-Way (ROW), in accordance with Section 618 of the Standard Specifications for Highways and Structures and the Project-specific permit requirements.

8.2.4.2 Spill Prevention, Control, and Countermeasures Plan

The DB Contractor shall prepare a Project-specific Spill Prevention, Control, and Countermeasures (SPCC) Plan that will be used for the duration of the Project. The DB Contractor shall submit the Plan to DDOT as part of the EMP, in accordance with the requirements described in this Section. No onsite construction activities, including placing materials or equipment in staging or storage areas, may commence until DDOT has reviewed and approved the SPCC Plan for the Project.

The term "hazardous materials" as used in these Technical Provisions, is defined in Chapter 16 of the DDOT Environmental Manual. Occupational safety and health requirements may pertain to SPCC Plan implementation.

Implementation Requirements

The SPCC Plan shall be kept up to date by the DB Contractor throughout Project construction, and the written Plan will reflect actual site conditions and practices. The DB Contractor shall update the SPCC Plan in accordance with all permit requirements and environmental commitments and maintain a copy of the updated SPCC Plan on the Project site. All Project employees shall be trained in spill prevention and containment and shall know where the SPCC Plan and spill response kits are located and have immediate access to them.

If hazardous materials are encountered or spilled during construction, the DB Contractor shall control and contain the material until appropriate mitigation measures can be taken. The DB Contractor shall supply and maintain spill response kits of appropriate size for the Work being performed within close proximity to hazardous materials and equipment.

The Commitments List and the permits include a number of conditions regarding concrete Work that shall be addressed in the SPCC Plan.

SPCC Plan Element Requirements

The SPCC Plan shall contain all necessary information for managing accidental hazardous material spills and unanticipated discoveries of prior contamination. The SPCC Plan shall set forth the following information:

1. Responsible Personnel – Identify the name(s), title(s), and contact information for the personnel responsible for implementing and updating the Plan, including all spill responders.
2. Spill Reporting – List the names, telephone numbers, email addresses, and mailing addresses of the federal, District, and local agencies to be notified in the event of a spill.
3. Project Site Information – Describe the following items:
    a. Project Work
    b. Site location and boundaries
    c. Drainage pathways from the site
    d. Nearby waterways and sensitive areas and their distances from the site
4. Potential Spill Sources – Describe each of the following for all potentially hazardous materials brought or generated on-site (including materials used for equipment operation, refueling, maintenance, or cleaning):
    a. Name of material and its intended use
    b. Estimated maximum amount onsite at any one time
    c. Location(s) (including any equipment used below the ordinary high water line) where the material will be staged, used, and stored and the distance(s) from nearby waterways and sensitive areas
    d. Decontamination location and procedure for equipment that comes into contact with the material
    e. Disposal procedures
    f. Pre-existing contamination
    g. Any pre-existing contamination and contaminant sources (such as buried pipes or tanks) in the Project area that are described in the Contract Documents
    h. Equipment and work practices that will be used to prevent the release of contamination
5. Spill Prevention and Response Training – Describe how and when all personnel (including refueling contractors and Subcontractors) will be trained in spill prevention, containment and response in accordance with the Plan. Describe how and when all spill responders will be trained.
6. Spill Prevention – Describe the following items:
    a. Spill response kit contents and location(s)
    b. Security measures for potential spill sources
    c. Secondary containment practices and structures for hazardous materials
    d. Methods used to prevent stormwater from contacting hazardous materials
    e. Site inspection procedures and frequency
    f. Equipment and structure maintenance practices
    g. Daily inspection and cleanup procedures that ensure all equipment used below the ordinary high water line is free of all external petroleum-based products
    h. Refueling procedures for equipment that cannot be moved from below the ordinary high water line
7. Spill Response – Outline the response procedures the DB Contractor will follow for a spill of each contaminant identified to be within the Project Limits.
8. Project Site Map – Provide a map showing the locations of the following items:

a. Site location and boundaries
b. Site access roads
c. Drainage pathways from the site
d. Nearby waterways and sensitive areas
e. Hazardous materials, equipment, and decontamination areas
f. Pre-existing contamination or contaminant sources
g. Spill prevention and response equipment

9. Spill Report Forms – Provide a copy of the Spill Report form(s) that the DB Contractor will use in the event of a release or spill.

8.2.4.3 Air Quality and Fugitive Dust Control Plan

Fugitive dust shall be controlled by the DB Contractor in accordance with the DCR, Section 605 Control of Fugitive Dust (*D.C. Law 5-165, § 605, 32 DCR 565, 610*) and Project-specific commitments. The DB Contractor shall prepare and implement a Fugitive Dust Control Plan to reduce short-term construction impacts to air quality and submit it to DDOT for review and Approval as part of the EMP. The DB Contractor shall ensure that all air quality and fugitive dust requirements in the permits or other environmental documentation are incorporated into the Air Quality and Fugitive Dust Control Plan to control particulate matter.

8.2.4.4 Contaminated Water Management Plan

The DB Contractor shall develop a Project Contaminated Water Management Plan (CWMP) to address the management of contaminated water that is associated with excavated materials and dewatering of coffer dams or similar during construction within or adjacent to the Anacostia River. The CWMP shall include protocols for managing and disposing of contaminated media in accordance with applicable federal and local regulations and permit requirements. The DB Contractor's CWMP shall establish specific handling and disposal procedures and chains of responsibility to effectively manage contaminated media when encountered to minimize schedule delays and excessive costs.

At a minimum, the DB Contractor's CWMP shall include field screening methods, notification requirements, contaminated water containment, management, sampling and disposal methods and requirements. The CWMP shall also identify locations where contaminated water will be disposed.

The DB Contractor shall include copies of the required permits and environmental approvals to demonstrate that the listed disposal sites are in compliance with federal and local regulations. In addition, the CWMP shall identify a protocol requiring the DB Contractor to provide DDOT with copies of the shipping manifest or bill of lading indicating the amount of material hauled to disposal and bearing the disposal site operator's confirmation for receipt of material. The DB Contractor shall provide the CWMP to DDOT for review a minimum of 60 Calendar Days prior to the commencement of planned construction activities.

8.2.4.5 Concrete Containment, Collection and Disposal Plan

The DB Contractor shall prepare a Concrete Containment, Collection and Disposal Plan (CCDP) to minimize potential for adverse environmental effects associated with Project-related concrete Work and submit it to DDOT for review and Approval as part of the EMP. The Plan shall include, at a minimum, a description of all concrete-related activities and associated BMPs anticipated for use on this Project. The DB Contractor shall ensure that all concrete-related requirements in the permits or other environmental documentation are incorporated into the CCDP.

8.2.4.6 Rodent and Vermin Control Plan

The DB Contractor shall prepare a Rodent and Vermin Control Plan (RVCP) to minimize the potential migration of rodents and vermin from properties being impacted by the Project to adjacent properties. The Plan shall include, at a minimum, details on the procedures to be used for the extermination of rodents and vermin in buildings and other facilities to be demolished or impacted as part of this Project, procedures for the removal or relocation of

non-federally protected wildlife if encountered, and procedures for the removal or relocation of domesticated animals if encountered. The RVCP shall be submitted to DDOT for review and Comment a minimum of 60 Calendar Days prior to the commencement of planned construction activities.

8.2.4.7 Environmental Compliance, Monitoring, and Reporting

The DB Contractor, through rigorous monitoring and inspection, shall ensure that all regulations, approvals, and environmental performance specifications are being fulfilled. These monitoring and inspection processes will be presented in the EMP. At a minimum, the DB Contractor's process for monitoring environmental compliance and reporting shall be provided.

In addition, within 30 Calendar Days of Final Completion, the ECM shall conduct final monitoring inspections to assess and document compliance with permitting requirements and other environmental commitments provided to the DB Contractor in the Commitments List. Inspections should address the successes, failures, and remedial actions for site restoration.

8.2.4.8 Environmental Commitment Close-Out Report

The DB Contractor shall prepare an Environmental Commitment Close-Out Report to summarize overall compliance with permit conditions, performance standards, and environmental commitments. At a minimum, the DB Contractor's Environmental Commitment Close-Out Report shall include the following:

1. Fulfillment descriptions completed for all permit conditions, performance standards, and environmental commitments.
2. Commitments the DB Contractor was required to change and how it was fulfilled.
3. Commitments the DB Contractor was unable to fulfill and why.
4. Significant compliance deficiencies or incidents that may have occurred during the life of the Project and the corrective actions taken.
5. Future requirements for maintaining permanent BMPs, such as cleaning detention ponds.

The Environmental Commitment Close-Out Report shall be submitted for review within 30 Calendar Days of Final Completion.

8.3 Permits and Approvals

8.3.1 Permits and Approvals

Based on coordination with the regulatory agencies that has already occurred, DDOT has compiled a draft Permit and Approval List (Table 8-1) anticipated to be required for the Project. This list (Table 8-1) is not intended to be a comprehensive list of permits which may be required. Identifying and acquiring any additional permits required beyond this list are the sole responsibility of the DB Contractor. Some of the permits will be acquired by DDOT (schedule not determined) and others by the DB Contractor as outlined below. These permits and approvals are expected to contain additional conditions and commitments beyond those documented in the Supplemental FEIS and the ROD. These additional commitments shall also be included in the EMP and shall be required to be implemented by the DB Contractor. Geotechnical river borings were collected from the Anacostia River in the vicinity of the existing Frederick Douglass Memorial Bridge. The U.S. Army Corps of Engineers (USACE) and the DOEE issued a Nationwide Permit 6 and Water Quality Certification respectively in 2013 for the activity. A permit modification has been obtained allowing the successful Proposer access to the river to perform additional borings. In the event that the Technical Proposal no longer meets the commitments set forth in the approved environmental documentation for the Project (Supplemental FEIS, ROD, permits or other approvals), additional or revised environmental compliance activities (NEPA or Section 106 documentation, amended permits or approvals) may be required to be attained by the DB Contractor prior to construction. <u>Once DDOT has acquired the permits identified below, if there are modifications to those permits necessary due to design changes initiated or required by the DB Contractor, those permit modifications, revised conditions or commitments, their costs, and all associated schedule risk shall be the responsibility of the DB Contractor.</u>

TABLE 8-1
Permit and Approval List

Permit (Authorizing Agency)	Permittee
Section 404 Clean Water Act Permit (USACE)	DDOT
Section 402 National Pollution Discharge Elimination System (USEPA) – Notice of Intent	DDOT
Section 401 Certification (DOEE)	DDOT
Section 10 Rivers and Harbors Act Permit (USACE)	DDOT
Section 9 Rivers and Harbors Act Permit (USCG)	DDOT
Authorization for Work **ON** the Anacostia Park (NPS)	DDOT
Section 402 National Pollution Discharge Elimination System Permit (USEPA)	DB Contractor
Migratory Bird Treaty Act Permit (USFWS)	DB Contractor
Construction General Permit including Stormwater Pollution Prevention Plan (SWPPP) (USEPA)	DB Contractor
Section 408 (Major/Minor) Alteration/Modification to Existing Corps of Engineers Project (USACE) (If Needed)	DB Contractor
Municipal Separate Storm Sewer System (MS4) Permit (DOEE)	DB Contractor
Wastewater Discharge Permit or Authorization (if needed)	DB Contractor
Noise Variance (if needed)	DB Contractor
Other Permits as Required (ESC, SWM, Floodplain Management, etc.)	DB Contractor
FAA Notice of Proposed Construction or Alteration (FAA 7460)	DB Contractor

The DB Contractor shall follow the requirements of all permits obtained and necessary for the Project. The DB Contractor shall provide DDOT with timely notice of its intent to propose an alternative construction method or a design change that is inconsistent with a particular permit, environmental requirement, or commitment. DDOT will work with the DB Contractor to bring final detailed proposals (provided by the DB Contractor) to the regulatory agencies for permit modifications to obtain new permits or approvals as required. The DB Contractor shall be responsible for preparing any additional data and/or environmental documentation needed to modify or attain environmental approvals required for implementation of the DB Contractor's alternative proposal. Depending on the nature of the design change, some or all of the environmental approvals (including NEPA) may need to be revised prior to implementing the proposed change.

All costs and/or delays of any kind that result from the discovery of a previously unknown sensitive resource (e.g., streams, wetlands, archaeological resources) that is located outside of the proposed Work area for the Project as shown in the Conceptual Plans shall be the DB Contractor’s responsibility.

8.3.2 Other Agreements and Commitments

The environmental documents provided in Volume II, Book III, Contract Data and Reports, contain commitments for the completion of the Work. The DB Contractor shall ensure that these commitments are adhered to and implemented.

8.3.2.1 Construction Noise

The DB Contractor shall implement mitigation measures for temporary noise impacts associated with construction activities in accordance with the commitments in the Supplemental FEIS and ROD, as well as local requirements.

8.3.2.2 Hazardous Materials

The DB Contractor shall identify, inspect, test, notify, amend notifications as necessary, pay notification and disposal fees, and abate hazardous materials found on or within the Project site including, but not limited to: materials in buildings, soils, steam tunnels, Utilities, and any liquids or solids found onsite that are determined to be hazardous. The DB Contractor shall legally dispose of any and all hazardous materials which are to be abated. All costs for inspections, sampling, testing, notifications, permits and monitoring activities shall be included in the DB Contractor's Lump Sum Price.

All solid waste, hazardous waste, and hazardous materials shall be managed in accordance with all applicable federal, District, and local environmental regulations. The DB Contractor shall notify DDOT immediately of all instances involving the spill, discharge, dumping or any other releases or discovery of hazardous materials into the environment and shall provide all required notifications and response actions.

Areas of Known Contamination

Phase I and Phase II Environmental Site Assessments (ESAs) were conducted on seven parcels anticipated to be impacted by construction activities: Parcels SCS-037, SCS-041, SCS-042, SCS-072, SCS-074, SCS-075, and SCS-077. Contamination was found in the soil and groundwater at each of these parcels. Other contaminated locations may occur in the Project area, however, details about these sites are not known at this time. The Phase I and II ESAs were conducted at the above mentioned parcels to determine if contamination was present for the purpose of the Advanced Protective Buy activities. The investigations confirmed the presence of contamination but did not determine the nature or extent of contamination at any of these parcels. As such, it is possible that contamination may exist outside the boundaries of those areas identified in the Phase II ESA reports. Contamination may exist in other areas on these parcels and may also extend outside the boundary of the investigated parcels. The DB Contractor will be responsible for managing any contamination encountered during construction activities whether or not the contamination was previously identified.

The Phase II ESA reports detailing investigation activities and results for parcel noted here-in are included in the Contract Data and Reports (CDR).

A Preliminary Geotechnical Data Report (GDR) and a Preliminary Supplemental Geotechnical Data Report (SGDR) was prepared to present the results of geotechnical borings completed in the Anacostia River. Borings were advanced in the bed of the Anacostia River near the Frederick Douglass Memorial Bridge to assess subsurface conditions of the river and determine the environmental issues associated with handling river sediments generated by construction activities. Environmental testing of sediment samples from the soil borings indicated that contamination is present in the riverbed. The results of the GDR and SGDR are included in the CDR.

The Poplar Point site located along the east side of the Anacostia between the South Capitol Street Bridge, 11th Street Bridges, Anacostia Freeway (Interstate 295), and the Anacostia River, is also a known area of contamination. Additional information on Poplar Point is publicly available through a number of resources including the following:

1. http://www.nps.gov/nace/parkmgmt/poplarpointhistory.htm
2. http://www.nps.gov/nace/parkmgmt/upload/Poplar-Point-Final-RI-Scoping-Document.pdf

All costs associated with the removal and legal disposal of contaminated, non-hazardous material (including inspection, sampling, testing, permits if required and disposal fees) shall be included in the DB Contractor's Lump Sum Contract Price.

Asbestos Containing Materials/Lead-Based Paint Abatement

Prior to construction, the DB Contractor shall perform a thorough hazardous materials survey including, but not limited to, Asbestos Containing Materials/Lead-Based Paint (ACM/LBP) abatement on all structures (including bridges) that will be demolished. The costs for inspections, sampling and testing shall be included in the DB Contractor's Lump Sum Price. All structures shall be inspected, tested, and demolished according to DDOT requirements. Copies of all inspection results shall be provided to DDOT. The survey shall be conducted by an

independent Asbestos Inspector, abatement firm, and Project Monitor licensed by the DC Department of Consumer and Regulatory Affairs. The DB Contractor shall make all appropriate notifications as required by DDOT. The DB Contractor shall ensure notification is received by the appropriate agencies no later than 14 Calendar Days prior to the asbestos removal and/or demolition start date. The DB Contractor shall copy DDOT on all agency notifications.

The DB Contractor shall inspect, remove, and dispose of all hazardous materials including, but not limited to, ACM/LBP identified in the survey. The costs for removal and disposal of hazardous materials shall be recompensed through the Hazardous Materials Abatement Allowance. Prior to commencing asbestos-related Work, the DB Contractor shall provide DDOT with copies of approvals and notifications that have been given and/or obtained from the required jurisdictional agencies. The DB Contractor shall designate a Certified Asbestos Supervisor to personally supervise the asbestos removal and to ensure that the handling and removal of asbestos is accomplished by certified workers, pursuant to acceptable industry standards.

Lead-based paint sampling and analysis of the I-295 Bridge over Firth Sterling, the I-295 Bridge over Suitland Parkway, and the Frederick Douglass Memorial Bridge, indicate that lead-based paint is present on all three structures. Copies of the most recent bridge inspection reports have been included in the RIDs. Lead levels at these and other structures shall be taken into consideration during construction activities in consideration of worker health and safety.

Underground Storage Tank Removal

If the DB Contractor encounters an unknown Underground Storage Tank (UST) within the ROW, the DB Contractor shall decommission and remove the UST. If a UST is encountered, the DB Contractor shall follow all applicable rules and regulations associated with UST removal activities. Prior to regulatory notification, DB Contractor shall immediately notify DDOT in the event that a UST is encountered. This notification shall be made in a timely manner and shall not inhibit adherence to regulatory notification requirements. The costs to decommission and remove the UST shall be recompensed through the Hazardous Materials Abatement Allowance.

Additional Provisions

The DB Contractor shall legally dispose of construction waste material such as concrete or other harmful materials at approved sites in accordance with the applicable section of the Standard Specifications.

The DB Contractor shall meet all regulatory conditions imposed at contaminated properties (e.g., Consent Decree) associated with construction. These conditions should include, amongst others, ensuring that the surrounding properties and population are not exposed to the contaminants onsite. The DB Contractor shall ensure that the site is properly contained during construction so that contaminants do not migrate offsite and so that the health and safety of all on-site personnel are protected during Work at the site. The DB Contractor shall prepare a Hazardous Material Management Plan (HMMP) that will provide specific guidance for managing contaminated media that may be encountered within the ROW.

If unknown and unanticipated contamination is discovered during construction, the DB Contractor shall notify DDOT immediately and shall follow the HMMP Plans, as well as all appropriate regulations. This notification shall be made in a timely manner and shall not inhibit adherence to regulatory notification requirements.

Spill Prevention and Control Countermeasures Plan

An SPCC Plan as outlined in Section 8.2.4.3 shall be followed in the event that unknown contamination is encountered during construction activities.

Hazardous Materials Management Plan

The DB Contractor shall prepare an HMMP for the safe handling, storage, treatment and/or disposal of hazardous materials, whether encountered at or brought onto the Project site by the DB Contractor, encountered or brought onto the Project site by a third party, or otherwise, during the Term of the Agreement. The DB Contractor shall submit the final HMMP to DDOT for review and Approval in its good faith discretion, a minimum

of 60 Calendar Days prior to commencement of planned construction activities; Approval of the Plan by DDOT shall be a condition of commencement of construction Work.

The HMMP shall include procedures compliant with all applicable Environmental Laws and include, at a minimum:

1. For all chemicals to be used on the Project, the DB Contractor shall keep and update Material Safety Data Sheets (MSDS), per Occupational Safety and Health Administration (OSHA) requirements, for the Term of the Agreement.
2. Designated individuals responsible for implementation of the Plan.
3. Identification and contact information for designated responsible individuals.
4. Procedures for identifying and documenting potential contaminated sites which might impact Project development for both building and other site excavations.
5. Procedures for mitigation of known contaminated sites anticipated to impact construction.
6. Procedures for mitigation of unanticipated contaminated sites encountered during construction.
7. Procedures for mitigation of contamination during the operation and maintenance of the Project.
8. Procedures for developing a detailed Spill Response Plan for the Term of the Project.
9. Process for training personnel for responding to and mitigating incidents involving contamination or waste.
10. Provisions for appropriate storage and disposal of all waste encountered or disposed of on the Project for the Term of the Project.
11. Provision for a Hazardous Materials training module as an Element of the Environmental Protection Training Plan (EPTP) component of the Chemical Emergency Preparedness Plan (CEPP).
12. Procedures for preparing an Investigative Work Plan (IWP) and Site Investigative Report (SIR) in the event that hazardous materials are discovered during construction, operations or maintenance activities. Procedure for notifying DDOT within two hours of discovering hazardous materials.

The HMMP shall include provisions for making all onsite workers aware of and able to recognize the potential hazardous materials to which they may be exposed, limiting contractors and other site workers' exposure to hazardous materials, and providing all necessary personal protection equipment to protect workers from exposure. The HMMP shall require DB Contractor to provide any non-DB Contractor personnel who visit the Project with the appropriate personal protection equipment.

The HMMP shall require that all personnel of DB Contractor-related entities handling hazardous materials be trained and certified at least to the minimum requirements established under the current guidelines of OSHA 1910.120 (Hazardous Waste Operations and Emergency Response Standard [HAZWOPER] Training).

Further, the HMMP shall include procedures for ensuring that all applicable certifications, licenses, authorizations and governmental approvals for DB Contractor personnel handling hazardous materials are current and valid through the duration of the Work.

Investigative Work Plans and Site Investigation Reports

If hazardous materials are encountered within any of the Project ROW, Project Limits or additional properties used by the DB Contractor including, but not limited to, staging area, field office site, plant sites, borrow site, or stockpile location, the DB Contractor shall prepare an Investigation Work Plan (IWP) that addresses the methods, techniques, and analytical testing requirements to adequately characterize the nature and extent of the contaminated media (soil and/or groundwater or other materials) potentially impacting the Project. Examples would include, but not be limited to, structures slated for demolition, steam tunnel demolition/abandonment, dewatering of trench excavations, ground water discharges, etc. The DB Contractor shall locate and assess the likely source of contamination.

A Registered Professional Engineer and other qualified professionals, as needed, shall prepare the IWP and other necessary reports in accordance with applicable, relevant or appropriate District and federal laws and guidance.

Upon satisfactorily completing the investigative Work, the DB Contractor shall summarize the findings within a Site Investigation Report (SIR) and make recommendations regarding potential response actions necessary for Project development. The DB Contractor shall take hazardous materials contamination into account during all subsequent phases of Project development, including additional properties negotiation and acquisition, property management, design, and construction.

The SIR shall address the characterization of the impacted area; sampling efforts and findings; opportunities to avoid the contamination by adjusting the design; level of response action warranted if the contamination cannot be avoided; feasibility of initiating response actions prior to construction; pursuit of cost-reimbursement from responsible parties; and the need for completing response actions concurrent with construction and nature of any special specifications and provisions necessary for incorporation into the Project.

The DB Contractor may initiate a preventative or corrective action after DDOT review and Approval of the SIR from appropriate federal or District agencies.

Worker and Public Health and Safety

In addition to all other applicable District and federal regulations, the DB Contractor shall comply with the following regulations and agreements:

1. DDOT Standard Specifications for Highways and Structures, Section 619.04
2. DC Hazardous Waste Management laws and regulations (DCMR Title 20 Chapters 42 and 43)
3. DC Underground Storage Tank Regulations (DCMR Title 20 Chapters 55-70)
4. State Health and Safety Asbestos Regulations (DCMR Title 20 Chapter 8)
5. National Emission Standards for Hazardous Air Pollutants (NESHAP) (Code of Federal Regulations, Title 40, Volume 5, Parts 61 to 71)
6. General Occupational Health Standards (Chapter 296-62 WAC)

Unexploded Ordnance

Portions of the Project fall within the boundary of the Anacostia River and shoreline areas. The Washington Navy Yard (WNY) is located north of the Project area along the Anacostia River. Based on a 2010 Site Inspection (SI) report, DOEE and EPA concluded that unexploded ordnance (UXO) exists subsurface within the Anacostia River shorelines and adjacent shore areas, and possibly also extends into the Anacostia River and confluences of the Potomac River. The sources for these UXO were from 1847 - 1872 cannons and guns and experimental firings from the Former Experimental Battery at the WNY. The SI report presented findings for the investigative research regarding the activities of the WNY Former Experimental Battery. Figure 1-3, within the SI report, shows the location for the WNY Former Experimental Battery and its target firing fan for impact areas.

The DB Contractor shall prepare site-specific planning documents that will be used to provide Munitions and Explosives of Concern (MEC) support during the Project. For anomaly avoidance and construction activities, a MEC Support Work Plan will be prepared to supplement the Project Work Plan. The MEC Support Work Plan will be prepared in accordance with the overall Project and Contract requirements and should include as applicable:

1. Technical Management Plan
2. Explosives Management Plan (EMP)
3. Explosives Siting Plan (ESP)
4. Quality Control (QC) Plan
5. Appendix – Task Order SOW
6. Appendix – Site Maps

7. Appendix – Local POCs
8. Appendix – Accident Prevention Plan (APP)
9. Appendix – Minimum Separation Distance (MSD) Calculation Sheets
10. Appendix – UXO Technician Resumes or Name USACE CX UXO Control Numbers

The DB Contractor shall ensure that during construction activities, a UXO team shall be present consisting of a minimum of two UXO-qualified personnel (one UXO Technician III and one UXO Technician II). The UXO team may include additional UXO-qualified personnel, depending on site- and task-specific conditions/requirements. The number of UXO teams will vary depending upon the total level of effort required to support simultaneous construction activities. UXO-qualified persons are defined within Department of Defense Explosive Safety Board (DDESB) Technical Paper (TP) 18 Minimum Qualifications for Unexploded Ordnance Technicians.

Safety Considerations

Subsurface removal actions must be accomplished in strict accordance with the MEC Support Work Plan, including sub plans (e.g., APP, ESP, or Explosive Safety Submission (ESS)) and appendices.

Before undertaking any Work within the Project, the DB Contractor shall ensure that all personnel that will have cause to enter the Project area receive the appropriate Environmental and Safety/UXO Awareness Training. Training shall be provided by an industry-accredited entity in accordance with acceptable industry standards.

Prior to commencing subsurface removal activities, the UXO team will provide a general work and safety briefing to all onsite personnel. This briefing shall include, but not be limited to, the following:

1. Probable site hazards and site-specific explosive safety considerations.
2. Responsibilities and lines of authority for any military munitions response to MEC.
3. Emergency response procedures.
4. Exclusion zones, Explosive Safety Quantity and Distance Arcs for Potential Explosion Sites (PES).
5. Engineering Controls (Equipment Shielding, Barricades, Blast Over-pressure stand-off).

UXO Encounter

If UXO is encountered, all related entities shall immediately stop Work and move a safe distance away from the UXO. The UXO team will assess the condition of the MEC to determine if a disposal action is required. The UXO team will monitor all excavation activities in areas known or suspected to contain MEC. One member of the UXO team will be positioned to the rear and upwind of excavation equipment for continuous visual observation of activities. If the construction contractor unearths or otherwise encounters a military munitions with unknown filler, all excavation activities will be suspended and the USACE (Baltimore, MD) Center for Ordnance and Explosives expertise and DDOT shall be notified by the DB Contractor.

If a determination is made that the UXO item should be destroyed, procedures for UXO destruction should be followed as outlined in the MEC Support Work Plan and as can be found in TM 60A-1-1-31. Additional guidance on MEC destruction should be taken from USACE EP 1110-1-17 and USACE EP 385-1-97.

8.3.2.3 Wildlife and Habitats

The DB Contractor shall conduct a survey of potential Migratory Bird Treaty Act protected nesting areas prior to the start of any construction activities of the new FDMB Bridge or demolition of the existing structures (e.g., existing bridges) that may contain nests on or in the vicinity of the structures. The DB Contractor shall consult with the U.S. Fish and Wildlife Service (USFWS) prior to the start of any construction or preconstruction in-water activities to obtain direction on:

1. How often the existing nests should be monitored,
2. What construction conditions would be anticipated to cause harm,
3. When and how to remove inactive osprey and peregrine falcon nests,

4. What monitoring activities should occur after the nests are removed, and
5. Determine if any relocation or mitigation requirements are required.
6. The DB Contractor shall be responsible for any removal, relocation, or other mitigation as may be required by USFWS.

A list of the required activities and approval from USFWS on this plan shall be required a minimum of 60 Calendar Days prior to commencement of planned construction activities.

The DB Contractor shall adhere to the requirements in the Supplemental FEIS and ROD, defined by National Marine Fisheries Service (NMFS), by including techniques during construction to reduce potential impacts to fish species. The DB Contractor shall prepare a Draft In-Water Construction Plan to identify how the NMFS requirements will be met during construction. The draft In-Water Construction Plan shall be submitted for review and comment by DDOT and NMFS a minimum of 60 Calendar Days prior to the planned commencement of construction activities. The Final In-Water Construction Plan addressing all comments shall be provided for Review and Approval a minimum of 30 Calendar Days prior to the commencement of planned construction activities.

A time-of-year in-stream work restriction will be implemented to avoid impacts to anadromous fish from February 15 to June 15. The DB Contractor shall plan work accordingly.

8.3.2.4 Historic, Archaeological, and Cultural Preservation

A Section 106 MOA for the Project between DDOT, FHWA, the District of Columbia State Historic Preservation Office (DC SHPO), the National Capital Planning Commission (NCPC), and the Advisory Council on Historic Preservation (ACHP) has been prepared and was signed in 2011 and is included in Volume II, Book III, Contract Data and Reports. The MOA acknowledges the potential adverse effects to cultural resources and identifies specific mitigation measures for the Project based on the Preferred Alternative included in the Final EIS (March 2011).

As the design of the Project changed since the approval of the Final EIS, the MOA and Net Benefit Agreement was amended and restated concurrent with the Supplemental FEIS process. Both of these revised documents are attached to the ROD. The DB Contractor shall be responsible to execute all the conditions provided in the Amended and Restated MOA and the revised Net Benefit Agreement.

The DB is required to provide the materials, facilitate the required reviews, and amend any of the items identified in these agreements. If any modifications or amendments to the Amended and Restated MOA and/or the revised Net Benefit Agreement become necessary, the DB Contractor will provide all necessary information to DDOT and assist in coordination of the modification or amendment to the Amended and Restated MOA and/or the revised Net Benefit Agreement. DDOT will work with the consulting parties and the DB Contractor to pursue the modification or amendment. Any costs associated with such modification or amendment, including any new terms and/or mitigation, to the MOA or Net Benefit Agreement shall be the responsibility of the DB Contractor.

8.3.2.5 Tree Preservation

The DB Contractor shall make all reasonable efforts to preserve trees within the Project area. No trees greater than 6 inches diameter at breast height (DBH) may be removed for illumination, signage, or utility cabinets, without prior Approval from DDOT.

The DC Urban Forest Preservation Act and Special Tree Removal Permit regulations (DCMR 24-3700) restrict the removal of trees with diameters of 17.5 inches or greater. The DC Urban Forest Preservation Act requires a Special Tree Removal Permit for a person or nongovernmental agency that removes trees with a circumference of 55 inches (17.5 inches diameter) or more.

8.4 Submittals

The DB Contractor shall provide copies of all environmental correspondence, whether email or hard copy, and/or all documents to or from agencies, stakeholders, property owners, or other interested parties to DDOT as it occurs.

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 8-2
Environmental Deliverable Requirements Summary

Item	DDOT Review Type	Schedule	RFP Section
Draft Environmental Management Plan	Review and Comment	Prior to or concurrent with first Preliminary Design Submittal	8.2
Final Environmental Management Plan	Review and Approval	Minimum of 60 Calendar Days prior to the commencement of planned construction activities	8.2
Erosion and Sediment Control Plan	Review and Approval	Minimum of 60 Calendar Days prior to the commencement of planned construction activities	8.2
Spill Prevention, Control, and Countermeasures Plan	Review and Approval	Part of EMP	8.2
Air Quality and Fugitive Dust Control Plan	Review and Approval	Part of EMP	8.2
Contaminated Water Management Plan	Review and Comment	Minimum of 60 Calendar Days prior to the commencement of planned construction activities	8.2
Concrete Containment, Collection, and Disposal Plan	Review and Approval	Part of EMP	8.2
Rodent and Vermin Control Plan	Review and Comment	Minimum of 60 Calendar Days prior to the commencement of planned construction activities	8.2
Environmental Commitments Close-Out Report	Review and Comment	Within 30 Calendar Days of Final Completion	8.2
Permits obtained by DB Contractor	Submit	As obtained	8.3
Copies of Noise Variances	Submit	Minimum of 60 Calendar Days prior to commencement of planned construction activities	8.3
Asbestos-Containing Materials/Lead-Based Paint (ACM/LBP) Surveys	Submit	Minimum of 60 Calendar Days prior to planned abatement	8.3
Hazardous Materials Management Plan	Review and Approval	Minimum of 60 Calendar Days prior to the commencement of planned construction activities	8.3
Munitions and Explosives of Concern Support Work Plan	Submit	Minimum of 60 Calendar Days prior to commencement of planned construction activities	8.3

TABLE 8-2
Environmental Deliverable Requirements Summary

Item	DDOT Review Type	Schedule	RFP Section
USFWS correspondence and approval on activities necessary to monitor, remove, and mitigate for osprey or peregrine falcon nest impacts.	Submit	Minimum of 60 Calendar Days prior to commencement of planned construction activities	8.3
Draft In-water Construction Plan	Review and Comment	Minimum of 60 Days prior to the planned commencement of planned construction activities	8.3
Final In-Water Construction Plan	Review and Approval	Minimum of 30 Calendar Days prior to the commencement of planned construction activities	8.3
Materials required for review and approval per the Section 106 Amended and Restated MOA and the revised Net Benefit Agreement.	Review and Approval	Minimum of 60 Days prior to the commencement of planned construction activities	8.3
Copies of all environmental correspondence whether email or hard copy and/or documents to or from agencies, Stakeholders, property owners, or other interested parties	Submit	As it occurs	8.4

SECTION 9

Public Information and Outreach

9.1 General

The DB Contractor will provide information, graphics, maps, and other materials as needed to assist DDOT in their efforts to develop and maintain a consistent level of public communication that encourages broad public awareness and understanding of the Project and its role within the larger AWI Program. Providing clear, consistent, and proactive advance public information and effective outreach is an essential element to successful Project delivery. Public information consists of many communications and outreach tasks including:

1. Preparing for and attending public meetings and open houses;
2. Preparing initial draft responses to public inquiries and complaints;
3. Supporting DDOT's coordination with the media;
4. Preparing draft text, informational maps and graphics illustrating key Project design elements and construction phasing for traffic updates, press releases, web updates, and photo and video documentation; and
5. Coordinating with local jurisdictions, transit providers, emergency services, and supporting DDOT's outreach to local residents, businesses, neighborhood/community organizations, and elected officials, among others.

The DB Contractor shall work with DDOT to achieve the following public information and community relations goals:

1. Support the successful delivery of the Project;
2. Proactively provide information to and coordinate with the breadth of Stakeholders directly affected by construction while also being as responsive as possible to their questions, concerns and complaints as they arise throughout design and construction;
3. Educate the public about the safety, multimodal accessibility, community connectivity and environmental benefits and improvements associated with the Project;
4. Reinforce positive DDOT relationships with partner agencies, individuals, and community groups; and
5. Educate the public about the design, construction, benefits, impacts and mitigations strategies, among other aspects of the Project.

9.2 Performance Requirements

9.2.1 Partnering Communications Effort

Development and dissemination of public information for the Project requires the integration of resources and labor between DDOT and the DB Contractor. Partnering for effective communications will best educate and inform the public, establish expectations, and play a significant role in delivering a successful Project.

The DB Contractor shall coordinate construction closures and communications with other projects being constructed along and near the Project and within the region. As directed by DDOT, the DB Contractor shall also maintain ongoing communication with the appropriate DDOT staff, other District of Columbia agencies and major key Stakeholder within Wards 6 and 8 regarding upcoming construction activities and planned closures.

9.2.2 Communications Planning Workshop and Design and Construction Public Information Plan

The DB Contractor shall submit a Draft Design and Construction Public Information Plan (PIP) in accordance with this Section within 15 Calendar Days after Notice to Proceed 1 (NTP1). The content of the Final PIP will be agreed

to during a communications planning workshop held within 30 Calendar Days of submittal of the Draft PIP. The DB Contractor shall organize and implement the workshop to include participation of the DB Contractor's Project Manager, Deputy Project Manager, Construction Manager, Maintenance of Traffic Manager, and Construction Information Liaison, DDOT Project and communications staff. The DB Contractor shall work with DDOT to invite staff to attend this workshop. Each of these entities will have a role in successful Project communications. The communications planning workshop shall clarify and document those roles.

The DB Contractor shall develop a draft format and agenda for the workshop and submit it to DDOT for review at least 15 Calendar Days before the workshop. The location of the workshop shall be determined jointly by DDOT, the Project Management Team, and the DB Contractor. The DB Contractor shall reserve and pay for room rental fees, if applicable.

The Draft PIP shall serve as the basis for discussion at the workshop. The Draft PIP shall describe the DB Contractor and its Construction Information Liaison's plans and schedule forecast for providing information, graphics, photos, maps, video animation and other materials throughout design and construction and the critical role of the plan to the overall success of the Project. The Draft PIP shall also describe the DB Contractor's approach to public involvement, public outreach, communications goals, and significant public relations risks and benefits. The Final PIP codifies the framework by which the DB contractor will provide design and construction information and materials for dissemination by DDOT. The Final PIP shall also include performance-monitoring processes and tools to be used to assess the progress and measure the success of the DB Contractor and its Design-Construction Information Liaison (DCI Liaison) in supporting and assisting DDOT with overall communication and outreach efforts related to the Project and its role in DDOT's larger AWI Program.

9.2.3 DDOT's Communications Responsibilities

DDOT's Public Information Team will retain primary responsibility for the following communications tasks:

1. Communications regarding the environmental assessment concerning issues such as noise analysis and mitigation;
2. Coordination with DDOT executive and steering committees;
3. Communications related to issues such as Transit Demand Management, bicycle/pedestrian, and Context Sensitive Solutions;
4. Media relations activities, including distribution of traffic advisories, public meeting notices, press releases, press conferences and interviews;
5. Managing the Project pages on the AnacostiaWaterfront.org website;
6. Conducting major Project-related events such as a ground-breaking, open houses and ribbon-cuttings (The DB Contractor shall assist in these activities.);
7. Contacting elected officials;
8. Coordination with the DB Contractor's public information staff and monitoring Project communications to meet DDOT standards for form, graphic design, content, and messaging;
9. Scheduling and presenting Project updates with Advisory Neighborhood Commissions and other community organization meetings; and
10. Dissemination of informational materials such as fact sheets and brochures.

9.3 Design Requirements

9.3.1 DB Contractor's Role in Public Information Efforts

The DB Contractor shall identify and propose to DDOT ways of informing the public, individual property owners, and broader communities about design and construction activities, possible impacts and planned mitigation strategies. Such information shall be clear, consistent, and comprehensive; shall meet DDOT graphic and writing

standards; be in keeping with both the AWI Program Brand Guidelines and Style and Term Usage Guide; and shall be subject to ongoing review and use by DDOT in distribution.

The DB Contractor shall meet with DDOT weekly, or more often if deemed necessary by DDOT and the management team, to effectively inform the public or address questions or concerns that might arise about Project design and construction. In addition, the DB Contractor shall assist in preparations and staffing as requested by DDOT for various public and other Stakeholder organization meetings, including those listed in Section 9.3.3, and also participate in region-wide AWI Program communications meetings, as determined by DDOT.

9.3.2 DDOT

DDOT will serve as points of contact for scheduling, executing and conducting follow-up tasks for these activities. The DB Contractor shall assist DDOT by providing information, graphics and maps necessary to prepare for Project-related events such as public open houses and public meetings. It shall be DDOT's responsibility to reserve meeting venues for meetings intended for attendance by the general public.

9.3.3 Design-Construction Information Staff

In order to provide DDOT with the information, graphics, maps, photos, videos, animation and other materials necessary to successfully deliver the Project, the DB Contractor shall provide adequate staffing and resources from initial award of the Project through Final Acceptance of the Project. Such staff should include, but may not be limited to, a Design-Construction Information Liaison, graphic artists and video animators. Refer also to Section 15, Visual Quality Requirements.

9.3.3.1 Design-Construction Information Liaison and Alternate Staff

The DB Contractor shall assign a Design-Construction Information Liaison (DCI Liaison) and additional alternate and supplemental staff as needed to assist with and support the communications and outreach efforts by DDOT regarding the Project and its role in the larger AWI Program. These staff members will be responsible for proactively identifying issues and providing information to DDOT related to the DB Contractor's design and construction Work, possible impacts on local and regional Stakeholders, and also mitigation strategies. Throughout design and construction, the DCI Liaison shall consult with DDOT. The DCI Liaison shall work with DDOT to maintain public satisfaction with the Project.

The DCI Liaison shall be available at the Project construction office as necessary to provide DDOT with information and materials necessary to execute the communications task for the Project. Generally, the DCI Liaison shall be located on a full-time basis Monday through Friday between the hours of 8:30 a.m. and 5:00 p.m. in the Project Office, and either they or an Approved alternate DB Contractor staff member shall be accessible 24-hours-a-day, 7-days-a-week to provide information which DDOT may require in order to properly respond to media or other public inquiries. In addition, the DCI Liaison may be required to vary their work hours to assist DDOT in providing information or attending public meetings or special events, as well as during preparation and execution of major traffic shifts or other Project milestones.

The DCI Liaison shall have at least three years of recent experience coordinating information on public projects, preferably on large highway improvement projects. The DCI Liaison's professional experience shall include the following:

1. Writing traffic advisories, public notices, press releases, fact sheets and other informational handouts for the public, news media, social media and website in keeping with the Associated Press Stylebook;
2. Providing and presenting information to the public, news reporters, community groups, and others;
3. Knowledgeable and experienced with the utilization of social media platforms for delivery of information to the public;
4. Developing and producing maps, charts, graphs, diagrams, and other visual images using InDesign, Adobe Illustrator, Adobe Photoshop, and DDOT design templates to meet DDOT graphics standards;

5. Developing and implementing public involvement and community relations programs; and
6. Taking photographs and video.

The DCI Liaison shall have full access to all of the DB Contractor's Project details that may be relevant to the public, public agencies, emergency service providers, businesses, media, and other interested parties. Proactively and also upon request, the DCI Liaison shall share information with DDOT continually throughout the Project.

Within ten (10) Calendar Days of receiving Notice to Proceed (NTP1), the DB Contractor shall provide DDOT with the resume and contact information for the DCI Liaison, as well as designated alternate staff who shall be accessible 24-hours-a-day, 7-days-a-week to provide information to DDOT for use in responding to media inquiries, public complaints or emergency events. The DB Contractor also shall provide DDOT with a prioritized after-hours call list within 30 Calendar Days after NTP1, including office, mobile and home phone numbers, and e-mail addresses.

9.3.3.2 Graphic Artist, Animator, Videographer and Aerial Photography

Public interest in graphics, renderings and animation throughout design and construction of the Project will be heightened due to the Project's historic significance, its stated purpose of transforming the corridor from an urban freeway into a grand urban boulevard, and role in helping to create a world-class waterfront as part of the Anacostia Waterfront Initiative. As such, the DB Contractor must have graphic artists, animation and videography staff and resources necessary to proactively, and as requested, provide and periodically update Project graphics, renderings, animation, progress video and aerial photography as requested by DDOT until completion of the Project. Refer also to Section 15, Visual Quality Requirements, of these Technical Provisions.

9.3.4 DB Contractor Public Information Specifications

DB Contractor shall provide the following information and media for the Project.

9.3.4.1 Meetings

The DCI Liaison shall meet weekly with DDOT to regularly plan, coordinate, and evaluate the Project information and materials provided by the DB Contractor and assess their effectiveness in implementing the PIP goals and activities. Meetings may involve staff from the AWI Program and other DDOT projects from a program coordination point of view, as well as representatives from other construction projects within or adjacent to the Project area. The DCI Liaison shall provide minutes of meetings within seven Calendar Days of each meeting.

When there is active construction, the DCI Liaison shall also participate in bi-weekly region-wide conference call meetings to assist in the development and implementation of critical construction activities.

In addition, the DB Contractor also will participate in up to two region-wide AWI Program communications meetings per month, as determined by DDOT.

9.3.4.2 Weekly Progress Reports

The DB Contractor shall provide a brief Weekly Progress Report to DDOT. The report shall summarize progress made the previous week and include photos of the previous week's construction activities. The DB Contractor shall submit the Weekly Progress Report by e-mail every Monday to the designated DDOT Public Information Lead for the Project.

9.3.4.3 Three-Dimensional (3-D) Video Animation

The DB Contractor will provide DDOT with Approved three-dimensional video animation illustrating the entire Project prior to NTP2. Until Project completion, the DB Contractor may be required to provide up to two updates per year, reflecting refinements and changes to the Project design.

All such materials shall be provided in draft form to DDOT for review and comment prior to Approval for formal use being given.

9.3.4.4 Real-time Project Progress Video Streaming and Image Storage

The DB Contractor will provide real-time Project progress video streaming from two camera locations to be mutually agreed upon by the DB Contractor and DDOT prior to the issuance of NTP2. The streaming will include saved images every five (5) minutes that will be stored throughout Project construction and made available to DDOT upon request and at Project completion. DB Contractor shall provide password-protected accounts for ten (10) users to view the live stream and access archived images.

9.3.4.5 Aerial Project Progress Photography

Beginning at NTP2 and continuing on a quarterly basis until Final Acceptance, the DB Contractor will provide high-resolution aerial progress photographs of the Project. Photographs will be provided in both electronic format as well as five (5) printed satin-finished 3-foot by 4-foot copies suitable for wall mounting or table top review.

9.3.4.6 Renderings, Graphics, Maps and Other Illustrations

Prior to NTP2 and as requested by DDOT until Project completion, the DB Contractor will provide renderings, graphics, maps and other illustrations necessary to help the public understand Project design and construction. These include, but are not limited to, construction and maintenance of traffic phasing related to the existing and new Frederick Douglass Memorial Bridge, their approaches, reconstruction of related local streets, and the Interstate 295/Suitland Parkway Interchange.

All such materials shall be provided in draft form for review and comment prior to Approval for formal use being given.

9.4 Construction Requirements

9.4.1 Construction Information Dissemination

The DB Contractor shall collect, write, edit, and submit for review and Approval by DDOT design and construction information to be disseminated through DDOT's 511 Condition Acquisition and Reporting System, Highway Advisory Radio (HAR), and Variable Message Signs (VMS). The DB Contractor shall provide DDOT with reader-friendly, clear, and concise information. On a weekly basis, the DB Contractor shall provide to the designated DDOT traffic engineer, the DDOT Project Manager, a 3-week look-ahead schedule regarding planned and current construction activities such as location, estimated duration of activity, type of Work being performed, physical impacts (e.g., lane closures, narrowed lanes, and commercial vehicle restrictions), mitigation strategies and planned construction detours.

9.4.1.1 Construction Schedule

One month prior to commencement of construction in any area of the Project, the DB Contractor shall provide DDOT with information and materials necessary to educate the public about the construction activities, schedule, potential impacts and mitigation strategies. While as previously noted, the DB Contractor shall provide construction updates to DDOT on a weekly basis, the DB Contractor shall deliver additional updates if construction and traffic impacts change or if DDOT requests additional updates. These updates shall include the upcoming week's planned closures, detours, Project status, and other information relevant to the public.

Every Tuesday by 11:00 a.m., the DB Contractor shall submit a completed DDOT Construction Updates form showing all requested lane closures for the coming week to DDOT for review and Approval. At that time, the DB Contractor's DCI Liaison also shall provide a draft traffic advisory of requested closures that upon revision and Approval by noon on Thursdays can be distributed via e-mail by DDOT and posted on the AnacostiaWaterfront.org website.

9.4.2 Crisis Communications Plan

As part of the Draft PIP, the DB Contractor shall prepare and submit for review and Approval by DDOT a Crisis Communications Plan (emergency response protocol) for responding to emergencies and incidents during the Project, including protocols necessary to inform the general public, other key Stakeholders, and other District agencies and officials. The DB Contractor shall coordinate this approach with the DB Contractor's overall Traffic

Management Plan and Traffic Incident Management Plan (see Section 22, Maintenance of Traffic). The DB Contractor's Crisis Communications Plan shall, at a minimum, address the following:

1. Communications approaches to emergencies such as fire, gas line strikes, injured employees, auto accidents in a Work Zone, and environmental spills.
2. Staff designated to respond to the emergency.
3. Cause of specific disruptions such as construction-related disruptions and weather.
4. Actions that could be taken to mitigate the crisis.
5. Procedures for notifying DDOT, the public, and the DB Contractor.
6. Any corrective procedures that will be put in place as a result of the crisis.
7. Procedures for referring victims of auto damage due to construction to DDOT's risk management department.

In the event of a crisis, the DB Contractor shall summarize the emergency protocol used in an Emergency Incident Report and submit that Report to DDOT within three Calendar Days of the conclusion of the crisis.

Within 30 Calendar Days of Contract execution, the DB Contractor shall schedule a crisis communications "No Surprises" workshop with DDOT to discuss protocols and potential emergency situations. Staff from the DDOT and associated agencies may participate in the workshop. Follow-up workshops will be held annually and following any crisis situations.

9.4.2.1 Dissemination of Emergency Information

As part of the Crisis Communications Plan, the DB Contractor shall establish and manage an emergency response call list. All appropriate personnel shall be included on the call list for immediate response in the event of an emergency. The call list shall be divided into areas of expertise, so the proper people are contacted for specific emergency situations.

The following DDOT personnel shall be included on the call list for notification of all emergencies:

1. Contract Officer
2. Contract Administrator
3. DDOT Chief Engineer
4. DDOT Project Manager
5. DDOT Construction Manager
6. DDOT Project Engineers
7. DDOT Office of Communications
8. Traffic Safety Management Center

The following DB Contractor personnel shall be included on the call list for notification of all emergencies:

1. Project Manager
2. Construction Manager
3. Maintenance of Traffic Manager
4. Project Safety Manager
5. DCI Liaison

The personnel on the final call list shall be agreed upon at the communications planning workshop between DDOT and the DB Contractor. During emergencies, the DB Contractor shall provide prompt information and assistance both proactively and as requested by DDOT. However, only Approved DDOT personnel may share official information and respond to inquiries from the media and general public during emergencies.

9.4.3 Coordination with Traffic Management Plan

The DB Contractor's DCI Liaison shall coordinate with Project staff to prepare construction traffic information review, Approval and dissemination by DDOT to the public and other affected parties. However, the DB Contractor shall be responsible for coordinating traffic communications with neighboring construction projects as part of an established coordinated communications plan. Refer to Section 22 for additional traffic coordination requirements.

9.4.3.1 Maintenance of Traffic and Access

The DB Contractor shall provide maintenance of traffic and access information for the entire Project to DDOT for review, Approval and dissemination to commuters, residents, and businesses who are affected, at least two weeks prior to any proposed revision to access or temporary lane closures during off-peak traffic hours in an area affected. However, the DB Contractor will provide a complete informational package at least one month in advance for any proposed peak hour, continuous or full closures of portions of the Interstate Highway System and District roadways.

Notifications shall include the following:

1. Purpose of the change
2. Area affected and dates of impact
3. Alternate routes and detours
4. A contact person for further information

9.4.3.2 Traffic Conditions

The DB Contractor shall inform the Traffic Systems Management Center and DDOT Project personnel of any unusual traffic conditions, such as road obstructions, within 15 minutes of detection.

9.4.3.3 Commercial Vehicle Access and Restriction Information

Fourteen Calendar Days prior to any activity taking place that may restrict or impede the movement of commercial vehicles due to reduced lane widths, reduced height clearances, or lower weight limits, the DB Contractor shall coordinate and provide the following agencies with a description, start date, and end date of the event:

1. DC Metropolitan Police
2. DDOT's Program Manager, Project Manager and Construction Manager
3. Greater Washington Trucking Association
4. Maryland State Highway Administration
5. Washington Metropolitan Area Transit Authority
6. National Motor Freight Traffic Association

9.4.3.4 Emergency Vehicle Access

The DB Contractor shall develop a protocol for communicating information to the emergency service providers regarding access to the Project area for emergency vehicles. This protocol shall be included in the PIP.

9.4.3.5 Bicycle, Pedestrian, and Handicapped Mobility Access

The DB Contractor shall clearly define and communicate to DDOT two weeks in advance any proposed plans for maintaining or providing alternate access routes for bicycles, pedestrians, and handicapped persons, including alternate routes and detours throughout construction. Pedestrian and handicapped access must be in accordance with the DDOT's specifications.

9.4.4 Methods and Tools for Dissemination of Information

9.4.4.1 Highway Advisory Radio

The DB Contractor shall provide timely and accurate information daily or as requested by DDOT for HAR messages. The DB Contractor shall prepare draft messages for advance notice of traffic restrictions due to planned construction activities for DDOT to record.

9.4.4.2 Variable Message Signs

The DB Contractor shall prepare draft messages for advance notice of traffic restrictions related to planned construction activities.

9.4.4.3 Project Identification Signs

The DB Contractor shall install advance signing in accordance with Section 22.

9.4.4.4 Telephone Hotline

DDOT will establish and manage a telephone hotline for the Project. The DB Contractor shall provide material for daily recorded updates of current construction impacts, traffic impacts, and Project progress. When requested by DDOT, the DB Contractor shall respond to any inquiries from the hotline within 24 hours. The DB Contractor shall answer and respond to after-hours calls forwarded from the hotline. The DB Contractor shall ensure that all staff responding to inquiries are trained, friendly, responsive, and informed about construction and traffic impacts.

The DB Contractor shall be responsible for compiling and summarizing questions and comments referred by DDOT from the general public. This includes tracking responses to callers, analyzing and reporting trends, and providing a weekly status report file to DDOT.

9.4.4.5 Project Training, Employment and Contracting Opportunities Website

The DB Contractor will establish, regularly update, and maintain a Training, Employment and Contracting Opportunities website, subject to review and comment by DDOT. While separate and external to the AnacostiaWaterfront.org website and fully the responsibility of the DB Contractor, this Opportunities site will be designed to appear as an extension the AWI Program website. This Opportunities website will be used by the DB Contractor to publicize in advance the potential work opportunities for individuals, disadvantaged businesses and other Subcontractors on the Project. The website shall include information and links to established DDOT and AWI Program information about how to qualify for such opportunities. In addition, the Opportunities website shall include a name, phone number and e-mail address to be used as a point of contact for more information and questions. The website must also regularly include advance notification of the DB Contractor's planned outreach activities, events, meetings, related training, employment and contracting opportunities. This website shall be established within 30 Calendar Days after the issuance of Notice to Proceed 1 (NTP1).

9.4.4.6 Collateral Materials

In addition to the dissemination of construction information discussed in this Section, the DB Contractor shall produce and submit to DDOT for Approval and direction on disseminate methods, written materials regarding construction issues specific to the Project, which may include, but are not limited to, schedule, noise, lights, and fugitive dust. Materials shall be made available to the public as directed through U.S. mail, e-mail, the AnacostiaWaterfront.org website, and at individual and group meetings. DDOT and the DB Contractor shall determine jointly when materials shall be distributed to businesses and neighborhoods; the size of the distribution area; and the content of the materials.

9.4.4.7 Correspondence and E-mail

As needed, DDOT will forward e-mail, letters, notification of phone calls and other forms of correspondence from the public regarding design and construction issues to the DB Contractor for information or draft responses. The DB Contractor shall provide requested information and draft responses within 24 hours of being requested by DDOT and the AWI Program Management Team.

9.4.4.8 Open Houses, Special Events, Public Meetings, and Speaking Engagements

The DB Contractor shall assist DDOT in convening at least one public open house per year to inform the public of the Project's status and to answer questions related to the Project. Alternate approaches to open houses that actively engage and inform as many people as possible may also held.

The DB Contractor shall provide all information and informational materials requested by DDOT to assist with outreach to community groups including, but not limited to, local jurisdictions, neighborhoods, businesses, truckers, shippers, transit agencies, employee transportation coordinators, tribes, and environmental groups. The DB Contractor shall be available to attend public and community meetings or to provide information for presentations at DDOT's request. As requested, the DB Contractor may attend at least ten public or community meetings per year for the duration of the Contract. The DB Contractor shall support DDOT by helping staff with an opening event, such as a groundbreaking, and a ribbon cutting or dedication ceremony when the Project is complete. As requested, the DB Contractor shall attend booths at summer festivals in accordance with a pre-determined schedule provided by DDOT. DDOT will provide the booths, and the DB Contractor shall provide information, staffing and displays.

9.4.4.9 Photographs and Video

The DB Contractor shall document construction, public outreach, and other Project-related events using photographs and video. The DB Contractor shall create and manage a multi-media library to include photographic and video updates of Project activities. The library shall be functional prior to the start of any construction activities being performed. The library's documentation shall be accessible at all times by DDOT and its contents may be used by DDOT for public communications, media relations, and DDOT archival purposes. The DB Contractor shall comply with the following standards:

1. Update library files with new photos and videos at a minimum of a bi-weekly basis.
2. The library shall be able to track and file photos and videos using the Project's documentation system.

9.4.4.10 Events

The DB Contractor shall coordinate, communicate, and provide a plan to minimize construction impacts for public events held by public and private entities. The DB Contractor shall develop and maintain a list of public events. Examples of public events include, but are not limited to, Memorial Day events; July 4th festivities; and picnics and parades in communities along the Project corridor. The DB Contractor shall notify DDOT of planned events that may be affected by construction 14 Calendar Days before the event takes place and submit weekly updates to the special-events listing.

9.4.4.11 Media Relations

Although media relations are the responsibility of DDOT, as requested, the DB Contractor shall make requested staff available to assist DDOT with preparing information and participating in media interviews or other media information support activities.

The DB Contractor shall forward to DDOT all media requests for information and interviews. Only DDOT will serve as the media spokesperson. The DB Contractor shall provide DDOT with information and access to key Project staff for press interviews, as requested.

At the request of DDOT, the DB Contractor shall provide access and assist with tours of the Project site for media or local government officials or DDOT management. The DB Contractor shall provide information and materials that meet local broadcast and print media requirements and deadlines. However, only DDOT may release information to the news media.

9.4.5 Utility Shut-Offs

Upon review and Approval by DDOT, the DB Contractor shall conduct regular communication with residents and businesses affected by Utility shut-offs to mitigate the impacts of Utility disruptions. Upon Approval, the DB Contractor shall contact and provide written notification to all residents and businesses affected 48 hours in advance of a Utility shut-off and shall maintain a record of each notification. Notices shall indicate the purpose

and expected duration of the outage and provide information indicating how those affected by the outage can contact the DB Contractor. Notices shall meet DDOT communications style and be pre-Approved by DDOT before dissemination. Such notices may also be provided by DDOT.

In the event of an emergency involving a Utility shutoff, the DB Contractor shall notify the Utility Owner in accordance with Utility company standards and local emergency services.

9.4.6 Construction Traffic Mitigation

The DB Contractor shall assist DDOT on opportunities to work with transportation coordinators, transit agencies, local chambers of commerce, sports teams, retail centers, businesses, communities, and others, to encourage more efficient use of highways and roadways. The DB Contractor shall provide information and materials for these entities and to keep them informed of construction activities. The DB Contractor shall participate in meetings with DDOT, as required.

9.4.7 Quality Assurance and Quality Control

The DB Contractor shall maintain a high level of quality control for all public information and materials submitted to DDOT. The DB Contractor shall be bound by the provisions of the Quality Management Plan for all public information. The PIP shall outline a process for managing review and resolution of comments for all communications materials, both within the DB Contractor's team and with DDOT. DDOT will provide the DB Contractor with periodic feedback and suggestions for improvement. The DB Contractor shall be responsible for implementing any changes required by DDOT.

9.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 9-1
Public Information Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Draft Public Information Plan (PIP)	Review and Comment	Within 15 Calendar Days after issuance of NTP1	9.2.2
Format and Agenda for Communications Planning Workshop	Review and Comment	Within 30 Calendar Days after issuance of NTP1	9.2.2
Final Public Information Plan (PIP)	Review and Approve	Within 45 Calendar Days after issuance of NTP1 and as a condition for issuance of NTP2	9.2.2
Prioritized after-hours call list	Submit	Within 30 Calendar Days after issuance of NTP1 and as a condition for issuance of NTP2	9.3.3.1
Progress Reports	Submit	Weekly	9.3.4.2
Three-dimensional (3-D) Video Animation	Submit	At initiation of construction activities and bi-annually after	9.3.4.3
Real-time Project Progress Video Streaming and Image Storage	On going	Is established prior to issuance of NTP2	9.3.4.4
Aerial Project Progress Photographs	Submit	Beginning at issuance of NTP2 and quarterly until Final Acceptance	9.3.4.5
Crisis Communication	Review and Comment	Within 15 Calendar Days after issuance of NTP1 and as a condition for issuance of NTP2	9.4.2
Project Training, Employment, and Contracting Opportunities Website	Review and Comment	Within 30 Calendar Days after issuance of NTP1 and updated as needed on a regular basis	9.4.4.5

SECTION 10

Utilities

10.1 General

The Design-Build (DB) Contractor shall conduct all Utility Work in accordance with the Contract Documents, the Memorandum of Agreements (MOAs), and Memorandums of Understanding. This Section applies to existing and proposed underground and overhead Utilities, except stormwater facilities and District Department of Transportation (DDOT) facilities. DDOT facilities including, but not limited to, traffic signals, street lighting, variable message signs, video and video detection systems, and Intelligent Transportation Systems, are included elsewhere in these Technical Provisions. Utilities potentially affected by the Project are found in the Potential Utility Conflict Matrix and include the following types of Utilities: telecom, electric, gas, cable television, water, sanitary, combined sewer, storm sewer and fuel lines.

DDOT has identified the following types of potential Utility Work:

1. Utility conflicts that require relocation to accommodate the Project, for which construction will be started by the Utility Company in advance of the Project;
2. Utility conflicts that require relocation to accommodate the Project, and will be constructed by the Utility Company or DB Contractor during the Project;
3. Utilities with conflict points, which the DB Contractor may be able to eliminate by designing and building to avoid these conflict points;
4. Utilities that the DB Contractor shall leave in place by protecting the Utility.
5. Utilities that can be abandoned.

The potential Utility conflicts that DDOT has identified are included in the Potential Utility Conflict Matrix. The DB Contractor and the Utility Company shall consider all options in the design process to minimize Utility conflicts and relocations.

Additional Relocations may be necessary to construct the Project. The DB Contractor shall be responsible for locating all Utilities and determining what, if any, additional relocations will be required and shall work with Utility Companies to design and construct such relocations in compliance with the Contract.

No utility shall be relocated to within the interior limits of the East or West Oval. Existing utilities located within the proposed interior limits of the East or West Oval which require relocation, shall be relocated outside the interior limits of the Ovals. Existing utilities within the proposed limits of the interior of the East or West Oval which are not impacted by the Project or which are to be protected in place, may remain in their current location. The adjustment of existing manhole frame and covers will not be considered a utility relocation. The proposed interior of the East and West Ovals is defined as: from face of curb to face of curb of the inner most curb sections of each Oval.

Prior to submitting requests for payment related to the design and construction/relocation of each water, sanitary sewer, and combined sewer system, the DB Contractor shall provide to DDOT a detailed cost breakdown for DDOT's information.

10.2 Performance Requirements

10.2.1 Utility Work

10.2.1.1 Utility Work Included in DB Contractor's Work

The DB Contractor's Utility Work shall include:

1. All Work related to the design and construction of water, sanitary sewer, combined sewer systems, and storm sewer systems.

2. Storm sewer systems are specified in Section 14, Hydrology and Hydraulics, of these Technical Provisions;
3. Design and/or construction of Utility Relocations other than water, sanitary sewer, combined sewer, and storm drainage/stormwater management are the individual Utilities responsibility to relocate when conflicts are identified. It is the DB Contractor's responsibility to identify conflicts and coordinate with the individual Utilities to achieve conflict resolution;
4. The costs of all work related to the coordination, design, and construction of any utility relocation within interstate right-of-way and any utility located outside of public right of way shall be included in the DB Contractor's Lump Sum Price;
5. Design and construction of any Utility Relocations that are solely for the convenience of the DB Contractor, including Relocations to facilitate the DB Contractor's sequence of construction, changes to the design, or other reasons; and
6. For utilities whose relocations were initiated in advance of the Project, design and construction of any additional Relocations of the same Utilities caused by the DB Contractor.

The following shall be the DB Contractor's obligations with each affected Utility, regardless of who is performing the Relocation, and shall constitute part of the DB Contractor's Work:

1. Performance of all tasks, obligations, and duties identified to be completed by the DB Contractor in the MOAs negotiated with each Utility as needed, except those that by their nature can only be provided by DDOT, such as Approvals, issuing permits, and so on;
2. Performance of all protection-in-place, removal, abandonment (including cooperation with Utility Companies when required by the abandonment), and any incidental Work required to complete the Utility Work. Specific requirements for protection-in-place of DC Water effluent trunk sewers are included in Section 6.3.8.1 of the Technical Provisions;
3. Identification and verification of all existing Utilities affected by the Project, whether or not the existing Utility was indicated in the Potential Utility Conflict Matrix. This may include test pitting or other means of physically locating the Utility, if necessary;
4. Pre- and post-construction condition inspection, monitoring and/or survey within DDOT's right-of-way (ROW) and construction/utility easements of all existing Utilities exposed and new Utilities installed during construction of the Project. Condition inspection, monitoring and surveying shall be performed in accordance with each Utility Company's requirements. The survey shall include video (including closed-circuit television inspection where requested by the Utility Company or DDOT) or photographic documentation of existing conditions of buildings, walls, tunnels, Utilities and foundations. Specific requirements for inspection, monitoring, and/or survey are included in Section 6.2.4 of the Technical Provisions;
5. Coordination and verification of the schedule for all Utility Work to be performed within the Project Limits by the Utility Companies, including the Utility Companies' routine maintenance not associated with the Project;
6. Coordination of traffic control for all Work to be performed within the Project Limits by the Utility Companies, including the Utility Companies' routine maintenance not associated with the Project;
7. Provision of survey coordinates on the Utility Relocation Design (URD) for all Utilities to be constructed or modified as a part of the Project, and field surveying for construction of all Utilities affected by the Project;
8. All clearing and grubbing required for all Utilities affected by the Project, including tree removals and the replacement of any trees removed to facilitate Utility Relocation or Utility construction for the Project that are in areas not otherwise covered by the landscaping plans to be implemented under the Project;
9. Verification that the design and construction of all Relocations of affected and existing Utilities are compatible with the Project;
10. Preparation, negotiation, and execution of URD Agreements with each Utility Company;

11. Maintenance of a Utility Tracking Log that updates and expands the DDOT-supplied Potential Utility Conflict Matrix; and
12. If Utilities are presently within existing railroad ROW, responsibility for all required coordination with the railroad to make the necessary Utility modifications. This shall include adherence to each respective railroad's practices and specifications.

In considering the locations and potential impacts of Utility Work on the Project, the DB Contractor shall avoid Utility Relocations to the extent practicable. The DB Contractor shall minimize the potential costs and delays related to Utility Work. Any Utility installed in a new location within the ROW shall be installed in a location as proposed by the DB Contractor based on coordination with all affected parties and subject to issuance of a permit by DDOT.

10.2.1.2 Relocations Not included in DB Contractor's Work

Each Utility Company may negotiate a separate contract with the DB Contractor for the design and performance of Utility Relocations not included in the DB Contractor's Utility Work as defined in Section 10.2.1.1. The DB Contractor shall notify DDOT of any separate contracts with Utility Companies and provide copies of the agreements. If the DB Contractor enters into a separate contract with a Utility Company, the DB Contractor will be responsible for any cost impacts and delays to the Project related to such agreements.

10.2.1.3 Maintenance and Care during Construction

The DB Contractor shall carry out all Work affecting Utilities carefully and skillfully and shall support, secure, and exercise care with respect to all Utilities to avoid damaging them.

The DB Contractor shall ensure continuity of all existing Utility services to all users, except when a Utility Company concludes that temporary interruption is necessary and acceptable. The DB Contractor shall cooperate with and provide all Utilities with sufficient advance notice when the Utilities decide that temporary outage is required. The DB Contractor is advised that outages for Utilities within the Project may require in excess of one (1) year advanced notice.

10.2.1.4 Government Approvals and Other Permits

The DB Contractor shall obtain or verify that the Utility Owner obtains all Governmental Approvals and any other clearances, permits, approvals, and agreements necessary for Utility Work before starting or authorizing the start of any construction. The DB Contractor shall verify that the Work performed (whether by the DB Contractor or by the Utility) complies with the requirements of Governmental Approvals and other clearances, permits, approvals, and agreements. If not in compliance, the DB Contractor shall notify DDOT and the Utility Company in writing.

10.2.1.5 Access to Existing Utilities

Any authorized agent of DDOT, a Utility Company, or a Utility Company's representative may enter the ROW to inspect, repair, maintain, rearrange, alter, or connect Utility facilities and equipment. The DB Contractor shall cooperate with such efforts and shall avoid creating delays or hindrances to the performance of such Work.

If the DB Contractor believes, or a Utility Company requests, that a Utility Company must be onsite to protect its facility, the DB Contractor shall provide at least three Calendar Days advance notice to the Utility Company before starting the Work. If the DB Contractor's investigations necessitate access to Utility manholes or other facilities, the DB Contractor must contact the Utility to coordinate access. The DB Contractor shall be responsible for any reimbursement to the Utility for such manhole inspection activities.

10.2.1.6 Best Management Practices and Temporary Erosion and Sedimentation Control

Regardless of who performs or pays for any Relocation, the DB Contractor shall verify that appropriate best management practices and temporary erosion and sedimentation control measures are implemented and maintained in the performance of Utility Work.

10.2.2 Relocation Agreements and Easements

10.2.2.1 Utility Relocation Design Agreements

When the DB Contractor has achieved a sufficient level of design to identify and confirm Utility conflict(s), the DB Contractor shall coordinate with each Utility Company to develop a proposed resolution and pertinent information required for the URD. The DB Contractor and the Utility Company will define, negotiate, and order the performance by the responsible party of the Relocation at each specific URD location. The DB Contractor and the Utility Company will enter into URD Agreements that will specify the Relocations to be performed and describe applicable terms and conditions for such Relocations. The DB Contractor shall assign a unique tracking number to each URD Agreement which shall be shown on all related correspondence and shall be used for tracking purposes for related Relocation activities. The tracking number shall be linked to the Utility Tracking Log.

DDOT will cooperate with the DB Contractor in the URD Agreement process, including attendance at meetings and negotiation sessions; however, DDOT will not be required to incur any other costs or be responsible for delays associated with the process.

Each negotiation shall include DB Contractor-generated Project design plans (used to identify the conflict) and any applicable design details. The DB Contractor shall also incorporate any DDOT permits, ROW documents, and/or Utility easement documents for the construction of an affected Utility at a particular location(s) into the URD Agreement.

10.2.2.2 Easements

The Utility Companies are responsible for acquiring any permanent Utility easements necessary for Relocations associated with the Project. The DB Contractor shall assist the Utility Companies to define the limits of any necessary easements based on the design plans and shall provide the Utility Companies with all necessary Design Documentation required for easement acquisition. The DB Contractor shall verify that the Utility Company has obtained these easements. In the event the DB Contractor finds that the Utility Company does not have the required easements, the DB Contractor shall immediately notify DDOT and the Utility Company in writing.

10.2.3 Review Schedules

For Relocations performed by the Utility Company, a reasonable schedule required for each Activity shall be negotiated between the Utility Company and the DB Contractor and shall be reflected in the URD Agreement.

In developing its Project schedule, the DB Contractor shall allow for appropriate time for the performance of Utility Work and Relocations assigned to the Utility Companies pursuant to the URD Agreements.

10.2.4 DDOT-Supplied Information

DDOT has conducted a Subsurface Utility Engineering investigation of existing Utilities within the Project Limits. This information is included in the Signed Utility and Drainage Plan South Capitol Street and indicates the levels of survey accuracy for each Utility as defined by the ASCE Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data. Utility information is also summarized in the Potential Utility Conflict Matrix.

All Utility information depicted on the existing Utility survey is to Quality Level B (QL-B) unless otherwise noted. QL-B information is obtained through the application of appropriate surface geophysical methods to identify the existence and approximate horizontal position of subsurface Utilities. Utility information labeled QL-C or QL-D is derived from furnished records and may not be accurate or reliable.

Additional DDOT records on locations of Utility lines are on file in the Public Space Regulations Administration (PSRA), most of which are included in the Utility record drawings. The DB Contractor shall obtain, review, and compare the records in PSRA against all Utilities that have been surveyed to check that they are shown accurately on the plans. Files from PSRA and Utility record drawings are available for the DB Contractor's use; however, such use shall not be the basis of any claim against DDOT.

Based on initial coordination with DC Water, DDOT is providing DC Water Suggested Water and Sewer Relocations in the RIDs for water and sanitary sewer utilities in the West Oval.

There are four vents for the 96-inch DC Water sanitary sewer within the Project limits. Any work which impacts these vents shall be coordinated with DC Water and in accordance with DC Water and Sewer Authority Project Design Manual. Design and construction costs associated with relocations of these vents shall be included in the DB Contractor's Lump Sum Price.

10.2.5 DB Contractor's Investigations

10.2.5.1 Utility Tracking Log

The DB Contractor shall review, verify, update, and expand upon Utility data provided by DDOT and develop and maintain the Utility Tracking Log, which shall contain at least the following information:

1. The name of the Utility Company and a unique identification number for tracking each Utility line.
2. Utility point of contact name, telephone number, mailing address, and email address.
3. A brief description of the Utility by size and type.
4. The location of the Utility, based upon Project Control Datum or by roadway station and offset.
5. The proposed action for the Utility and the date such action was Approved by DDOT and each Stakeholder.
6. Once a URD Agreement has been executed, the unique URD Agreement identifier, the party responsible for performance of the Relocation(s), and their contact information.
7. The nature of the Utility Company's existing right of occupancy of the ROW for such Utility.
8. Scheduled and actual dates for acquisition of any ROW or easements required for the Relocations and Utility Work.
9. The scheduled start and Completion Dates of construction of Relocations and Utility Work.
10. The actual start and Completion Dates of construction of Relocations and Utility Work.
11. The status of construction for Relocations and Utility Work, including percentage complete.
12. Other information as requested by DDOT.

The Utility Tracking Log shall identify all changes from and additions to the information provided by DDOT in the Potential Utility Conflict Matrix. Each subsequent version of the tracking log shall identify all changes from the previous version. The report shall be sortable by multiple parameters. The Utility Tracking Log shall be updated and submitted at least bi-weekly.

10.2.5.2 Utility No-Conflict Closeout Form

Once the DB Contractor has concluded that a Utility shown on the DB Contractor's Utility Tracking Log is not in conflict with the Project, the DB Contractor shall provide a *Utility No-Conflict Closeout Form* signed by the affected Utility Company to DDOT.

10.2.6 Scheduling, Coordination, and Correspondence

10.2.6.1 Scheduling

Schedules as referenced in Section 26, Project Schedules, shall identify all Utility Work and Relocations and allow sufficient time for completion of all such Work, including all ROW or easement acquisition, design, design review, permitting, and construction activities.

10.2.6.2 Coordination

The DB Contractor shall be responsible for coordination with all Utilities located within the Project Limits. Such responsibilities shall include obtaining information from and providing information to the Utility Companies; notifying Utility Companies that Utilities affected will require adjustment, modification or relocation; coordination and scheduling of design review, inspections, approvals, and acceptances; and coordination and scheduling of Construction Work. The DB Contractor is responsible for monitoring the progress of Work by Utility Companies and for resolving any scheduling difficulties with them.

The DB Contractor shall keep Utility Companies informed of the DB Contractor's construction schedules and of changes that affect their Utilities. If a Utility Company decides that temporary interruption of Utility service is necessary and acceptable, the DB Contractor shall provide the Utility Company with sufficient advanced notice of the interruption so it can notify its customers of any potential impacts to service. The DB Contractor shall cooperate with the Utility Companies consistent with the DB Contractor's obligations pursuant to the Contract and the Scope of Work. The DB Contractor shall act diligently in maintaining a positive relationship with all Utility Companies.

The DB Contractor shall be responsible for coordination with the Utility Companies and DDOT in order to accomplish all Utility Work and Relocations. The DB Contractor's responsibilities shall include the following:

1. Keeping Utility Companies fully informed of schedules with regard to Utility Work and Relocations. The DB Contractor shall coordinate with each Utility Company, as soon as practicable, following the first Notice to Proceed, to provide an estimated schedule for their respective Utility Work and Relocations and shall notify the Utility Companies of any significant changes to the schedule immediately upon identification of the changes. Preliminary discussions with Utility Companies have indicated that the relocation of some Utilities require long lead times for supplies and scheduled outages.
2. Coordinating with the Utility Companies' schedule for routine (non-emergency) maintenance to minimize impacts to the Project. Any cost or schedule delays to the Project associated with the DB Contractor's failure to properly coordinate with Utility Companies' routine maintenance activities shall be borne by the DB Contractor.
3. Keeping Utility Companies fully informed of changes that affect their Utilities.
4. Considering, to the extent practicable, Utility Companies' needs for the allocation of resources to perform their work in a timely manner.
5. Keeping Utility Companies involved in making decisions that affect their Utilities so Utility Companies are able to provide uninterrupted service to their customers, or to minimize the number of outages to be approved by the Utility Company.
6. Avoiding multiple relocations of Utilities.

10.2.6.3 Failure of Utility Company to Cooperate

The DB Contractor shall make diligent efforts to obtain the cooperation of each Utility Company as necessary for the Project. The DB Contractor shall notify DDOT immediately if the DB Contractor becomes aware that a Utility Company is not cooperating in providing needed Work and/or Work approvals. After such notice, the DB Contractor shall continue to diligently pursue the Utility Company's cooperation and assist DDOT as requested with regard to resolving the problem. Any assistance provided by DDOT will not relieve the DB Contractor of its sole and primary responsibility for the satisfactory completion of all Utility Work and compliance with all other requirements.

10.2.6.4 Notices and Correspondence between the DB Contractor and Utility Companies

All notices to Utility Companies from the DB Contractor shall be in writing unless otherwise specified. The DB Contractor shall deliver to DDOT copies of all correspondence between the DB Contractor and the Utility Companies within two Business Days of receipt or sending, as applicable.

10.2.6.5 Utility Meetings

Meetings with Utility Companies. The DB Contractor shall schedule and attend periodic coordination meetings with each Utility Company affected by the Work. Such meetings shall take place as early as possible in the Project design process and shall continue until completion of the Project (or completion of the Utility Company's Relocations, if earlier). Such meetings shall include a preliminary design meeting for the DB Contractor and affected Utility Companies to meet and familiarize themselves with design elements, Utility facilities, and general features of the Project. Thereafter, the frequency of meetings between the DB Contractor and each affected Utility Company shall be appropriate to the matters under discussion and as required by the DDOT South Capitol

Street Corridor Utility Manual. The DB Contractor shall notify DDOT at least 14 Calendar Days in advance of each meeting and shall allow DDOT the opportunity to participate in each meeting.

Meetings between DDOT and the DB Contractor. Both DDOT and DB Contractor representatives shall be available to meet, as necessary, at the request of either party to discuss and resolve matters relating to Utility Work and Relocations. The DB Contractor shall schedule such meetings at the reasonable convenience of DDOT's representatives.

The DB Contractor shall be available to meet at the request of DDOT as necessary to discuss and resolve matters relating to the Utility Work and Relocations. If the meeting is with DDOT only, the DB Contractor shall make itself available for the requested meeting within two Business Days of DDOT's request. If the notice involves the Utility Company(s), additional time may be required to ensure attendance by the Utility Company representative(s). Attendance at such meetings is mandatory but may be accomplished by teleconference as appropriate.

Notices Regarding Utility Company Performance. The DB Contractor shall be responsible for verifying progress of the Utility Companies' Work and for notifying DDOT should the DB Contractor have cause to believe that any of the Utility Companies will not meet the specified timeframe(s) for any of the following: construction; review of the DB Contractor's plans; and comment, review, and approval for URD Plans or Agreements; or inspection. The DB Contractor shall provide such written notice to DDOT immediately after discovery.

10.2.6.6 Meeting Minutes

The DB Contractor shall record and maintain minutes of all meetings with Utility Owners and/or DDOT with respect to Relocation and Utility Work. The DB Contractor shall deliver copies of these meeting minutes to the meeting attendees and make them available to DDOT within three Business Days after each meeting for review and comment. The DB Contractor shall address any comments returned and issue final meeting minutes within two Business Days of receiving the comments.

10.2.6.7 Contact Information

Utility Owners with facilities potentially affected by the Project, as identified during DDOT's preliminary engineering, are listed in the Utility Contacts database. The information provided for those Utility Owners includes contact names, phone numbers, and email and mailing addresses. The contact information is current as of the date of issuance of these Technical Provisions. The DB Contractor shall be responsible for verifying the accuracy of the contact information and maintaining current contacts for all Utilities affected by the Project, whether or not such Utility Owners are listed.

10.2.6.8 Deliverables

Unless otherwise indicated, all deliverables shall be submitted in both electronic format and hardcopy format. Acceptable electronic formats include Microsoft Word, Microsoft Excel, or Adobe Acrobat (.PDF) files. The DB Contractor shall also provide computer-aided design files in DWG or DGN format if requested by DDOT. All deliverables must be legible, and drawings must be of a sufficient scale so that they are readable without magnification.

10.3 Design Requirements

10.3.1 General Design Criteria

The DB Contractor shall be responsible for verifying that all design plans for Relocations, whether furnished by the DB Contractor or by the Utility Company, are consistent and compatible with the following:

1. The requirements specified in these Technical Provisions.
2. The requirements of the applicable Utility Agreements.
3. The DB Contractor's design and construction of the Project.
4. Any other Utilities being installed in the same vicinity.
5. Other DDOT projects.

6. The terms and conditions of all applicable new and/or amended permits.
7. Applicable federal and DC laws and regulations.

The DB Contractor shall confirm that all Relocations to be installed within a limited-access ROW meet DDOT's requirements as set forth in Policy and Process for Access to the DC Interstate and Freeway System.

10.3.2 Buy America

The DB Contractor shall adhere to the applicable provisions of MAP-21, the Moving Ahead for Progress in the 21st Century Act, signed into law on July 6, 2012, and FAST Act, Fixing America's Surface Transportation Act, signed into law on December 4, 2015. Section 1518 of MAP-21 amends the Buy America statute at 23 United States Code 313 to require the application of Buy America to all contracts eligible for assistance under Title 23 within the scope of a finding, determination, or decision under the National Environmental Policy Act (NEPA), regardless of funding source, if at least one contract within the scope of the same NEPA document is funded with federal funding provided under Title 23. If federal funds are used for any activity within the scope of a NEPA decision, then Buy America applies to the entire Project.

Based on this requirement, all construction contracts (whether by DDOT or a Utility) on the Project will be subject to the Buy America provision of MAP-21, regardless of whether federal funds are used in any of the contracts for construction. The Utility Companies must certify to DDOT that all Utility construction related to the Project that is performed by or for them, or by their contractors, is in compliance with this provision.

The DB Contractor shall include the Buy America provision in all URD Agreements and shall make sure all Utility Companies are aware of the requirements.

The DB Contractor and/or Utility Company should notify DDOT immediately if they conclude that the Buy America provisions will result in a significant hardship to the Utility or a delay in the Project schedule due to:

1. Lack of product availability.
2. Long lead times for delivery, which would result in Project schedule delays.
3. Significant cost differential between Buy America products and comparable foreign-manufactured products.

In such cases, DDOT may request a waiver from the Federal Highway Administration (FHWA) if a Buy America product is not available or if it will cause significant Project delays. If the Buy America product is significantly more expensive than a non-Buy America alternative, DDOT may request FHWA reimbursement to the Utility of the difference in cost between the Buy America and the non-Buy America product. Upon FHWA approval, the FHWA may reimburse the federal project share of the cost difference, and DDOT will pay the non-federal share of the cost difference. It is the Utility's responsibility to demonstrate to DDOT's and FHWA's satisfaction that the Buy America provisions constitute a significant hardship to the Utility and/or cause significant schedule delay for the Project. Approvals of waivers and/or reimbursement are solely the decision of FHWA. Waiver requests must go through a formal national review and rule-making process, which could require 9 to 18 months for approval.

Buy America Provisions of MAP-21, Moving Ahead for Progress in the 21st Century Act:
http://www.fhwa.dot.gov/map21/qandas/qabuyamerica.cfm

Fixing America's Surface Transportation Act (FAST Act)
https://www.fhwa.dot.gov/fastact/

10.3.3 Design Acceptance – Design by Utility Company

The DB Contractor shall obtain URDs from the Utility Company for all Relocations that the Utility Company is responsible for designing. The DB Contractor shall review these plans for compliance with the design requirements within the Contract Documents and provide comments to the Utility Company as appropriate. The DB Contractor shall provide all information necessary for the Utility Companies to create URDs, including construction staking and survey information, profile and/or cross section information, and test pitting for

confirmation of conflicts and coordinates. The DB Contractor shall verify that the URD does not create conflicts with the Project. The DB Contractor shall sanction its review and provide certification that the URD complies with the design requirements within the Contract Documents by issuing a Design Acceptance Letter to the Utility Company and forwarding a copy to DDOT.

10.3.4 Design Acceptance – Design by DB Contractor

The DB Contractor shall submit its URD to the Utility Company for review and approval for each URD Agreement before beginning construction. The DB Contractor shall also submit each URD to DDOT for its advance review and comment with the exception of DC Water, which is subject to DDOT review and approval (Multiple review cycles may be required). The DB Contractor shall furnish the URD for all Utility Work necessary for the Project as stated in the URD Agreements. The foregoing obligation includes temporary Utility Relocations and all necessary Relocations of service lines connected to such Utilities, regardless of the ownership of such service lines or of the property served by such service lines.

In each instance where the DB Contractor performs the design of the Utility Work concerning a Utility Company's facilities, the DB Contractor shall be responsible for obtaining written standards and specifications from the Utility Company and for verifying that they are consistent and compatible with the DB Contractor's overall Project design.

In the event of a conflict between the Utility Company's design standards and the standards or requirements of the Contract Documents, the most stringent standards or requirements will govern. The DB Contractor shall obtain Utility Company approval of the Utility Relocation plans before starting construction. The DB Contractor shall document the Utility Company's acceptance by obtaining a Design Acceptance Letter from the Utility Company and formally submitting a copy to DDOT. Upon approval by the Utility Company, the Relocation shall be constructed in accordance with the Utility Relocation plans. All subsequent changes to designs will require written Utility Company acceptances before construction and shall be shown on the As-Built Documents upon completion of the Work.

10.3.5 Utilities Adjacent to and on Structures

Underground Utilities shall not be installed within 10 feet of bridges and/or structural foundations, unless otherwise Approved by DDOT. All pressurized mains to be installed within 50 feet of a spread footing for a bridge and/or structural foundation shall be fully encased unless otherwise Approved by DDOT.

The DB Contractor shall identify, maintain, and coordinate all Utility Relocations and/or placements on structures. DDOT Approval is required for pipes carrying water, wastewater, natural gas, propane, petroleum products or byproducts, chemicals, or other volatile, flammable, or hazardous materials relocated/placed on structures. The exception to this exclusion is standpipes providing firefighting capability at bridges. If a Utility is required on a bridge structure, the placement location shall hide the Utility from view and shall not impede future bridge inspection and maintenance. Specifically, the hanging of Utility conduits shall not be permitted under deck overhangs or on bridge rails.

The DB Contractor is responsible for the design and installation of standpipes at bridges in accordance with NFPA and the Washington, DC, Fire and Emergency Management Services (EMS) Department requirements in order to respond to fire emergencies on bridges. 11th Street Bridges Fire Protection Details are provided in the RIDs and may be used as an example of standpipe at bridges.

10.4 Construction Requirements

10.4.1 General Construction Criteria

At least 72 hours, but not more than 10 Business Days, in advance of proceeding with excavation or demolition Work, the DB Contractor shall notify the "One Call System" by phone at 1-800-257-7777 of the impending excavation or demolition and its location.

The DB Contractor shall not proceed with Work until Utility facilities have been located, disconnected, or otherwise adjusted by Utility representatives. Hand digging is required within 18 inches from the nearest point of

a natural gas line. The DB Contractor may hand dig a test pit to locate the line. The DB Contractor shall use care to avoid damage to all underground facilities. If an underground facility is damaged, under no circumstances shall the DB Contractor backfill an excavation without first receiving permission from the Utility Company whose facility was damaged. The DB Contractor shall bear all costs associated with damage to existing Utilities caused by construction operations or to the DB Contractor's failure to adequately locate existing Utilities.

In the event that Utility Work is located within the zone of influence of an existing or proposed retaining wall or structural foundation, the Utility Work shall be encased in a pipe sleeve that extends a minimum of 5 feet beyond the zone of influence of any portion of the foundation, wall, or associated tie-backs. The Utility Owner shall provide specific written approval for each location where a pipe sleeve is used.

The DB Contractor shall be responsible for verifying that all construction of Utility Work, and Relocations by Utility Owners, complies with the following:

1. The requirements specified in this Section.
2. The requirements of the applicable Utility Agreements.
3. The Released for Construction Documents.
4. The DB Contractor's design and construction of the Project.
5. The terms and conditions of all applicable new and/or amended permits.

The DB Contractor shall cooperate with the Utility Company to obtain all necessary permits and ensure that Utility Companies meet all Project safety and environmental requirements.

10.4.2 Special Qualifications

For any Utility Work for which the DB Contractor is assigned responsibility for construction as specified in this Section and in the Contract Documents and for which special qualifications are required by the Utility Company to perform such construction, the DB Contractor shall use (or cause its Subcontractors to use) qualified personnel acceptable to the Utility Company to perform such Utility Work. The DB Contractor shall obtain a list of pre-qualified contractors from each Utility Company.

10.4.3 Inspection

10.4.3.1 Construction Inspection Acceptance – Construction by Utility Company

The DB Contractor shall inspect all Utility Work performed by Utility Companies and/or their Subcontractors to verify compliance with the approved URD and Project construction. In order to sanction its acceptance, the DB Contractor shall provide a signed Construction Inspection Acceptance Letter to the Utility Company and submit a copy to DDOT. The DB Contractor shall immediately notify the Utility Company and DDOT in writing regarding any noncompliance.

10.4.3.2 Construction Inspection Acceptance – Construction by DB Contractor

In each instance where the DB Contractor performs the construction of the Utility Work, the DB Contractor shall be responsible for obtaining written standards and specifications from the Utility Company and for verifying that they are consistent and compatible with the DB Contractor's overall Project design.

The DB Contractor shall be responsible for restoring infrastructure damaged because of any Utility Work performed by the DB Contractor.

Each Utility Company, through its representative, will have the right to inspect the construction performed by the DB Contractor on its Utilities. The DB Contractor is not responsible for reimbursing Utility Companies for their costs of inspecting construction performed by the DB Contractor. The DB Contractor shall not unreasonably refuse such inspection requests and shall coordinate the schedule and scope of such inspections with the Utility Company. The DB Contractor shall obtain written acceptance from the Utility Company for the Utility Work and submit a copy to DDOT.

10.4.4 Abandonment and Removal

The DB Contractor shall coordinate all removals and abandonments with the Utility's respective owner. Processes and payment procedures shall follow the established responsibility procedures as stated in Section 10.2.1. The DB Contractor is advised that certain Utilities may be composed of asbestos-coated or asbestos cement pipe. The DB Contractor shall design the Project to avoid affecting asbestos-coated pipe where feasible and shall take all other appropriate action to minimize conflicts with such Utility facilities. Any removal of such pipe shall be performed in compliance with all applicable governmental rules and Environmental Laws.

Any Utility abandoned outside of the ROW shall be abandoned in accordance with the Utility Company's Utility Standards and the standards of the local agency with jurisdiction over the affected Utilities.

The DB Contractor shall notify DDOT in writing of any Utilities that will be abandoned or removed.

10.4.5 Protection in Place

The DB Contractor shall be responsible for protecting in place (or causing to be protected in place by the Utility Companies) all Utilities affected by the Project (including any Utilities remaining in place, any Utilities installed during the course of the Work, and any prior Relocations), as necessary to maintain their continued safe operation and structural integrity, in accordance with the requirements of this Section. DDOT's prior written Approval shall be required for any conflicting Utilities proposed to remain in their existing locations other than prior Relocations.

Protection in place is included in the Utility Work and may be permanent or temporary, depending upon the types of measures necessary to satisfy the specific requirements of a particular Utility. Specific requirements for the protection in place of two effluent trunk sewers at the West Oval are included in Section 6.3.8.1 of these Technical Provisions.

10.4.6 Fire Protection

The DB Contractor shall replace any fire hydrants that are affected by construction of the Project with new fire hydrants in accordance with DC Water, DC Department of Consumer and Regulatory Affairs and Washington, DC, Fire and EMS Department criteria, unless existing fire hydrants are proposed to be removed under the Contract. The DB Contractor shall provide additional fire hydrants as necessary to provide adequate fire protection coverage throughout the Project Limits. The DB Contractor shall maintain fire protection systems meeting or exceeding existing conditions at all times until completion of the Project. The DB Contractor's URD for DC Water facilities will be reviewed by DC Water and DC Fire and EMS Department for hydrant location and quantity. Fire hydrants within the Project Limits not affected by the construction of the Project shall be inspected and tested by qualified personnel. Any fire hydrant that does not meet current standards and requirements shall be replaced.

10.4.7 Prior Relocations

The DB Contractor shall make every effort to avoid multiple relocations of the same Utility. Following the initial relocation, the DB Contractor shall design the Work so that these Utilities are not in conflict with the Project. The DB Contractor shall be solely responsible for multiple relocations of the same Utility, unless requested by and paid for by the Utility Owner.

10.4.8 Maintenance of Traffic

The DB Contractor shall be responsible for all traffic control to provide safe and efficient traffic flow during the Utility Work. Refer to Section 22, Maintenance of Traffic, and Section 10.2.1.1 for maintenance of traffic requirements.

10.4.9 Street Restoration

The DB Contractor shall ensure that resurfacing, restoration, and re-striping of all streets, roadside features, or other affected areas are constructed in compliance with DDOT standards.

10.4.10 Environmental Compliance Pertaining to Utility Work

The DB Contractor shall comply with all applicable Environmental Laws in performance of Utility Work. Refer to Section 8, Environmental, for environmental requirements.

10.4.11 Maintenance of Records

10.4.11.1 Construction and Inspection Records

The DB Contractor shall maintain construction and inspection records in order to demonstrate that the Work proposed in a URD Agreement is accomplished in accordance with the approved plans and the requirements of the Contract.

10.4.11.2 Utility As-Built Plans

Upon physical completion of the Project (or upon completion of the Utility Relocations, if earlier), the DB Contractor shall deliver to DDOT a complete set of Utility As-Built plans and design files that incorporate all changes and details of the Relocation Work. All As-Built plans shall be of a quality and format acceptable to DDOT, showing the location of all Utilities within the ROW and any Utilities located outside of the ROW that were part of the Relocation Work.

Refer to Section 12, Project Documentation, for final Project documentation requirements.

10.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 10-2
Utility Deliverable Requirements Summary

Deliverable	DDOT Review Type	Submittal Schedule	Reference Section
Utility Tracking Log	Submit	Bi-weekly	10.2.5.1
Utility No-Conflict Closeout Form	Submit	Upon determination of a Utility's status as a non-conflict, according to the Utility Tracking Log	10.2.5.2
URD Documents (DC Water)	Review and Approve	21 Calendar Day review period	10.3.4
URD Documents (Others)	Submit	2 Business Days before the initial URD Agreement meeting	10.3.4
URD Agreement	Review and Comment	DDOT will respond with comments within 10 Business Days of receipt	10.2.2.1
Meeting Minutes	Submit	Submit within 3 Business Days after the meeting	10.2.6.6
Design Acceptance Letters	Submit	Submit Design Acceptance Letter within 7 Business Days of Utility design completion	10.3.3 and 10.3.4
Construction Inspection Acceptance Letters	Submit	Submit Construction Inspection Acceptance Letter within 7 Business Days of construction completion	10.4.3.1 and 10.4.3.2
Utility As-Built Plans	Submit	Submit within 30 Calendar Days of construction completion for each URD Agreement, and submit a Project wide set of Utility As-Built Plans within 30 Calendar Days of construction completion for the Project.	10.4.11.2

SECTION 11

Roadway Design

11.1 General

The DB Contractor shall conduct all Work necessary to complete the roadway design elements for the Project and meet the requirements as set forth herein.

DDOT will provide comments on Roadway Design package submittals within 28 Calendar Days of receipt. All comments shall be addressed to the satisfaction of DDOT prior to Released for Construction plans being issued.

11.2 Performance Requirements

It shall be the sole responsibility of the DB Contractor to obtain approvals for any modification to the IMR/IJR.

The design revisions and related construction activities proposed by the DB Contractor shall coordinate with any ongoing and future roadway/infrastructure improvements, as listed in accordance with Section 25, of Volume II, Book 1, Design-Build Agreement. DB Contractor's design shall take into consideration future access to the following adjacent projects as shown on the Conceptual Design Plans:

1. Joint Base Anacostia-Bolling (JBAB) Northern Truck Entrance from South Capitol Street SW
2. Poplar Point Developments

11.3 Design Requirements

11.3.1 Mandatory Design Criteria

1. No Work shall extend beyond the limits of right-of-way unless as described in Section 24, Right-of-Way, of these Technical Provisions.
2. **WEST AND EAST TRAFFIC OVALS** connect roadways on both ends of the new Frederick Douglass Memorial Bridge (FDMB) for motor vehicle, bike, and pedestrian traffic. Pedestrian steps and ADA / bike lane ramps shall be provided at both bridge abutments, (see Section 23, Bicycle and Pedestrian Facilities, of these Technical Provisions for sidewalk and pedestrian facilities).
3. **WEST OVAL**: The major (longer) axis shall be aligned with existing South Capitol Street SW centerline. The northern half-circle's center is the intersecting point of the centerlines of South Capitol Street and Potomac Avenue, SE. The distance between the north and south half-circle centers shall not be less than 305 feet. DB Contractor shall construct the length of Riverwalk Trail beneath the Frederick Douglass Memorial Bridge, within the DDOT ROW, connecting to the Florida Rock property on the east and the steps/bike ramp to the oval to the west. Provide a turning space for vehicles where South Capitol Street dead ends south of the west oval, the location of the turning space will be determined based on the construction limits of the slope or retaining wall at the southern end of the oval. Access to businesses located on South Capitol Street is to be maintained at all times.
4. **EAST OVAL**: The major (longer) axis shall be parallel to the west oval major axis. The size of the east oval may be slightly different from the west oval to limit the land disturbance within existing DDOT right-of-way. The centerlines of new Anacostia Drive and FDMB shall be symmetric with respect to the oval major axis and intercept at the north circle center. The centerlines of South Capitol Street and Suitland Parkway shall be symmetric with respect to the oval major axis and intersect at the south circle center. The distance between two half-circle centers shall not be less than 300 feet. The Anacostia Riverwalk Trail west of the east oval near the FDMB east abutment shall be connected to existing eastern bank Anacostia Riverwalk Trail system.
5. **POTOMAC AVENUE, R Street, Q Street and Half Street** (near the west oval): Traffic pattern on these local streets shall be reconfigured. The DB Contractor shall identify and provide appropriate ingress/egress to the adjacent properties. The radii and opening for vehicles entering Q Street from the west oval shall comply with

the Design Vehicle shown in Table 11.1 while optimizing intersection crossing distances and geometry for the safety of pedestrians and bicyclists. The center line of Potomac Avenue SW shall be centered on existing right of way. Design of each of these local streets shall be coordinated with the DC United Stadium design team.

6. **FREDERICK DOUGLASS MEMORIAL BRIDGE (FDMB)**: The alignment shall be tangent with no horizontal curves or angle points between ovals. See Section 13, Bridges and Structures, of these Technical Provisions for additional details.
7. **SOUTH CAPITOL STREET between East Oval and Firth Sterling Avenue:** The functional classification shall be reconfigured from a Freeway to Minor Arterial, with multi-use path along west side of the roadway. The median between north and south bound shall be 18 feet, therefore wide enough to accommodate a 12-foot future left turn lane with a minimum 6-foot median serving DC Water's new Poplar Point Pump Station facility and a future JBAB Northern Truck Entrance.
8. **SUITLAND PARKWAY between East Oval and Firth Sterling Avenue:** The functional classification shall be reconfigured from a Freeway Principal Arterial, inclusive of the Suitland Parkway/Firth Sterling intersection, with a multi-use path along both sides of the roadway. See Section 23, Bicycle and Pedestrian Facilities, of these Technical Provisions for sidewalk and pedestrian facilities information. The eastbound roadway between the Loop Ramp A intersection and Firth Sterling Avenue shall be built to accommodate the future design for Segment 3 of the South Capitol Street Corridor Project with pavement for four through lanes and two left turn lanes.
9. **ANACOSTIA DRIVE** (connecting east oval and Poplar Point Park): The functional classification shall be a local street with a multi-use path on both sides. The roadway design at this location shall coordinate with NPS and the NPS Road Standards. Due to pedestrian safety concern, a speed bump, or other equivalent traffic-calming/safety measures, shall be installed at Anacostia Drive and the east oval.
10. **HOWARD ROAD**: Improvements to Howard Road include the tie-in area at the intersections with Suitland Parkway and Firth Sterling Avenue. I-295 and Howard Road overpass bridges shall not preclude any future roadway and pedestrian/bike lane improvements along Howard Road, see Section 13, Bridges and Structures, of these Technical Provisions.
11. **I-295 and SUITLAND PARKWAY INTERCHANGE** (Figure 11-1) (between Anacostia Metro station garage and Firth Sterling Avenue Bridge): The roadway improvements include interchange reconfiguration and bridges reconstruction over Firth Sterling Avenue, Suitland Parkway, and Howard Road. Roadway improvements at the I-295 bridge over the Shepherds Branch right of way shall be within the limits of the existing dedication of land for highway purposes.
12. **EXISTING ROADWAY DEMOLITION:** See Section 3, Demolition, of these Technical Provisions.

TABLE 11-1
Roadway Design Requirements Summary

Roadway	From	To	Functional classification	Access control	Terrain	Min. Design speed (mph)	Design Vehicle	Typical Elements
								Lane width (note 2)
West Oval	West Oval Sta. 10+00	West Oval Sta. 23+95.68	Design as Low-Speed Urban Street	Partial	Rolling	20	WB-40	Min. 14' Lanes Typical Min. 15' Inside Lane
Frederick Douglass Memorial Bridge (FDMB)	West Oval (S. Capitol St. Sta. 201+25)	East Oval (S. Capitol St. Sta. 221+13.17)	Principal Arterial	Partial	Rolling	40	WB-40	Per Bridge Section as defined in Section 13
East Oval	East Oval 20+00	East Oval 33+72.57	Design as Low-Speed Urban Street	Partial	Rolling	20	WB-40	Min. 14' Lanes Typical Min. 15' Inside Lane
S. Capitol St.	East Oval (S. Capitol St. Sta. 226+68.19)	Intersection with Firth Sterling Ave (S. Capitol St. Sta. 246+28)	Minor Arterial	Partial	Rolling	40	WB-40	Min. 11' (12' Outside Lane)
Suitland Pkwy	East Oval (Suitland Pkwy Sta. 300+00)	Ramp C Intersection (Suitland Pkwy Sta. 307+46.30)	Principal Arterial	Partial	Rolling	30 (Note 1)	WB-40	Min. 11'
Suitland Pkwy	Ramp C Intersection (Suitland Pkwy Sta. 307+46.30)	Intersection with Firth Sterling Ave. (Suitland Pkwy Sta. 321+70.46)	Principal Arterial	Partial	Rolling	40	WB-40	Min. 11'
Potomac Ave. SE	West Oval (Potomac Ave. SE Sta. 550+00)	Potomac Ave. SE Sta. 552+00	Collector Road	Partial	Rolling	30	WB-40	12'

TABLE 11-1
Roadway Design Requirements Summary

Roadway	From	To	Functional classification	Access control	Terrain	Min. Design speed (mph)	Design Vehicle	Typical Elements
								Lane width (note 2)
Potomac Ave. SW	Potomac Ave. SW at Approximately Sta. 507+75	West Oval (Potomac Ave. SW Sta. 508+24.04)	Collector Road	Partial	Rolling	30	WB-40	12'
Q Street	Half St SW (Q Street SW Sta. 41+15)	West Oval (Q Street SW Sta. 44+50)	Local Road	Partial	Rolling	30	WB-40/BUS	Min. 11'
R Street	Half St SW (R Street SW at Approximately Sta. 54+96.5)	West Oval (R Street SW Sta. 58+09.41)	Local Road	Partial	Rolling	30	WB-40/BUS	Min. 11'
Half Street	Q St SW (Half Street SE Sta. 31+00)	Potomac Ave. (Half Street SW at Approximately Sta. 33+16)	Local Road	Partial	Rolling	30	WB-40/BUS	Min. 11'
Anacostia Drive	Northeast of East Oval (Anacostia Dr. 60+00)	Anacostia Drive Sta. 69+00	Local Road	Partial	Rolling	30	WB-40/BUS	Min. 11'
Firth Sterling Ave.	Intersection with Suitland Pkwy (Firth Sterling Ave. Sta. 616+09)	Intersection with Howard Road. (Firth Sterling Ave. Sta. 623+33.05)	Collector Road	Partial	Rolling	30	WB-40	Match Existing

TABLE 11-1
Roadway Design Requirements Summary

Roadway	From	To	Functional classification	Access control	Terrain	Min. Design speed (mph)	Design Vehicle	Typical Elements
								Lane width (note 2)
I-295	South of Firth Sterling Overpass (I-295 Sta. 403+88.64)	North end of Anacostia Metro Station Parking Garage (I-295 Sta. 442+32)	Interstate	Full	Rolling	55	WB-62	12'
Ramp A-Loop Ramp	I-295 and Suitland Parkway Interchange		Interstate Ramp	Full	Rolling	25	WB-62	14'
Ramp A			Interstate Ramp	Full	Rolling	40	WB-62	15' for Single Lane Section; 12' for Multi-Lane Section.
Ramp B			Interstate Ramp	Full	Rolling	25	WB-62	
Ramp C			Interstate Ramp	Full	Rolling	25	WB-62	
Ramp E			Interstate Ramp	Full	Rolling	30	WB-62	
Ramp F			Interstate Ramp	Full	Rolling	30	WB-62	
S. Capitol St.	P St SW (S. Capitol St. Sta. 192+60)	West Oval (S. Capitol St. Sta. 195+69.86)	Minor Arterial	Partial	Rolling	40	WB-40	Match Existing
Howard Road	Howard Road SE Sta. 716+00	Howard Road SE Sta. 718+88.60	Collector Road	Partial	Rolling	30	WB-40	Match Existing
Howard Road	East Oval (Howard Road SE Sta. 700+00)	Howard Road SE Sta. 702+59	Collector Road	Partial	Rolling	30	WB-40	Match Existing

Note:

1. Design speed is reduced at transition area (Suitland Parkway).
2. Unless otherwise specified, roadway lane width shall be consistent. Sidewalk/multi-use path/bike lane layout and lane width shall comply with related requirements in the Project Documents and design standards.

11.3.2 Roadside Barrier Selection

All traffic barriers incorporated into the Project shall be in accordance with DDOT standards, and meet FHWA crash test criteria for TL-4, except as noted in Section 13 of these Technical Provisions.

11.4 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated within Section 1, General Information, of these Technical Provisions.

DB Contractor shall include with all roadway plan submittals an updated design-criteria table.

TABLE 11-2
Roadway Design Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Roadway Design Packages	Review and Comment	DDOT will respond with comments within 28 Calendar Days	11.1

SECTION 12

Project Documentation

12.1 General

The DB Contractor shall conduct all Work necessary to complete the required documentation of all Work activities for the design and construction of the Project and to obtain DDOT acceptance of the final Project documentation.

The DB Contractor shall maintain in good order, in a secure and protected place at the Project site, one record copy of all drawings, specifications, addenda, written amendments, change orders, change directives, field orders, and written interpretations and clarifications required for the Work. The DB Contractor shall annotate the record documents to show changes made during construction. The DB Contractor shall make these record documents, together with all Approved samples and Approved shop drawings, available to DDOT for reference.

The DB Contractor shall, to the maximum extent possible, utilize e-Builder® (e-Builder) as the Project Documentation platform for this Project.

In the event the DB Contractor is not able to deliver a submittal via e-Builder, the DB Contractor shall submit to DDOT two hard copies and one electronic copy on CD. Hard copies and CDs shall be labeled the same as submittals made via e-builder as required herein and in Section 28, Quality Management Plan, of these Technical Provisions.

Format

The DB Contractor shall maintain all files indicated in this Section in electronic media and hard copies which meet or exceed the documentation requirements of DDOT.

Documentation Orientation Meeting

Prior to commencement of construction, an orientation meeting shall be held between the DB Contractor, DDOT and FHWA to address documentation requirements. The DB Contractor shall be responsible for obtaining, maintaining, and reviewing all documents and records for compliance with the Contract requirements.

Communications Distribution

At a minimum, the DB Contractor shall prepare and circulate to DDOT, one hard copy and one electronic copy of all correspondence, minutes of meetings, and other documents.

Data Backup and Recovery

The DB Contractor shall develop and implement data security and a backup and recovery plan for Project information maintained by the DB Contractor.

12.1.1 Design Documentation

Throughout the course of the Project, the DB Contractor shall maintain in the DB Contractor's construction office and make available for DDOT review, at a minimum, one complete set of the following documents:

1. Reports related to design
2. Studies and investigations
3. Released for Construction (RFC) Documents and Notice of Design Change (NDC)
4. Permits and other environmental agreements
5. Easement agreements

12.1.2 Construction Documentation

Throughout the course of the Project, the DB Contractor shall maintain in the DB Contractor's construction office and make available for DDOT review, at a minimum, one complete set of orderly hard-copy files that include, but is not limited to the following documents:

1. Subcontracts
2. Shop drawings
3. RFC drawings
4. Field design changes
5. Backup information for changes in work/extra work
6. Calculations for mix designs
7. All submittals
8. Claims
9. Calculations
10. Reports related to construction activities
11. Project diaries
12. Test reports and all testing results
13. As-Built records/drawings

Throughout the course of the Project, the DB Contractor shall maintain in the DB Contractor's construction office and make available for DDOT review, at a minimum, two complete full-sized sets of orderly hard-copy files that include the conformed RFC Documents.

12.1.3 Document Control Requirements

12.1.3.1. General

Document control is an integral part of DDOT's proactive Project Management process for all DDOT projects. The DB Contractor shall ensure that all incoming and outgoing Project Documentation is electronically and physically accounted for and filed.

The Department and DB Contractor shall agree upon e-builder file naming convention, document routing, and filing, control, and retrieval methods prior to the first design submittal to DDOT and no later than 30 Calendar Days after Notice to Proceed1 (NTP1).

DDOT will provide the DB Contractor with two e-builder licenses and e-builder training for the two persons designated by the DB Contractor to be their licensed users.

DB Contractor shall be responsible for obtaining any additional licenses and training as needed at no additional cost to DDOT.

12.1.3.2. File Format.

Graphics shall be submitted in TIF, GIF, JPG, or PDF file formats (compressed image formats only). These formats are intended for photos, conceptual sketches, and other uses.

All links between non-graphical data and graphic elements, relationships between database tables, and report formats shall be maintained. All database tables shall conform to the structure and file naming guidance provided by DDOT. The DB Contractor shall provide the database file in the preferred file format as directed by the DDOT Contract Administrator.

Any documents such as reports, photographs, and manuals that use a variety of software packages and file formats shall be submitted as PDFs (version 7.0 or later), in addition to being submitted in the base file format.

12.1.3.3. Submittals Work Plan

The DB Contractor shall submit a Document Control Work Plan within 30 Calendar Days of NTP1 or prior to the first design submittal, whichever occurs first. This Plan shall include the following:

1. File structure and numbering
2. Flow charts depicting the routing and processing of documents
3. Persons involved and their responsibilities
4. The handling and filing of hard-copy documents
5. Incorporation of electronic documents into the system

12.1.3.4. Format

All documents sent to DDOT shall contain the following information at the top or on the first page of the document being sent: YYYY-MM-DD_PROJID_doctype_SubjectDetails.xxx

1. Date – YYYY-MM-DD: The date the document was created or formalized for distribution.
2. Project Code - Project ID: SCS1: (South Capitol Street Phase 1).
3. Type - Document type: such as Letter, Letter of Transmittal, Deliverable, RFI, Submittal, etc.
4. Description - Subject Details: The subject portion of the file name contains any additional, relevant details for the document.
5. File extension - .xxx: The xxx file extension should be the default for the program used to generate the document.

At a minimum, all submittals shall include one hard copy and an electronic copy in PDF format. Hard copies shall be received by DDOT within 24 hours of submitting electronic copies. DDOT reserves the right to request files in other formats at the discretion of DDOT Contract Administrator.

12.2 Performance Requirements

All submittals and Project Documentation for the Project shall be submitted in accordance with Section 28, Design-Build Quality Management Plan (QMP) Requirements, of these Technical Provisions.

12.3 Design Requirements

12.3.1 Design Documentation Package

Calculations

All calculations shall be prepared and checked in accordance with the QMP. The calculations shall be available for DDOT review.

Design Deviations

The DB Contractor shall conduct all Work necessary to complete the design deviations for the Project per Section 4, Design Deviations, of these Technical Provisions.

As-Built Documents

Prior to the Project Completion Date or termination of the Contract, the DB Contractor shall collect and submit all As-Built Documents prepared in the performance of the Contract. The As-Built Documents shall include, but are not limited to, the following:

1. Design Documentation Package
    a. Design calculations and documentation
    b. Reports and technical memoranda

c. Deviations

d. As-Built Plans

2. Updated electronic MicroStation files, including all Released for Construction (RFC) sheets, reference files and base mapping (topography, including survey updates).

The DB Contractor shall ensure that the As-Built Documents reflect the actual condition of the constructed Work to the same degree of detail as the RFC Documents.

The As-Built Documents shall include all changes and corrections to the documents that depict the final completed component, with relevant data shown (including copies of calculations not previously submitted with shop drawings or with the Final Design Submittal).

DDOT will review the submittal and advise the DB Contractor of its acceptance of the As-Built Documents or will provide comments detailing issues to be resolved. The DB Contractor shall address all comments in a manner consistent with the agreed-to comment resolution process and then resubmit the As-Built Documents to DDOT for acceptance.

12.4 Construction Requirements

The DB Contractor shall conduct all Work necessary to provide temporary and permanent final records for the Project in accordance with the DDOT Construction Manual and these Technical Provisions.

As-Built Plans, Amendments to the Standard Specifications, Special Provisions, and Technical Specifications

Prior to Final Acceptance of the Project, the DB Contractor shall update and re-release all RFC and Design Documents affected by Significant Revision made during construction in accordance with Section 28. Significant Revisions during construction are modifications to RFC plans requiring typical standard-of-care Engineer-of-Record (EOR) Approval such as engineering calculations, modifications to drawings, or change orders. Minor Changes are elements of the plans, such as dimensional changes to items that do not affect public safety, and in accordance with the Quality Management Plan, do not require review by the Engineer of Record. The DB Contractor shall outline the threshold for these changes in their QMP for review and acceptance by DDOT. The electronic MicroStation and MicroStation data files shall be updated with all Significant Revisions to show the as-constructed conditions, incorporating all revisions made during construction. The DB Contractor shall make all electronic MicroStation and MicroStation data files consistent with the software and drawing conformance requirements of the Technical Provisions and DDOT CAD Standards Manual and shall submit two hard copies of the As-Built Plans and one complete electronic copy of the updated MicroStation and MicroStation data files through e-Builder.

All revisions, either Significant Revisions or Minor Changes, to the RFC Documents shall be performed by, or under the direct supervision of, the Engineer of Record for the documents. Each Significant Revision shall contain re-issued sheet of the revised RFC plans, and the cover of each of the re-issued revised RFC Technical Specifications shall include the Professional Engineer's stamp.

Calculations for design revisions made during construction shall be available for DDOT review and comment prior to implementation of the revisions during construction. Calculations for design revisions made during construction shall be incorporated into the design calculation file when construction is completed in accordance with Section 28.

As-Built Plans shall reflect the same degree of detail as the RFC Documents. Minor Changes to RFC plans (not requiring EOR reissue of RFC plans or specifications) may be electronically marked with redline in electronic PDF files of the RFC Documents. Underground features including, but not limited to, buried or abandoned structures, shall be documented on the As-Built Plans showing the location and elevation. The DB Contractor shall also provide reproducible originals of the shop drawings for pre-stressed structural elements and all structural steel components.

The DB Contractor shall submit the As-Built Plans as a complete package in sequence. The As-Built Plans shall include the following:

1. Written certification by the EOR and Construction QA Manager that the As-Built Plans follow the processes of the Project Quality Management Plan to reflect all changes and corrections made during construction
2. EOR's Professional Engineer stamp
3. Accompanying index and instructions
4. Signature blocks on the Title Sheet for signatures by the EOR and the Construction QA Manager Each sheet of the As-Built Plans shall be stamped or clearly marked "AS-BUILT."

Maintenance of Traffic (MOT) and Temporary Erosion and Sediment Control (TESC) Plans are exempt from the As-Built requirements.

Final Records

The DB Contractor shall submit the following final records prior to Completion or termination of the Contract. In addition to the formatting specified below the DB Contractor shall submit electronic copies for each item through e-Builder.

1. Final Record Book No. 1
    a. This book of documents shall be bound in a semi-rigid, water-resistant cover and shall include a detailed index. Each page shall be numbered consecutively. The following documents shall be included, and the order in which they are to be arranged is described below. No other material shall be included in this book.
        i. List of Change Orders - Showing the change order numbers, a brief description of each, and the change order cost.
        ii. Record of Construction Materials - Tabulating the source of the construction materials. See Section 25, Control of Materials, for additional information.
2. Materials Certification
    a. See Section 25 for additional information on Materials Certification.
3. As-Built Plans
    a. As-Built Plans, 11 inch by 17 inch, red line prints. Each plan sheet shall have lettering or a stamp identifying it as As-Built Plans.
    b. Prints of approved shop drawings
4. Structures (if applicable)
    a. The DB Contractor shall complete the Pile Driving/Drilled Shaft Record Book and Test Pile/Drill Shaft record, as outlined in the DDOT Construction Manual and Section 6 of these Technical Provisions.
    b. The DB Contractor shall complete the Post-tensioning Records, as outlined in the DDOT Construction Manual (if applicable).
5. DB Contractor Construction Survey
    a. Copies of all survey calculations and survey notes including grade books and cross-section notes shall be kept and turned over to DDOT with the final records.
6. Temporary Final Records
    a. Temporary final records are comprised of all relevant records not included in the final records. The DB Contractor shall submit these to the DDOT COR with the final records. Examples of these records include, but are not limited to, the following:

i. Material acceptance test reports

ii. Concrete pour records

iii. Source of materials documentation

iv. Copies of certified payrolls (for Federally-funded projects only)

v. Horizontal and vertical alignment data

vi. Falsework and formwork plans

Refer to the DDOT Construction Manual for additional requirements.

12.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 12-1
Project Documentation Deliverable Requirements Summary

Item	DDOT Review Type	Schedule	Section
Document Control Work Plan	Submit	Within 30 Calendar Days of issuance of NTP1 or prior to the first design submittal	12.1.3.3
Design Documentation Package	Submit	With each design package submission and subsequent follow-up submission and prior to completion or termination of the Contract	12.3
Updated Electronic MicroStation and Inroads files, including all RFC sheets, reference files, and base mapping	Submit	Prior to completion or termination of the Contract	12.3
Calculations for design revisions made during construction	Review and Comment	Prior to implementation of the revisions during construction	12.4
As-Built Plans and specifications/special provisions	Submit	Prior to completion or termination of the Contract	12.4
Final Record Book No. 1	Submit	Prior to completion or termination of the Contract	12.4
Project Diaries, Daily Reports, and the DB Contractor's Daily Reports of Traffic Control	Submit	Prior to completion or termination of the Contract	12.4
Materials Certification	Submit	Prior to completion or termination of the Contract	12.4
Structures Records	Submit	Prior to completion or termination of the Contract	12.4
Test Reports for Storm Sewers, Sanitary Sewers, and Water Mains	Submit	Prior to completion or termination of the Contract	12.4
DB Contractor Construction Survey	Submit	Prior to completion or termination of the Contract	12.4
Temporary Final Records	Submit	Prior to completion or termination of the Contract	12.4

SECTION 13

Bridges and Structures

13.1 General

The DB Contractor shall be responsible for all Work necessary for the design and construction of permanent and temporary structures, including modifications to existing structures, in accordance with the Contract Documents.

Elements of Work shall include, but are not limited to, bridges, retaining walls, sign structures, lighting structures, barriers and other structures as described in these Technical Provisions.

Use the corresponding section of the AASHTO LRFD Bridge Design Specification where the AASHTO Standard Specification is referenced in the DDOT Design and Engineering Manual.

13.1.1 Bridge Structures

The following is a list of potential structures within the limits of the Project as identified within the referenced documents.

13.1.1.1 Frederick Douglass Memorial Bridge

1. Existing District Department of Transportation (DDOT) Bridge Number: BR 0053
2. Project Bridge Number: S-1

13.1.1.2 I-295 Interchange Bridge Replacements

I-295 over Firth Sterling Avenue

1. Existing DDOT Bridge Number: BR 1012
2. Project Bridge Number: S-2

Ramp A over Suitland Parkway

1. Existing DDOT Bridge Number: N/A
2. Project Bridge Number: S-3

I-295 over Suitland Parkway

1. Existing DDOT Bridge Number: BR 1009
2. Project Bridge Number: S-4

Ramp A over Howard Road

1. Existing DDOT Bridge Number: N/A
2. Project Bridge Number: S-5

I-295 over Howard Road

1. Existing DDOT Bridge Number: BR 1008
2. Project Bridge Number: S-6

Ramp F over Howard Road

1. Existing DDOT Bridge Number: N/A
2. Project Bridge Number: S-7

All bridge structures listed above are new bridge or bridge replacements. This includes new foundations, Substructure, and Superstructure units. Rehabilitating or modifications to existing bridge structures shall not be permitted.

13.1.2 Retaining Wall Structures

The DB Contractor is responsible for identifying and designing all retaining walls for this Project.

13.2 Performance Requirements

13.2.1 Personnel Requirements

13.2.1.1 Lead Structures Engineer

These requirements are in addition to the requirements listed in the Project's RFQ.

This individual shall be a Professional Engineer licensed in the District of Columbia and shall have experience in bridge engineering with projects similar in scope, nature, and complexity. The representative experience shall include bridges similar to Bridge S-1.

Responsibilities include:

1. Review and respond to RFIs
2. Review Shop Drawings
3. Sign and Seal Design Plans and As-Built Plans

13.2.1.2 Independent Checking Engineer

The Independent Checking Engineer shall be a Professional Engineer licensed in the District of Columbia. The Independent Checking Engineer shall have 20 years' experience in bridge engineering, including representative projects similar in scope, nature, and complexity. The representative experience shall include bridges similar to the Bridge S-1. The Independent Checking Engineer shall be from a separate organization to the Lead Bridge Engineer. The DB Contractor shall submit the Independent Checking Engineer to DDOT for Approval within 60 Days of Notice to Proceed (NTP1).

The Independent Checking Engineer shall independently assess, evaluate and verify the DB Contractor's design of Bridge S-1. The Independent Checking Engineer shall certify to the DB Contractor and DDOT that the design is in accordance with the Project Documents.

The Independent Checking Engineer shall:

1. Certify the final Design Work for Bridge S-1;
2. Certify any changes in the final Design Work for Bridge S-1 whenever there are changes in design that may affect Design Work previously certified;
3. Review, check and certify Load Ratings;
4. Where necessary, as a result of any design changes or altered circumstances during construction, perform additional or revised checks of design during construction and, where applicable, issue new certification(s);
5. Whenever any circumstances arise in which actual geotechnical conditions may differ from those assumed in the design or in previous certifications, perform additional or revised checks and, where applicable, issue a new check certification;
6. Undertake an independent analysis of Bridge S-1 and provide documentation of such independent analysis, clearly stating where any reliance is placed on assumptions, analysis or calculations that may have been supplied to it by the DB Contractor;
7. Identify and report any instances where the design does not comply with the requirements of the Project Documents prior to the issuance of a certification; and
8. Supply a monthly report that includes an updated list of all check comment logs, check certificates, check reports and memorandums provided to the DB Contractor, which the DB Contractor shall include in its Monthly Project Progress Report.

The Independent Checking Engineer's scope of work shall include, as a minimum, the requirement to assess and evaluate:

1. DB Contractor's Access and Maintenance Report and Corrosion Protection Plan as provided in conformance with these requirements;
2. DB Contractor's analytical approach;
3. Contract Drawings related to permanent Construction Work for Bridge S-1;
4. Contract Specifications;
5. The effect of temporary Construction Work on permanent Construction Work;
6. Field design changes;
7. Design approvals for materials and procedures as related to permanent Construction Work and serviceability of Bridge S-1;
8. Design and engineering reports, and studies.

13.2.2 Corrosion Protection Plan

The DB Contractor shall develop a Corrosion Protection Plan. The Corrosion Protection Plan shall include a durability assessment to demonstrate that bridge components shall meet the required service life either by selecting materials with reduced corrosion potential, by selecting materials and details that resist degradation, or by other means acceptable to DDOT.

The DB Contractor shall design and construct the permanent bridges and walls to achieve the required service life as shown in Table 13-1. Replaceable elements for the structure shall be outlined in the Access and Maintenance Report in accordance with Section 13.3.5 of this Technical Provision.

TABLE 13-1
Minimum Service Life for Components

Non-Replaceable Components	Min. Service Life (years)
Foundations, piers, abutments, deck and Superstructure for Bridge S-1	100
Foundations, piers, abutments, deck and Superstructure for Bridges S-2 though S-7	100
Retaining walls	75
Replaceable Components	**Min. Service Life (years)**
Stay cable system	75
Bridge bearings	50
Expansion joints	30
Bridge barrier	60
Bridge deck wearing surface	30
Painting	20
Bridge access items: Ladders, platforms, etc.	60
Bridge fender system	60
Other proposed components	As Approved by DDOT

The requirements specified herein are intended as minimum requirements. The Corrosion Protection Plan shall detail the selection of materials, design details, and all other provisions necessary for achieving the specified service life.

The DB Contractor shall use the methodology presented in Bulletin 34, Model Code for Service Life Design, International Federation for Structural Concrete (fib), February 2006, as a guideline for achieving the required durability of the concrete components as part of the required Corrosion Protection Plan. The DB Contractor shall design the concrete components of the bridge to achieve the specified service life with a target confidence level of 90 percent.

The Corrosion Protection Plan shall be consistent with and include the requirements of the DDOT Standard Specification for Highways and Structures and shall include the following:

1. The DB Contractor's approach to assuring a required service life for all non-replaceable and replaceable structural elements of the bridges and walls;
2. The process for determining material selection;
3. Estimates of life-cycle costs;
4. Detailed provisions for reinforcing steel and structural steel protection;
5. Assessment of the effects of concrete permeability, corrosion thresholds, corrosion rate, impacts on cracked concrete, and time-to-repair;
6. Recommendations on the use of sealers, membranes, reinforcing coatings, increased concrete cover, corrosion inhibitors, and other applicable methods;
7. Identify each structure component with the corresponding environmental exposure conditions for each component (e.g., buried, submerged, exposed to atmosphere, exposed to corrosive chemicals);
8. Identify relevant degradation and protective mechanisms for each structure component. Quantify degradation processes and resistances to these processes with respect to time. Models shall use a probabilistic approach to evaluate the time-related changes in performance that occur depending on the component, environmental conditions, and any proposed protective measures. Models shall be listed in the plan;
9. Adjust the expected service life of each structural component based on the proposed material, exposure condition, relevant degradation mechanism, and any proposed protective measures, taking into account the proposed inspection/maintenance schedule. List any corrosion allowances and thresholds used. Include the level of reliability or probability of the predicted service life of each element, as well as the expected interval of replacement or renewal of the protective measures within the service life duration;
10. Detail construction methods to ensure the highest quality products are achieved, (i.e., ensure uniform compaction of the concrete, adequate concrete cover, proper curing for the element, etc.);
11. Additional specific requirements for the Corrosion Protection Plan shall include the following: list of the manufacturers of all proposed coatings, inhibitors, sealers, and membranes; schedule for corrosion inspection of the structural components; proposed maintenance schedule for items/materials that could be affected by corrosion; and
12. Assessment of corrosive conditions that may occur due to stray direct current (DC) from DC Streetcar and WMATA infrastructure adjacent to the Project. Establish types of corrosion control measures, if needed, to include stray current mitigation, protective coating, and cathodic protection.

13.2.3 Wind Design

DB Contractor shall evaluate the design of the Frederick Douglass Memorial Bridge against the potential for wind excitation. This requirement applies to Cable Stay Structures, Suspension Bridges, Extradosed Structures and bridge spans where the length to width ratio exceeds 30.0. The evaluation will be conducted by a Wind Engineer

who is a District of Columbia-licensed Professional Engineer and employed by a firm specializing in climatology, wind analysis, and wind tunnel testing. The firm shall have conducted wind tunnel testing on at least three cable-supported bridges with spans of at least 300 feet.

13.2.3.1 Wind Design - Initial Evaluation Report

DB Contractor shall submit a Wind Design - Initial Evaluation Report to include:

1. A description of the structure type, span configuration, cross section and deck mass.
2. A summary of design wind speeds, directionality and site topography.
3. An evaluation of structure bending and torsional frequencies.
4. Comparative analysis of the performance of similar constructed bridges.
5. Evaluation of bridge components potentially susceptible to wind excitation.
6. Desk study to consider the potential for aeroelastic phenomena of vortex excitation, galloping, flutter, and divergence.
7. Recommendations for further study to be completed by the DB Contractor as part of the Project to confirm the design performance of the bridge. This may include sectional model testing and aeroelastic model testing.

Wind effects for design shall include the following mean return periods, at a minimum:

1. 100-year return period wind speed for structural design.
2. 10,000-year return period wind speed for verifying aeroelastic stability.
3. 20-year return period wind speed for structural design during construction.
4. 1,000-year return period wind speed for verifying aeroelastic stability during Construction Work.

13.3 Design Requirements

13.3.1 General

The DB Contractor shall meet the landscape and visual quality requirements described in Section 15, of these Technical Provisions. The addition of quasi-structural elements that do not contribute to the support of the bridge solely for aesthetic effect is not permitted.

The DB Contractor shall not use masonry, timber or aluminum as structural materials for bridges. Welded trusses shall not be used. The DB Contractor shall not design bridges with intermediate hinges. All bridges shall be continuous for length of bridge (abutment to abutment) without joints unless otherwise noted herein. A minimum of four girders shall be used to provide redundant load-path structures; structures that do not meet this requirement shall require redundancy analysis. Girders shall be designed to carry their weight, temporary works, and the weight of the fluid concrete deck, without shoring.

The criteria for deflection listed in Section 2.5.2.6.2 of the AASHTO LRFD Bridge Design Specifications shall not be considered optional and shall be met for all permanent structures.

Bridge type and layout shall be based on reducing long-term maintenance costs for DDOT.

Ductility and Redundancy Factors shall be as per AASHTO LRFD Bridge Design Specifications Clauses 1.3.3 and 1.3.4 respectively. The Frederick Douglass Memorial Bridge shall be classified as Critical; all other bridges shall be classified as Typical. Operational Importance Factors, η, shall be as described below:

1. Bridge S-1, Frederick Douglass Memorial Bridge (Critical) 1.05
2. For all other bridges (Typical) 1.00

13.3.2 Geometry

13.3.2.1 Minimum Vertical Clearances

The minimum vertical clearance of bridge structures shall comply with the Table 13.2 and be held across the full roadway cross section, including paved and graded shoulders.

TABLE 13-2
Minimum Vertical Clearance Requirements

Location	Min. Vertical Clearance
S-1 – Frederick Douglass Memorial Bridge	16 ft 6 in. over Anacostia Drive 14 ft 6 in. over Riverwalk Trail Refer also to the navigation channel clearance described below.
S-2 – I-295 Over Firth Sterling Ave.	19 ft 0 in. over Firth Sterling Ave. Vertical clearance over CSXT Railroad Tracks shall be in accordance with the CSX Transportation Public Project Information for Construction and Improvement Projects that may Involve the Railroad.
S-3 – Ramp A over Suitland Parkway	16 ft 6 in.
S-4 – I-295 Over Suitland Parkway	16 ft 6 in.
S-5 – Ramp A Over Howard Rd. SE	14 ft 6 in.
S-6 – I-295 Over Howard Rd. SE	14 ft 6 in.
S-7 – Ramp F Over Howard Rd. SE	14 ft 6 in.

13.3.2.2 Navigational Channel Clearance

The minimum vertical clearance across the full width of the navigational channel shall be 42 feet 0 inches. This distance is measured from the Mean High Water to the bottom of the navigation light or any other lower obstruction.

The horizontal navigational channel width shall be a minimum of 150 feet 0 inches and be provided perpendicular to the navigation channel. No member, including potential future loading components, shall penetrate the horizontal or vertical clearance envelopes. Clear opening shall extend to a depth of five feet below the mud level.

Under all service load combinations, the bridge Superstructure shall provide the required vertical and horizontal navigational clearances. Long-term effects of concrete creep and shrinkage shall be accounted for to ensure required vertical clearances and residual cambers are maintained for the design service life of the bridges.

13.3.2.3 Bridge Height Requirements

DB Contractor shall obtain all necessary approvals from the Federal Aviation Administration (FAA) for the Work, including all temporary construction conditions, temporary works, and all construction equipment.

The tallest point of the bridge shall be limited to a height of 160 feet above ground level (168 feet above mean sea level), unless otherwise approved by FAA and NCPC.

13.3.2.4 Span and Horizontal Clearance Requirements

The minimum horizontal clearance of bridge structures shall comply with Table 13.3 and the requirements of the DDOT Design and Engineering Manual.

TABLE 13-3
Bridge Span Requirements

Location	Span and Horizontal Clearance Requirements
S-1 – Frederick Douglass Memorial Bridge	Provide 75 ft of horizontal clearance between the west bulkhead line and the face of the west abutment and 150 ft of horizontal clearance from the east bulkhead line to the face of the east abutment. The west bulkhead shall be taken as an extension along the same line of the existing sheet pile bulkhead north of the existing bridge. See RIDs for record drawings of bulkheads. The bridge main span shall accommodate the navigation channel opening as described herein and provide no less than 300 ft clear opening between permanent structure elements. There shall be a maximum of four piers located in the river. Provide a minimum 200 ft of horizontal clearance between bridge elements above the river's mudline to the centerline of NuStar's fuel pier.
S-2 – I-295 Over Firth Sterling Avenue	Span shall be as required to accommodate the roadway Design Criteria as specified in Section 11, Roadway Design, and bicycle and pedestrian facilities as specified in Sections 15 and 23, of these Technical Provisions. Minimum clearance from centerline of DC Streetcar tracks in accordance with DC Streetcar Design Criteria. Minimum clearance from centerline of CSXT Railroad tracks shall be in accordance with the CSX Transportation Public Project Information for Construction and Improvement Projects that may Involve the Railroad.
S-3 & S-4 – Ramp A and I-295 Over Suitland Parkway	Span shall be as required to accommodate the I-295/Suitland Parkway Interchange Design Criteria as specified in Section 11, Roadway Design, and bicycle and pedestrian facilities as specified in Section 23, of these Technical Provisions.
S-5, S-6, and S-7 – Ramp A, Ramp F and I-295 Over Howard Road SE	Minimum underpass clear opening shall be 66 ft 0 in perpendicular to and centered on the established Howard Road baseline.

Note: DB Contractor shall construct replacement shore protection/bulkhead on the west side of the Anacostia River within the Project Limits in accordance with the visual quality requirements of Section 15, of these Technical Provisions.

13.3.2.5 Bridge Deck Cross Section Width

Bridge decks shall be constructed using precast panel and/or cast-in-place concrete. Filled, overfilled or unfilled steel grating decks and orthotropic steel decks are not permitted. Stay-in-place forms are not permitted.

The minimum bridge cross section width for Bridge S-1 shall be as described below:

1. 3 traffic lanes each direction, for a total of 6 lanes
2. Lane widths: min 11 ft 0 in
3. Min 2 ft-0 in gutter adjacent to multi-use path
4. Min 1 ft 0 in gutter adjacent to median
5. Median width: min 4 ft-0 in (including the median between the roadway and shared-use path).
6. 2 multi-use paths, each with a clear, unobstructed width of 18 ft -0 in

13.3.3 Materials

All material shall be new and acquired for this specific Project unless otherwise stated. The DB Contractor shall utilize methods to minimize graffiti or provide a coating system to deter graffiti on all surfaces accessible by pedestrians, except sidewalk surfaces.

13.3.3.1 Concrete

The use of lightweight concrete is not permitted unless stated otherwise herein or approved by DDOT.

13.3.3.2 Reinforcement

Reinforcing Steel shall be corrosion protected in the following locations:

1. Superstructure
2. Abutment neatwork
3. Pier caps and column
4. In river Piers and foundations
5. Barriers, medians, and sidewalks
6. Moment slabs
7. Approach slabs
8. Box culvert with less than 2 feet of fill

Selection of the type of corrosion-protected reinforcing steel used shall be based on the Corrosion Protection Plan as outlined in Section 13.2.2 of this Technical Provision. Corrosion-protected reinforcing steel shall be one of the following types:

1. Epoxy-Coated Reinforcing Steel
2. Corrosion- Resistant Reinforcing Steel
3. Dual-Coated Reinforcing Steel
4. Stainless Steel

Epoxy-Coated Reinforcing Steel Epoxy-coated reinforcing steel shall meet the requirements of the DDOT Standard Specifications for Highways and Structures.

Corrosion-Resistant Reinforcing Steel (CRR)

Two types of CRR bars are allowed: low carbon/chromium and stainless steel. Low carbon/chromium bars shall be in accordance with ASTM A1035 with a maximum allowable design stress limited to 75 kips per square inch (ksi). Stainless steel bars shall be in accordance with ASTM A955.

Dual-Coated Reinforcing Steel

Dual-coated reinforcing steel shall meet the standard specifications of ASTM A1055 with a zinc-alloy layer applied by the thermal spray coating method. The bar selected should also have a bond strength that meets the minimum requirements of ASTM A944.

13.3.3.3 Structural Steel

Structural steel shall meet the requirements of ASTM A709. Stainless steel shall meet the requirements of ASTM A240 Type 316 or 316L or ASTM A276 Type 316 or 316L. Bare weathering steel shall not be allowed for the Frederick Douglass Memorial Bridge. Where weathering steel is used for other bridges, it shall be coated in the following areas:

1. For Jointless structures:
    a. Areas in contact with concrete surfaces in accordance with Section 707.07 (B) of the DDOT Standard Specifications for Highways and Structures
    b. Outside surface of fascia girders and beams including the underside of the bottom flange. This includes fascia girders and beams located at longitudinal joints of adjacent bridges not between median barriers. Painting of fascia girders and beams of adjacent bridges located at longitudinal joints between median barriers is not required.
2. For Jointed Structures:
    a. Areas within 5 feet of a deck joint including cross-frames, diaphragms stiffeners connector places, girders and beams

b. Areas in contact with concrete surfaces in accordance with Section 707.07 (B) of the DDOT Standard Specifications for Highways and Structures

c. Outside surface of fascia girders and beams including the underside of the bottom flange. This includes fascia girders and beams located at longitudinal joints of adjacent bridges not between median barriers. Painting of fascia girders and beams of adjacent bridges located at longitudinal joints between median barriers is not required.

Drip plates shall be provided on the bottom flanges on the exterior side of steel plate girders to keep water runoff from bearings and bridge seats.

All high-strength bolts shall conform to ASTM A325, Type 1 for painted connections and Type 3 for unpainted weathering steel connections.

Use no more than three plates (two shop splices) in the top or bottom flange of field sections up to 150 feet long.

The main longitudinal load-carrying girders shall be welded plate cambered during fabrication.

For bridges using structural steel as primary beam/girder material, the use of HPS (high-performance steel), 70 ksi is permitted; the use of HPS 100 ksi will not be permitted. Hybrid steel shall not be permitted for structural steel.

13.3.3.4 Pre-stressed and Post-tensioned Concrete Girders

The use of high-performance concrete (HPC), as defined by FHWA, for pre-stressed concrete beams will be considered but will require Approval by DDOT. The maximum design compressive strength shall be limited to 10,000 psi.

13.3.3.5 Stay Cables

Stay cable systems shall comply with the requirements of Attachment 13A.

13.3.3.6 Stone Veneer

Nominal stone thickness shall be 4 in to 6 in. All other requirements shall be in accordance with Section 708 of the DDOT Standard Specifications for Highways and Structures.

13.3.4 Loads and Forces

All loads shall be in accordance with AASHTO LRFD Bridge Design Specifications unless specified herein.

13.3.4.1 Vehicular Live Load

Vehicular live load shall be in accordance with AASHTO LRFD Bridge Design Specifications and also include:

1. A Special Under-Bridge Inspection Vehicle, if applicable, based on the DB Contractor-developed inspection methods contained in the Access and Maintenance Report.
2. For Load Ratings refer to Section 13.5.2 of this Technical Provision.

For Bridge S-1, the bridge shall be designed for the following cross-section configurations:

1. The bridge deck cross section as described in Section 13.3.2.5 of this Technical Provision; and
   2. An alternative configuration for vehicular live load design of the bridge needs to be considered where the bike/pedestrian path is reduced to allow an additional 11-foot lane to be provided in each direction. The additional lane shall not be separated from the other three lanes by structural elements.

The DB Contractor shall provide details in the Type Size and Location (TS&L) report that demonstrates this alternative can be achieved.

13.3.4.2 Pedestrian Live Loads

Pedestrian loading on the bike, pedestrian path and Belvederes of Bridge S-1 shall be 75 pounds per square foot (psf). This bike and pedestrian path shall be considered a loaded lane when determining multiple presence factors.

13.3.4.3 Earthquake Loading

Seismic Design shall be in accordance with AASHTO Guide Specifications of LRFD Seismic Bridge Design. The design return period for the Frederick Douglass Memorial Bridge shall be 2,500 years. All other bridges shall be 1,000 years.

13.3.5 Bridge Inspection, Maintenance and Access

The DB Contractor shall provide an Access and Maintenance Report for every bridge design. This shall include a section on future bridge inspection and maintenance. A maintenance of traffic plan shall be provided that shows the bridge wearing surface for structures S2, S3, S4, S5, S6 and S7 can be replaced while maintaining traffic.

All bridge Superstructures, joints, and bearings shall be accessible for inspection and maintenance and shall be designed and detailed by the DB Contractor to allow for replacement of joints and bearings. Whenever bearing replacement may be required, an inspection and maintenance drawing shall be included in the set of bridge drawings. The following details are required:

1. Jack details including dimensions, manufacturer, model number, and capacity;
2. Jack locations during jacking;
3. Design criteria for the lifting process;
4. Details for how pier and abutment seats can be accessed for inspection and maintenance;
5. Site preparation and access; and
6. Bearing replacement procedure.

Jacking load shall contain live load for traffic during jacking operation. The jacking loads and their locations shall be shown on the drawings. The jacking loads shall be broken down into dead and live load components. Simple span bridges with full integral abutments do not require a bridge jacking design or plans.

Provide reference placards for Bridge S-1 identifying each bearing at every abutment and pier. The bearing number and Substructure unit name shall be inscribed on the placards. Placards shall be comprised of 16-gauge stainless steel with a brushed and polished finish. Inscribing shall be black laser with a font height of 1 inch. Placard size shall be 4 inch x 6 inch minimum.

Open-framed Superstructures and exteriors of closed-framed structures shall be accessible by a ladder or a UBIT (under-bridge inspection truck). For closed-framed structures that are not accessible by a ladder or a UBIT, the DB Contractor shall include proposed alternative methods in the Access and Maintenance Report for DDOT Approval.

All box girders or other enclosed spaces where access is required shall be accessible for interior inspection during and after construction. Access doors shall be steel lockable; hinges obscured; shall swing into the space; and shall be placed at locations that do not impact traffic. Lock box latches shall be installed on all access doors accessible from ground level. A minimum of four keys shall be provided to DDOT. Box girders containing Utilities shall be accessible for Utility inspection and maintenance. DB Contractor shall submit details and specifications for access doors to DDOT for Approval.

Box girders shall include light emitting diode (LED) ceiling-mounted inspection lighting and electrical power. Light fixtures, light switches, and duplex receptacles shall be located inside the box. Light switches shall be located at the entrances, middle, and ends of the box girder. The receptacles shall be ground-fault circuit-interrupter type rated at 120VAC and rated per National Electrical Code (NEC). Each receptacle circuit shall have a minimum 1,800 watt capacity and shall comply with NEC and with a spacing no more than 100 feet apart. Each lighting fixture shall have a minimum capacity of 79 watts with a minimum lumen output of 5,820 fc and shall be spaced to provide a minimum of 5 fc or greater per OSHA regulations. For Bridge S-1, the light fixtures shall be installed such that the lights are fed from both abutments and the circuits ending near the middle of the channel. Additional lighting and receptacle circuits may be required per NEC. All Work shall comply with the NEC, Standard Specifications, local codes, and any other codes that may be applicable.

Box girder penetrations greater than 1 inch in diameter through the exterior shall be covered with wire mesh screen to prevent access of vermin and birds to the interior of the box girders.

The DB Contractor shall strip and remove all falsework and formwork from bridges including the interior of box girder cells.

13.3.6 Bridge Security

13.3.6.1 Bridge Design Security

See separate document transmitted as Sensitive Security Information per 49 CFR Part 15.

13.3.6.2 Bridge Construction Security

All-hazard designs incorporating security elements shall be included throughout bridge construction.

All Project Documents, as defined in Section 12, Project Documentation and Section 28, Quality Management Plan, of these Technical Provisions shall include the necessary information for satisfactory construction of the structure, system, or component and training necessary to operate any security system. These documents shall not indicate that the construction, structure, system, or component shown meets any security standard or contain any reference to the limits or capabilities of the construction, structure, system, system operation, or component.

The DB Contractor shall establish procedures for safeguarding secure information, particularly with regard to design criteria for security, behavior of the structure under extreme all-hazard events, and security system operation. At a minimum, the DB Contractor shall include procedures for the following:

1. Establish appropriate points of contact for the Contractor and DDOT
2. Limit reproductions and provide accountability for document distribution
3. Release secure information only to those who have a need to know, as determined by DDOT
4. Identify appropriate storage methods
5. Control transmitting and shipping information
6. Dispose of documents as necessary to control security information

13.3.7 Concrete Design

Spliced concrete beams/girders are prohibited.

Continuity reinforcement at intermediate piers for beam-slab bridges shall be provided in the bridge deck to resist negative moments due to live load and superimposed dead loads.

Prestressed concrete girders shall be designed by the DB Contractor to have the same depth in all spans.

De-bonded strands in prestressed concrete girders will not be permitted.

13.3.8 Segmental Bridge Design

Provide an initial and future wearing surface for segmental bridges. A minimum allowance of 25 lbs. per sq. ft. for future wearing surface shall be used.

13.3.9 Bridge Foundations

The performance criteria of the bridge foundation at service limits are provided in Table 13.4.

TABLE 13-4
Bridge Foundation Allowable Movements

Direction of Movement	Maximum Magnitude at Top of Foundation
Vertical	0.5 inch*
Horizontal (Lateral)	1 inch

TABLE 13-4
Bridge Foundation Allowable Movements

Direction of Movement	Maximum Magnitude at Top of Foundation
Angular Distortion (Differential Vertical Displacement over Span Length or Abutment Width)	0.002 inch/inch

Note:
*The tolerable vertical movement may be up to 1 inch if refined structural analysis is performed to validate satisfactory performance of the bridge structures without cracks or causing function or maintenance concerns.

The design and construction of foundations or retaining walls shall protect the fuel pipe line along Suitland Parkway, the 11-foot Stickfoot branch at or near Howard Road, and any other Utilities.

The DB Contractor shall evaluate and resolve all potential conflicts with existing foundations, Utilities, left-in-place cofferdams or shorings from previous construction, and any other underground obstructions encountered during the design and construction of foundations and structures.

Drilled shafts shall be constructed and tested in accordance with Section 6, Geotechnical Design, and the Special Provisions for Drilled Shafts, of these Technical Provisions.

For driven piles, at least one static or Statnamic load test shall be performed at each bridge on land; and for Bridge S-1, at least two static or Statnamic load tests shall be performed. Additionally, pile dynamic load tests using pile-driving analyzer (PDA) shall be performed to determine pile-driving criteria. Use of embedded data collectors is not precluded but shall be validated through PDA tests or static load tests. Criteria for use of embedded data collectors shall be submitted DDOT for review. The location of drilled shaft or driven piles or any other deep foundations to be selected for load test shall be reviewed by DDOT prior to instrumentation and testing of the test shaft/pile. Test piles and test shafts may not be incorporated into the permanent Works.

The exposed area of pile cap for Bridge S-1 piers shall meet the visual quality requirements described in Section 15, of these Technical Provisions.

13.3.10 Bridge Decks and Expansion Joints

Expansion joints shall not be placed in-span or at intermediate supports on new bridges unless otherwise noted in this Section. Longitudinal joints shall be placed along the median and between girders or beams. Longitudinal joints shall not be placed in shoulders, travel lanes, or sidewalks.

13.3.11 Drainage Systems

Bridge deck drains (scuppers) and drainage systems are to be designed to limit the spread of runoff into the travel lanes. Refer to Section 14, Hydrology and Hydraulics, of these Technical Provisions and Section 18.10 of the DDOT Design and Engineering Manual for additional requirements.

13.3.11.1 Bridge Deck Drain (Scupper)

1. Bridge deck drains shall be placed outside of the travel lanes to minimize the shifting of vehicles attempting to avoid these areas.

13.3.11.2 Bridge Deck Pipe Systems

1. The bridge drainage system requirements shall be established with the development of the bridge design in order to avoid conflict with the structural components of the bridge.
2. Bridge drainage systems shall not be discharged directly into watercourses.
3. Collector pipe systems with watertight joints shall carry deck drainage to the bridge ends for water-quality treatment and disposal.
4. When using downspouts, splash basins should be provided to minimize erosion or tie the downspouts into the storm drain pipe.
5. Downspout elbows shall be 45 degrees or less.

6. Drain pipes and downspouts shall be located to minimize visual disruption. Deck drainage pipes shall not be placed outside of fascia girders or piers.

13.3.12 Abutments

Full integral, semi-integral, and slab extension abutments shall not be used with curved or non-parallel beams/girders.

Anchored walls, such as tie backs and soil nail walls, shall not be used to support any lateral or longitudinal load transferred from the bridge's Superstructure. Anchored walls, if used, shall be structurally isolated from the bridge loads.

Mechanically Stabilized Earth (MSE) steel strips shall not be attached to the abutment backwall above the elevation of bridge bearings.

Shallow foundations shall not be permitted within the reinforced earth zones of Mechanically Stabilized Earth (MSE) Walls.

13.3.13 Retaining Walls

The DB Contractor shall design and construct the Project in a manner which ensures that allowable settlement has occurred prior to the placement of final lift paving and the achievement of Substantial Completion.

Tolerable vertical and lateral deformation criteria for retaining and abutment walls shall be developed based on the function and type of wall, anticipated service life, and consequences of unacceptable movements (i.e., both structural and aesthetic). The followings are required tolerable long-term movements of walls:

1. Maximum tolerable lateral movement of secant pile walls, tie-back walls, and other rigid and semi-rigid walls under service load is 1 inch.
2. Maximum tolerable lateral movement of flexible retaining wall including cantilever wall without tiebacks or deep foundation under service load is 1 percent of exposed wall height but not to exceed 3 inches.
3. Maximum tolerable vertical movement of rigid or semi-rigid wall is 1 inch.

For MSE walls, the total settlement criteria in AASHTO LRFD 11.10.4.1 shall be followed.

For any retaining wall located within the proposed DC Water's Anacostia River Tunnel's zone of influence, the design and construction shall be coordinated with and approved by DC Water, per Section 13.3.22.1 of this Technical Provision.

Geosynthetic material shall not be used as reinforcement of a permanent MSE wall. MSE wall shall be designed for 75-year design life. MSE wall backfill materials within reinforced zone shall be free drainage coarse aggregates unless lightweight foamed concrete fill (LFCF) is used. Filter fabric shall seal the MSE wall panel joints to prevent loss of backfill. Where LFCF is used, drainage measures with minimum 6- inch perforated pipe connected to a drainage facility/manhole shall be used to avoid groundwater accumulation behind LFCF.

Retaining Walls shall be located such that a 15 foot wide area, within the Project ROW, is available for DDOT maintenance access following completion.

For MSE wall under pavement, an impervious membrane shall be placed below the pavement and just above the first row of reinforcement to intercept any flows containing deicing chemicals. The membrane shall be sloped to drain away from facing to an intercepting longitudinal drain outletted beyond the reinforced zone to a drainage facility.

MSE Walls shall not be placed within the 100-year flood zone.

Stone facing shall be installed only after the wall settlement is substantially completed and stabilized and the remaining settlement and horizontal deflection is less than 1 inch or manufacturer/vendor recommended allowable limit, whichever is smaller. A Geotechnical Instrumentation Plan shall be developed in accordance with Section 6, Geotechnical Design, of these Technical Provisions and implemented to verify the substantial

completion of settlement and movement of the walls. DB Contractor shall establish lower deflection limits if required to ensure the long-term performance of any wall with stone facing.

Granular permeable backfill and 6-inch, perforated longitudinal drainage pipe in accordance with DDOT Standard Drawing No. 602.01 shall be used to facilitate drainage behind cast-in-place walls.

If any existing walls are to remain in place, its structural and material integrity and stability under new loading condition shall meet current design standards and design life specified in this document.

13.3.14 Slope Protection

Provide an under-bridge apron comprised of stone in the shadow of Bridge S-1 in accordance with Section 602 of the Standard Specifications. Refer to Section 13.3.22.5 of this Technical Provision for protection of the existing Anacostia levee.

The slope protection for Bridges S-2 through S-7, if needed, shall be concrete slab with a minimum thickness of 4 inches. A minimum 2-foot berm shall be provided from face of the abutment sloped at 12:1. The maximum slope is 2:1. The slope protection shall extend a minimum of 3 feet outside the edge of Superstructure. A 6-inch curb shall be provided along the outside edge of the slope-protection slab parallel to Superstructure. The curb shall extend from the abutment to 2 feet from toe of slope. Concrete slope protection shall be reinforced. The slope protection may tie into a ditch. If a ditch is not provided, a toe down shall be placed a minimum of 12 inches deep by 8 inches wide at the toe of slope. Subgrade shall be prepared in accordance with Section 203.03 of the Standard Specifications.

13.3.15 Standpipes

Standpipes shall be installed on Bridge S-1 in accordance with the requirements of the Mandatory Standards as described in Section 10, Utilities, of these Technical Provisions and herein.

1. The standpipe system shall be a dry system.
2. A supply connection from the standpipe system is required at land level and water level.
3. Standpipes shall be installed on each side of the bridge within the 4 ft median separating the travel lanes from the bicycle/pedestrian path.
4. Supply connection at water level shall require:
    a. Hydrant connection(s) for the fire boat.
    b. Access platform(s) with anti-skid surface material.
    c. Tie-off point(s) for the fire boats to the fender system.
    d. Flood lighting to illuminate the entire area with the hydrant connection(s), platform(s), and tie-off point(s).
    e. Ladder with grab handle bars.
5. Supply connection at land level shall require:
    a. Maximum distance from the fire hydrant(s) to the standpipe system on the bridge is 50 ft.
    b. Maximum distance between the standpipes outlets is 200 lineal feet.
    c. Signs and placards that identify the standpipes and coordinate the connections for the standpipe system.
6. Standpipes shall be integrated into the aesthetics of the bridge. Supply pipes shall be located above the low Superstructure elevation and inside of the fascia elements. Field welding on structures is not permitted. All supports shall be of a non-rusting material.

13.3.16 Lighting

13.3.16.1 Under Bridge Lighting

Under bridge lighting shall be provided where there is public access. Under bridge lighting shall be in accordance with the requirements of Section 16, Illumination, of these Technical Provisions. Under bridge lighting for Bridges S-5 through S-7 shall meet the visual quality requirements described in Section 15, of these Technical Provisions.

13.3.16.2 Street Lighting

Street lighting shall be in accordance with the requirements of Section 16, Illumination, of these Technical Provisions.

13.3.16.3 Aesthetic/Architectural Lighting

Aesthetic/Architectural lighting shall meet the visual quality requirements described in Section 15, of these Technical Provisions.

13.3.17 Fender System

The DB Contractor, coordinating with DDOT, will be required to obtain all necessary permits before beginning Work in the channel.

The DB Contractor shall ensure that the existing bridge and the new bridge are protected from collision by the DB Contractor at all times throughout the life of the Contract.

Embedment of foundations for fender system shall account for local scour in accordance with AASHTO and FHWA requirements. The embedment below the scour elevation shall be enough to develop the full moment capacity of the foundation component.

If structural steel components are used in the design, corrosion rates shall be evaluated for the service life of the bridge and fender system. Components shall be sized to include the appropriate additional thickness of sacrificial steel.

The operational classification for the Crossing shall be “Critical.”

All river piers shall be designed for vessel impact. The impact forces shall be computed in accordance with AASHTO LRFD Section 3.14 based on the minimum design load of a drifting hopper barge as described in AASHTO LRFD Section 3.14.1. A site-specific vessel traffic study and risk assessment will not be required.

Vessel impact loads shall be determined by the DB Contractor. The structure shall be designed in accordance with AASHTO LRFD Bridge Design Specifications to account for the effects of impact on the Substructure and/or the fenders.

Fenders shall be provided at the first two piers adjacent to each side of the navigation span for the protection of small vessels from damage in the event of accidental collision. Fenders may be self-supporting or attached to the piers. Characteristics of small vessels using the waterway to be considered in design of fenders are presented in Table 13-5.

TABLE 13-5
Characteristics of Small Vehicles Using Waterway

Vessel Type	Draft (ft)		LOA (ft)		Beam (ft)	
	Max	Min	Max	Min	Max	Min
Fire/Police Boats	6	2	71	33	21	8
Small Recreational Craft	6	1	68	18	22	5
Passenger Vessel	8	2	110	36	33	10

13.3.18 Bridge and Retaining Wall Barriers and Railings

Pre-cast concrete barriers shall not be used for permanent applications on bridges or approach slabs.

Permanent traffic barriers and railing systems shall meet the requirements established in the National Cooperative Highway Research Project (NCHRP) Report 350 if tested prior to the adoption of the AASHTO Manual for Assessing Safety Hardware (MASH). Permanent traffic barriers and railing systems manufactured after the adoption of MASH shall meet the requirements of MASH. Fencing, railing, barriers and parapets shall meet the aesthetic requirements of Section 15, Visual Quality Requirements, of these Technical Provisions. Traffic barriers and railings shall be the height and FHWA minimum-impact test level as shown in Table 13-6 herein.

The DB Contractor shall modify the railing plans shown in the Standard Plans, as necessary, to meet the Visual Quality Requirements in Section 15, of these Technical Provisions. Concrete barrier type shall be consistent throughout the project. Visual quality requirements described in Section 15, of these Technical Provisions shall not adversely affect the strength and safety requirements of the barriers.

Pedestrian Loading for barriers shall be in accordance with AASHTO LRFD Bridge Design Specifications.

TABLE 13-6
Bridge and Retaining Wall Barrier and Railing Requirements

Location	Height (inches)	Crash Test Criteria
S-1 – Frederick Douglass Memorial Bridge	32	TL-3
	48	N/A
S-2 – I-295 Over Firth Sterling Avenue	42	TL-4
S-3 – Ramp A over Suitland Parkway	42	TL-4
S-4 – I-295 Over Suitland Parkway	42	TL-4
S-5 – Ramp A Over Howard Road SE	42	TL-4
S-6 – I-295 Over Howard Road SE	42	TL-4
S-7 – Ramp F Over Howard Road SE	42	TL-4
West Oval Walls and East Oval Walls	32	TL-3
	48	N/A
Retaining Walls	42	TL-4

13.3.19 Utilities on Bridge

Utilities crossing on the bridge shall be in accordance with Section 10, Utilities, of these Technical Provisions and herein.

Conduits shall be provided for Intelligent Transportation Systems (ITS) and lighting as required for the Project through all bridge barriers. Provide a minimum of two spare 2-inch diameter galvanized rigid steel conduit pipes with junction box pairs (one for each conduit pipe) spaced at 180-feet maximum centers cast into all new bridge barriers for the full length of the barrier. Each conduit pipe shall terminate at separate junction boxes within 15 feet of the exit from a barrier.

In addition, on Bridge S-1 the DB Contractor shall provide the following dedicated Utility corridors:

1. Two duct banks, one on each side of the bridge, each containing six 4-inch diameter galvanized rigid steel conduit pipes with junction box pairs (one for each conduit pipe) spaced at 180-feet maximum centers for DDOT street lighting and ITS.
2. Space to accommodate two Pepco Transmission duct banks. Pepco has indicated that each duct bank should contain eight 8-inch diameter pipes. Conduit type and junction box location shall be as agreed to with Pepco. The DB Contractor shall negotiate all costs for design and installation of these duct banks directly with Pepco, and will be paid directly by Pepco.

Final location of the Bridge S-1 Utility corridors shall be Approved by DDOT. The design of bridge abutments shall incorporate transition of Utilities from the bridge Superstructure to adjacent roadway that is accessible for inspection and maintenance of the Utilities but hidden from the view of the public. Utilities are prohibited inside box girders.

13.3.20 Barrier Protection of Substructures

The need for barrier protection of Substructures shall be evaluated based on the provisions of the AASHTO Roadside Design Guide. Barrier protection shall satisfy the requirements of AASHTO LRFD Bridge Design Specifications.

13.3.20.1 MSE Crash Wall

Crash wall shall be design to minimize the damage to an MSE wall system upon impact by an errant vehicle. A finite element model analysis is required.

13.3.21 Overhead Sign Structures, CCTV Camera Structures, and Overhead Lighting Structures

Overhead sign structures shall not be installed on the Bridge S-1. All sign structures shall comply with the visual quality requirements in Section 15, of these Technical Provisions.

Where overhead sign structures, closed-circuit television (CCTV) camera structures, or luminaires are mounted on bridges, the bridge structural elements shall be designed for the loads from the overhead sign structures, CCTV camera structures, or luminaires. For overhead lighting to be placed on bridges, the DB Contractor shall locate the overhead lighting at bridge supports, where possible. Sign structures mounted to the outside face of barriers are not permitted.

The DB Contractor shall design retaining walls and foundations to account for the placement of any major sign supports (such as cantilevered signs or sign bridges), overhead lighting supports, or Intelligent Transportation System facility supports, on or behind the retaining walls.

Foundations shall not be located in a drainage ditch.

Refer to Sections 16, Illumination; 17, Traffic Signals/Intelligent Transportation Systems; and 19, Signing, of these Technical Provisions for additional requirements.

13.3.21.1 Overhead Sign Structures

The DB Contractor shall design all overhead cantilevered sign structures for the fatigue design loads, including galloping, natural wind gust, and truck-induced gust.

All poles/uprights of overhead sign structures shall have a minimum number of six (6) anchor bolts at each base connection, each having a minimum diameter of 1 ½ inches. The minimum base plate thickness shall be 2 inches. All end pole columns shall be joined to the base plate using a socketed connection. No mortar, grout, or concrete shall be placed between the bottom of base plate and top of foundation.

The DB Contractor shall use drilled shafts or spread footings to support overhead and cantilever sign structures and sign supports.

13.3.21.2 CCTV and Overhead Lighting Structures

The DB Contractor shall design all high-level lighting and CCTV structures for the fatigue design loads, including vortex shedding and natural wind gust.

The analysis and design of CCTV camera-support structures and overhead lighting structures shall conform to the following criteria:

1. Basic wind speed of 90 mph shall be used in computing design wind pressure using Equation 3-1 of the AASHTO LRFD Bridge Design Specifications.
2. Pole deflection shall not exceed 0.7 inches in 30 mph wind or 1.4 inches in 70 mph wind.
3. The Design Life and Recurrence Interval shall be as follows:
    a. Fifty (50) years for structures exceeding 50 feet in height.
    b. Twenty-five (25) years for structures less than 50 feet in height.
    c. Fatigue Design shall conform to Section 11 of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals using Fatigue Category III.

13.3.22 Other Facilities

13.3.22.1 DC Water Anacostia River Tunnel

The DB Contractor shall design all structures to avoid the area within the Subterranean Easement defined in C 10-04 – LTCP Easement-Suitland. As specified in the easement document, all work within 20 feet of the easement is subject to DC Water review. For all proposed excavation and construction occurring within 20 feet horizontally and vertically from the Subterranean Easement limits, the DB Contractor shall, in addition to meeting the design submittal requirements of Section 28, Quality Management Plan, of these Technical Provisions, provide an additional 3 copies of all submittal components for DCCR review and comment. The magnitude of the expected tunnel-induced settlement is shown in the RID 10-18 – DCCR-ART Settlement Details.

13.3.22.2 DC Water Poplar Point Proposed Retaining Walls

The design for DC Water's Poplar Point Site retaining walls is based on the Conceptual Plans in which it accounts for the additional surcharge loading due to this tiered layout. A global stability analysis encompassing the tiered wall layout shall be performed and meet the requirements of Section 6, Geotechnical Design, of these Technical Provisions. Intermediate Plan Submittals (65% Review) and the Final Construction Plans and Specifications shall be submitted to DCCR for review at least 30 Days prior to construction permit approval. Submittals to DCCR shall include all relevant plans and specifications for any proposed retaining wall in the area and conform to the submittal requirements of the DDOT Design and Engineering Manual.

13.3.22.3 DC Water Stickfoot Sewer Branch

Deep foundations for Bridge S-5 shall avoid and not be installed within 5 feet clear from this sewer.

Additional monitoring requirements can be found in Section 6, Geotechnical Design, of these Technical Provisions.

As-Built plans are included in RIDs, *Bureau of Design, Engineering and Research Department of Highways Government of the District of Columbia – Anacostia Freeway Overpass at Howard Road Contract Drawings 1961.*

13.3.22.4 WMATA's Anacostia Metro Station

The DB Contractor shall design, construct, and coordinate with WMATA all Work located within WMATA's Anacostia Metro station zone of influence in accordance with Washington Metropolitan Area Transit Authority (WMATA) Office of Joint Developments and Adjacent Construction (JDAC), Adjacent Construction Project Manual.

As-Built Plans shall be requested directly from WMATA.

13.3.22.5 Existing Levee

The DB Contractor shall coordinate with U.S. Army Corp of Engineers (USACE) within 30 Days of NTP 1 and on a monthly basis during the design phase to facilitate the review and approval process with USACE.

Given the potential for a lengthy USACE review process, any design proposal by the DB Contractor which would impact, damage, or potentially undermine the Anacostia Levee shall be deemed unacceptable and will be rejected by DDOT.

The DB Contractor shall coordinate with the U.S. Army Corp of Engineers (USACE) for the Demolition of the existing pier in the levee and for construction of Bridge S-1 over and adjacent to the levee. The DB Contractor

shall submit plans to the USACE as part of a “No Harm” review including means and methods for protection of the existing levee and demolition of the existing pier(s) within the levee.

The proposed bridge shall provide a minimum of 12 feet 0 inches vertical clearance over the top of the levee. The levee shall be protected a minimum distance of 10 feet 0 inches from the outside edge of Superstructure. The levee protection system shall, at a minimum, restore the levee to its intended elevation.

The existing pier within the levee shall be cut demolished at 2'-0" below existing ground level. Following demolition, the levee adjacent to and in the shaded area of the existing bridge is to be restored to the condition and elevation of the adjacent levee. Backfill and compaction of material shall be in accordance with DDOT Standard Specification Section 206 for structural backfill. Top soiling and seeding shall be in accordance with DDOT Standard Specification Section 607.

13.3.23 Temporary Structures

13.3.23.1 Temporary Bridges

A temporary bridge is any bridge or portion of a bridge that will not remain upon completion of the Contract and will be in service less than 5 years.

All temporary bridges shall be designed for live load deflection less than L/800 as defined by AASHTO.

Components of temporary bridge structures which will be incorporated into the permanent structures shall meet the requirements for permanent bridge structures.

The DB Contractor shall overlay precast deck panels or precast deck bulb-tee girders with a minimum hot mix asphalt (HMA) wearing course of 2 inches in thickness or provide a minimum 1.5-inch concrete overlay. The minimum cross-slope of the wearing course shall be 0.01 feet per foot.

The DB Contractor may widen existing bridge structures temporarily, when required. The temporary widened portion shall meet the requirements for temporary bridge construction.

The DB Contractor shall be responsible for the maintenance of all temporary bridges.

The demolition of temporary structures shall comply with Section 3, Demolition, of these Technical Provisions. The site condition shall be in a condition as good as or better than prior to installation of temporary structure.

13.3.23.2 Temporary Retaining Walls

A temporary retaining wall is any wall or portion of wall that will not remain upon completion of the Contract.

Structural components of temporary retaining walls may be reused as part of permanent retaining wall systems, provided all of the structural support elements and materials of the temporary retaining walls meet the requirements for permanent walls and are designed for all loads in the permanent condition. The DB Contractor shall not use timber piles as foundations for temporary retaining walls. The DB Contractor shall be responsible for maintenance of temporary wall structures.

Temporary retaining walls may be abandoned and left in place by the DB Contractor, if Approved by DDOT, on the condition that the temporary walls are no longer required for ground support or permanent retaining walls are constructed to replace them. Temporary retaining walls shall be removed in accordance with Section 3, Demolition, of these Technical Provisions. Temporary retaining walls constructed of treated timber shall be removed entirely.

13.3.23.3 Submittals

Design shall be prepared and the plans signed by a Registered Professional Engineer in the District of Columbia.

13.4 Construction Requirements

Cranes, drill rigs, and other construction equipment exceeding the legal load shall not be operated on structures without DDOT’s written Approval.

Construction of any Superstructure and Substructure shall be staged as necessary to maintain travel lanes on South Capitol Street, I-295, Suitland Parkway, and secondary roads in accordance with the Maintenance of Traffic requirements outlined in Section 22, Maintenance of Traffic, of these Technical Provisions.

The DB Contractor shall follow the steps for demolition of existing structures as outline in Section 3, Demolition, of these Technical Provisions.

13.4.1 Bracing

Temporary bracing shall be provided as needed during construction in accordance with the AASHTO Guide Specifications for Bridge Temporary Works and the *AASHTO Construction Handbook for Bridge Temporary Works*.

13.4.2 Structure Identification Emblems

The values shown in Table 13-7 shall be placed on the Mosaic Emblem of each bridge in accordance with DDOT Standard Drawing 703.07. The number of emblems per structure and the location of each emblem shall be coordinated and Approved by DDOT.

TABLE 13-7
DDOT Structure Numbers

Project Structure Designation\Location	DDOT Structure Number	Number of Emblems
S-1 – Frederick Douglass Memorial Bridge	0053	4
S-2 – I-295 Over Firth Sterling Avenue	1012	2
S-3 – Ramp A over Suitland Parkway & S-4 – I-295 Over Suitland Parkway	1009	2
S-5 – Ramp A Over Howard Road SE, S-6 – I-295 Over Howard Road SE & S-7 – Ramp F Over Howard Road SE	1008	2

13.4.3 Navigation

All Work over, on or adjacent to navigable waters shall be so conducted that free marine navigation of the waterway and navigable depths is maintained. A minimum of one navigation channel of 150 feet by 40 feet shall be maintained at all times and must be within the limits and general alignment of the existing federal channel. The DB Contractor shall be responsible for obtaining necessary permits as issued by the U.S. Coast Guard (USCG) and/or the U.S. Army Corps of Engineers, as applicable, for encroachments into this navigation channel. On-site communications shall be maintained 24-hours a day.

The DB Contractor shall provide all temporary and permanent navigation lighting required by the USCG in accordance with 33 CFR 118 and 33 CFR 88 and comply with the requirements of the Office of Bridge Programs, including the Bridge Lighting Manual. The systems shall be suitable for a marine environment.

The existing fuel pier located to the south of the bridge on the Anacostia side of the river will remain in operation throughout the Project. DB Contractor will coordinate with NuStar on procedures for access/egress to/from the pier by vessel and by land and types of Work, including hot work restrictions that may be imposed during offloading of fuel.

13.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 13-8
Bridges and Structures Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Corrosion Protection Plan	Review and Comment	With Preliminary Design Submittal	13.2.2
Wind Design - Initial Evaluation Report	Review and Comment	With Preliminary Design Submittal	13.2.3.1
Access and Maintenance Report	Review and Comment	With Final Design Submittal	13.3.5
Comprehensive Threat, Vulnerability and Risk Assessment Report	Review and Approve	With Preliminary Design Submittal	13.3.6.1
Structure Security Compliance Report	Review and Approve	With Preliminary Design Submittal	13.3.6.1
Independent Check Certifications	Submit	With each Final Design submittal	13.5.1.3
Independent Check Monthly Report	Submit	Monthly	13.5.1.4
Independent Design Check Report	Review and Comment	Before Substantial Completion	13.5.1.3
Bridge TS&L Reports	Review and Approve	With Preliminary Design Submittal	13.5.1.1
Final Load Rating Report	Review and Approve	Before Substantial Completion	13.5.2

13.5.1 Design Submittals

All plans, calculations, working drawings, reports and load ratings shall list the DDOT Project Number and DDOT Structure Number.

13.5.1.1 TS&L Reports and Plans

Bridge plans shall be submitted to Section 106 signatories in accordance with the signed Section 106 MOA. Following incorporation of comments from the first Section 106, review TS&L reports for each bridge, including foundation recommendations, shall be submitted for review and Approval by DDOT and FHWA prior to commencing final design. TS&L reports shall be signed and sealed by a Professional Engineer registered in the District of Columbia. The TS&L report shall include type, size, and location (TS&L) drawings of the proposed bridges including a construction sequence. Bridge type and layout shall be based on reducing long-term maintenance costs for DDOT.

The DB Contractor shall submit Preliminary, Final and Released for Construction Documents on DDOT standard sheets for the bridges, including temporary bridges; retaining walls, including temporary retaining walls; sign structures; lighting structures; and other minor structures. The plan set for bridges shall include stage construction plans. Plans shall be signed, sealed and Approved prior to fabrication or construction.

Refer to Section 28, QMP Requirements, of these Technical Provisions for additional requirements.

13.5.1.2 Calculations

The DB Contractor shall provide complete sets of calculations to support all structural designs described herein. Complete sets of calculations shall be included with each design review submittal (including temporary structures, falsework, and other temporary works).

All final design calculations shall include the stamp of a Professional Engineer licensed in the District of Columbia.

The sets of calculations shall include the following:

1. Index Sheets – These shall include numbered calculation sheets and an index by subject with the corresponding sheet numbers. The name of the Project, structure number, designer/checker initials, date (month, day, and year), and supervisor's initials shall be listed.

2. Design Calculations – These shall include design criteria; loadings; structural analysis; moment, shear and axial load envelopes; and pertinent computer input and output data (reduced to an 8.5-inch by 11-inch sheet size).

Refer to Section 28, Quality Management Plan, of these Technical Provisions for additional requirements.

13.5.1.3 Independent Check

An Independent Check shall be performed on Bridge S-1. The Independent Checking Engineer shall be responsible for providing the following submittals:

1. Certification of Design - Each time any part of the Final Design is submitted to DDOT, they shall be accompanied by a check certificate from the Independent Checking Engineer.
2. Certification of Design Reports - Each time any final structural design report or manual is submitted to DDOT it shall be accompanied by a review certificate from the Independent Checking Engineer.
3. Design Check Report - 45 Days prior to Substantial Completion, the Independent Checking Engineer shall submit a prepared design check report that certifies a comprehensive, thorough verification of the original Work and includes a list of current certificates that relate to the Final Design of the Project. The design check report shall include a description of the independent checks undertaken and the findings of the Independent Checking Engineer under the following headings:
    a. Compatibility of bridge geometry with roadway geometrics including typical sections, horizontal alignment, and vertical alignment
    b. Critical horizontal and vertical clearances
    c. Potential conflicts with underground and overhead Utilities
    d. Compliance with requirements of the Project Documents
    e. Conformity to approved construction standards
    f. Structural analysis methodology and assumptions
    g. Erection analysis
    h. Design results/recommendations (independent verification of the design)
    i. Completeness and accuracy of bridge plans
    j. Serviceability of structures

13.5.1.4 Reports

The DB Contractor shall furnish reports listed below and as described herein.

1. Corrosion Protection Plan
2. All Risk Hazard Assessment
3. Access and Maintenance Report
4. TS&L Report for each bridge
5. Independent Checking Report for each bridge

13.5.2 Load Rating

A load rating report shall be submitted for each bridge in accordance with this Section.

DB Contractor will submit to DDOT for Approval a final load rating report based on the As-Built plans, before the bridge is opened to vehicular traffic. The inventory and Operating ratings shall appear on the plan cover sheet. The bridges shall be load rated using LRFR. Load ratings shall be in accordance with AASHTO Manual for Bridge Evaluation.

The bridges shall be evaluated based on the following loads:

1. AASHTO Design Loads, HL93
2. AASHTO Legal Loads, Type 3S2, Type 3-3
3. AASHTO National Rating Load (NRL) for screening for all AASHTO Specialized Hauling Vehicles (SHV). Bridges that do not pass the NRL loading should be investigated for Type 3 and SHV's to determine posting requirements.
4. Permit Truck, 147,000 lb., See Figure 13-1.
5. Permit Truck, 90,000 lb., See Figure 13-2.

FIGURE 13-1
DC 147K Permit Truck: 147 Kips

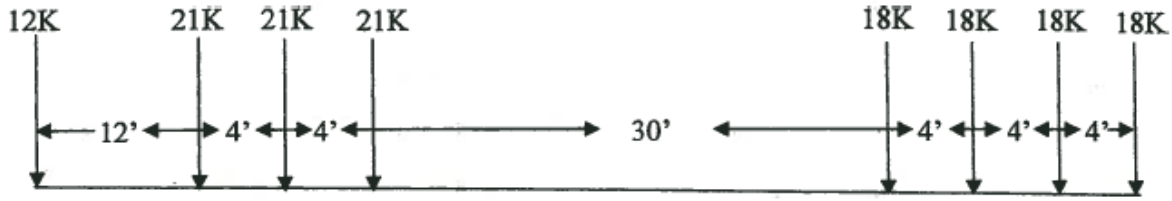
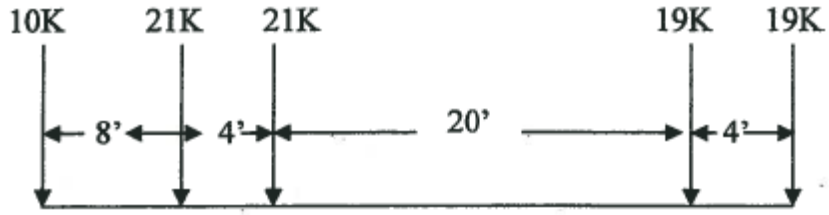


FIGURE 13-2
DC 90K Permit Truck: 90 Kips



Each bridge load rating report shall be submitted to DDOT and shall include the following elements:

1. Calculations in both working and PDF files and printed copies. An Executive Summary shall be submitted including the description of the bridge, material property and loading assumptions.
2. Half-size set of plans that include Plan and Elevation, Framing Plan, Girder Elevations, Typical Sections of the bridge, and any other relevant sheets or sketches.
3. Submit printed and PDF copies of the full bridge rating output if the software used is specifically for load-rating tasks. Submit selected output sheets if software used is general analysis purpose software. Submit an executive summary letter stating the outcome and methodology of the load ratings of all bridge elements with the load rating output clearly describing the controlling elements of the structure.

Submit the above elements of the report for each bridge on CDs, in text, and PDF format. Submit the load rating report corresponding to each task order in one CD. Provide listing of load-rated bridges on a printed label for easy identification. Submit two copies of each bridge load rating report containing the above elements; provide these reports in 8.5-inch by 11-inch format.

Attachment 13A
Stay Cable Systems

Attachment 13A
Stay Cable Systems

1.0 General

Work described in this attachment applies to the entire stay cable system for cable-supported bridges. The DB Contractor is responsible for completing a custom technical specification that includes the requirements herein for stay cable systems.

The Work shall consist of designing, furnishing, fabricating, testing, storing, installing, monitoring, stressing, re-stressing, adjusting, and completing the assembly of all components of the complete stay cable system, including cable vibration suppression systems if necessary and repair and/or replacement of damaged components, also if necessary. The stay cable system shall allow control of the tension of the stay cable and facilitate future replacement that does not limit operation of the bridge or compromise bridge integrity.

The complete stay cable system includes: main tensile elements, selected strand sheathing and/or strand coating, complete anchorage components, wedges, bearing plates, guide pipes, sealing components, stay cable vibration-suppression system and components, corrosion-protection provisions, temporary corrosion-protection provisions during storage and construction, stay cable pipe, elastomeric boots, bolts, nuts, washers, clamping bands, erection devices and equipment, and all permanent and incidental materials and labor necessary to complete the stay cable system in accordance with the Project Documents.

The stay cable system shall allow control of the tension of the individual strands and future strand replacement. The system should provide independency for the strands regarding anchoring, corrosion protection, installation, tensioning, and replacement.

2.0 Mandatory Standards

The following is a list of publications to be used for design and construction. This list is contained in and supplemented by Volume III, Book I, Reference Information Documents (RIDs). In case of any ambiguities or conflicts between listed and provided Mandatory Standards, the more stringent standard shall apply as resolved by DDOT. This is not a comprehensive list for design and construction. Other applicable publications may be required to complete the Work as required. If the DB Contractor becomes aware of any ambiguities or conflicts relating in any way to the Mandatory Standards, the DB Contractor shall notify DDOT in writing within two Calendar Days of identifying the conflict or ambiguity. The DB Contractor shall comply with all applicable laws in addition to these Mandatory Standards.

1. Recommendations for Stay Cable Design, Testing, and Installation, Post Tensioning Institute (PTI)
2. Specification for Un-bonded Single Strand Tendon, PTI
3. Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products, A123 ASTM International
4. Specifications for Carbon Steel Bolts and Studs, A307 ASTM International
5. Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105ksi Minimum Tensile Strength, A325 ASTM International
6. Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete, A416 ASTM International
7. Standard Specification for Structural Steel for Bridges, A709 ASTM International
8. Standard Practice for Operating Salt Spray (Fog) Apparatus, B117 ASTM International

9. Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers, C864 ASTM International
10. Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings, D2657 ASTM International
11. Standard Specification for Propylene Plastic Injection and Extrusion Materials, D4101 ASTM International
12. Standard Specification of Polyethylene Plastics Molding and Extrusion Materials, D4976 ASTM International
13. Standard Test Method for Impact Resistance of Pipeline Coatings (Falling Weight Test), G14 ASTM International
14. Standard Test Method for Chemical Resistance of Pipeline Coatings, G20 ASTM International.

Stay cables are to be provided and tested in accordance with the PTI Guide Specification, "Recommendations for Stay Cable Design, Testing and Installation." This attachment and the PTI "Recommendations for Stay Cable Design, Testing and Installation" are intended to be complementary. In case of discrepancy between this attachment and the PTI "Recommendations for Stay Cable Design, Testing and Installation," this attachment shall govern. The following exceptions to the PTI Guide Specification, "Recommendations for Stay Cable Design, Testing and Installation" are applicable:

1. Saddles that permit the individual installation, tensioning, and replacement of strands may be used for stay cables.
2. Epoxy-coated strand shall not be allowed.
3. Parallel steel bars shall not be allowed for stay cables.
4. Portland cement grout will not be considered an acceptable corrosion-protection barrier and will not be allowed in the stay cable system for this Project.
5. If HDPE cable pipe is used, it shall be co-extruded with a light-colored outer layer (final color to be Approved by DDOT). The outer light-colored layer shall have an ultraviolet resistance equivalent to black pipe produced with not less than two percent (2%) carbon black. The interior layer shall be black, weather resistant, and contain not less than two percent (2%) carbon black. The co-extruded layer shall be fully bonded, and the outer layer shall be a minimum of 1/16-inch thick.

3.0 Performance Requirements

3.1 Quality Control Program

The DB Contractor is responsible for installing stay cable material in an undamaged condition. In order to assure that only conforming material is introduced into the Work, the DB Contractor shall provide a comprehensive Stay Cable Quality Control Program that covers the procurement, packaging, transport, delivery, and storage of all stay cable materials and components of the stay cables. This program shall include all procedures and practices necessary for the final installation of stay cables that meet the requirements of this attachment and Section 6 of the PTI "Recommendations for Stay Cable Design, Testing and Installation" without residual damage to any component of the stay cable system. The Stay Cable Quality Control Program shall include the following items:

1. Packaging and shipping for main tension elements and all protective materials;
2. Records for traceability and shelf life of all materials;
3. Inspection of materials to assure conformance to this attachment and to assure the materials are undamaged as they are installed on the bridge;
4. Limitations on storage and handling, including time periods for storing materials, temperature and humidity limitations for materials, temporary corrosion protection, and any limitation on temporary storage or protection that shall be permitted to affect performance of the completed stay design;

5. Coiling limitations for materials subject to set or plastic deformations, including prefabricated cables, HDPE pipe, Polyethylene-sheathed strand;
6. Limitations on coatings, repairs of coating damage, and supplemental protection for coated materials.

Permanent records shall be established and maintained by the DB Contractor for all procurement, inspection, sampling, testing and installation in accordance with the requirements of Section 6 of the PTI "Recommendations for Stay Cable Design, Testing and Installation." A copy of all records shall be retained on the Site.

3.2 Materials

3.2.1 Steel

All steel products to be used or supplied in connection with the stay cable system shall be steel products rolled, formed, shaped, drawn, extruded, forged, fabricated, or other similar process or processed by a combination of two (2) or more such operations, from steel by the open hearth, basic oxygen, electric furnace, Bessemer or other steel-making process.

3.2.2 Strand

Strand for stay cables shall be 0.62 inches in diameter, Grade 270, fy = 0.9fs, weldless grade, low relaxation, seven-wire strand conforming to the requirements of ASTM A416 "Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete," except that it shall be coated with a corrosion inhibiting material. During the process of manufacture of individual wires for "weldless" strand, welding is permitted only prior to or at the site of the last thermal treatment of the rod, for example, patenting or controlled cooling. There shall be no welds in the wire after it has been drawn through the first die in the wire drawing process.

Strand coating shall be of the "filled" type where the interstitial space between the strand and the sheathing is completely filled with the coating or corrosion-inhibiting material meeting the requirements of Table 1 from the PTI "Guide Specification -Specification for Un-bonded Single Strand Tendons."

1. Strand Coating in the Vicinity of Wedges
   a. The strand coating must be removed in the vicinity of the wedges. Provide recommendations for equipment and procedures required to do so that will not damage the strand. The actual procedures to be used by the DB Contractor during production must be similarly used for the acceptance testing. Propose an acceptable method for providing temporary and permanent corrosion protection of the area where coating has been removed in order to accommodate the wedge grips. The DB Contractor's system or method shall be qualified in accordance with Section 4.1 of the PTI "Recommendations for Stay Cable Design, Testing and Installation."
2. Cable Corrosion-Protection System
   b. The cable corrosion-protection system shall be a multi-barrier, single-phase system that protects both the temporary and permanent system from manufacture through its service life.

3.2.3 Cable Pipe

Cable pipe shall be HDPE meeting the requirements of PTI "Recommendations for Stay Cable Design, Testing and Inspection," Section 3.5. Steel pipes shall not be used for stay pipes.

3.2.4 Guide Pipe

Guide pipe shall meet the requirements of PTI "Recommendations for Stay Cable Design, Testing and Inspection." Guide pipes shall not impose an angular deviation to any strand.

3.2.5 Galvanized Components

Bearing Plates and all exposed carbon steel elements of the stay cable system shall be galvanized per ASTM A123.

3.2.6 Elastomeric Components

Elastomeric components, such as boots, shall be manufactured of the thickness, shapes and hardness required by the DB Contractor's stay cable system design. The sole polymer used to manufacture the components shall be

one hundred percent (100%) virgin chloroprene, which shall be not less than sixty percent (60%) by volume of the total compound. The elastomer shall meet the requirements of ASTM C864.

3.2.7 Cap Screws and Bolts

Material for cap screws used in the cable anchorages shall be high-strength, low-alloy structural steel conforming to ASTM A307. High-strength bolts used in the cable anchorages shall conform to ASTM A325.

3.2.8 Washers and Shims

Material for split washers and split shims, if used in the cable stay anchorage, shall be high-strength, low-alloy structural steel conforming to ASTM A709, Grade 50. All split washers and split shims shall be designed with a positive closure detail that will prevent shim loss upon unloading.

3.2.9 Material Storage

The storage facility provided by the DB Contractor shall provide indoor, protected space for all materials. The storage facility shall provide appropriate temperature-controlled space for any and all materials that are temperature sensitive in nature. The DB Contractor is responsible for all stay cable system materials (including cost of leasing storage facility). The DB Contractor shall allow immediate access to the Engineer of Record, their representative, and DDOT to inspect the storage facility at any time during its use.

3.3 Component Requirements

3.3.1 Requirements for Anchorages

Stay cable system components shall meet the requirements of the Project Documents and the acceptance testing of the system. The cable-anchorage assembly shall consist of an externally-threaded steel socket, anchor head, load-bearing nut, and protective cap. It must allow for complete de-tensioning of the cables and subsequent removal of the anchorage components (except the load-bearing nut) through the guide sleeve. The assembly shall pass without failure of any component of the support testing outlined elsewhere in these requirements.

The anchorage assembly and components shall be protected at all times against corrosion, particularly the wedges and wedge holes. Corrosion-protection measures shall be shown on the Shop Drawings and shall include temporary corrosion protection of areas (if any) where coating is intentionally removed for wedge contact. The permanent protection system shall include a stainless steel or galvanized cap to protect the exposed wedge plate and wedges from corrosion. Prior to the installation of the permanent cap, the wedge plate and exposed strand shall be coated with suitable grease.

The threaded portion of the socket shall be of sufficient length for installation of the cable and future force adjustment of ± 2.5 percent simultaneously in all cables without the use of shims. The assembly shall have a capacity equal to the guaranteed ultimate strength of the cable. Calculations shall be provided with the appropriate Final Submittal showing the service stresses in all load-bearing components of the assembly meet Project requirements.

All stay cable systems shall provide for the future addition of at least five percent (5%) of capacity through the installation of additional strands in the existing cable without requiring cable and/or anchorage replacement. All stay cables shall have one (1) additional reference strand that may be removed at the direction of DDOT for corrosion inspection without affecting the capacity of the stay.

3.3.1.1 Transfer of Stay Force

Stay cable anchorages shall be designed to individually anchor each strand by a reversible means. Hard material (resin) filling or cement grouting are not allowed in the anchorage area.

The anchorage device and bearing plate shall be capable of transmitting the full ultimate tensile force of the cable. All other structural steel components shall be designed such that their capacity exceeds that of the stay cable for the governing applied loads and limit states (e.g. fatigue, strength, extreme event). The DB Contractor shall submit to DDOT, upon request, calculations for the justification of these components as well as results of full-scale fatigue, static, and water tightness tests.

3.3.2.2 Filtering Out Angular Deviations

The anchorage shall include cable guide systems in order to prevent significant bending stresses due to angular deviations of the strand to extend to the anchorage device or wedges. The design of the cable guide system must take into account transverse and flexural forces resulting from:

1. Cable deformations caused by catenary effects and wind oscillations at service and maximum wind speed;
2. Deck and pylon anchorage rotation under live loads;
3. Inaccuracy of anchorage placing and shuttering tube misalignment;
4. Permanent angles due to the fanning out of the strands;
5. Bending of strand in the anchorage head due to manufacturing tolerances of anchorage parts.

Guide deviators placed in the transition area, imposing a transverse force on the structure ahead of the stay anchorage in the above cases, are not allowed.

3.3.3.3 Possibility of Tension Adjustment

All stay cables shall have the capability for force adjustments achieved by repositioning the anchorage with respect to the structure. This tension adjustment shall be made by means of a threaded tube and ring nut assembly. The use of shims to provide for stay tension adjustments within 2.5 percent (2.5%) is not permitted.

The adjustment amplitude shall be sufficient to account for the following:

1. Uncertainty regarding the “neutral” position of the anchorages;
2. Uncertainty of the construction loadings and of the stiffness of the structure (deck and tower);
3. Uncertainty of the unstressed length, tension, and temperature of the stay cable;
4. Extension of the stay cable to attain the required preloading;
5. Provision for future increase in dead load for overlay;
6. Deformation of the structure resulting from concrete creep and shrinkage or constructional inaccuracies corresponding to mid-span deck deflection of L/1000 where L is the length of the relevant stay;
7. A safety factor to the satisfaction of the Engineer of Record and DDOT.

3.3.2 Requirements for Cable Stay Saddles

3.3.2.1 Transfer of Cable Stay Force

Saddles shall be designed to provide continuity of the strands through the pylon and shall individually anchor each strand by a reversible means. The strand load transfer capacity across the saddle shall be sufficient to prevent strand slipping under all load cases during erection. Each strand shall have an individual guide pipe.

The adopted friction coefficient value shall be evidenced through tests performed on the saddle system, with radiuses and deviations relevant for the Project. Any evolution due to fatigue loading shall be evidenced through documented tests.

The magnitude of the required force transfer and design friction values shall be determined by the DB Contractor’s specific design and according to PTI recommendations.

3.3.2.2 Protection Against Corrosion

The internal corrosion-protection barrier of the strands (extruded HDPE sheathing) and the flexible filler must extend continuously through the entire saddle zone to provide protection against corrosion and keep water out of the free length of the stay cable. As an alternative, the internal corrosion-protection barrier of the strands can be replaced with a dual system consisting of flexible filler fully encasing each strand individually within a protective grout encasement. Test data shall be submitted showing the alternate system provides equivalent protection to the corrosion-protection barrier with flexible filler.

3.3.2.3 Protection Against Wear

To prevent corrosion and fretting fatigue, no steel-to-steel or steel-to-abrasive cementitious material contact between the strand wires and any part of the saddle shall be allowed. Strand-to-mortar contact is acceptable when the mortar is used to form individual strand ducts and the mortar is placed prior to the introduction of the strand into the mortar duct.

The fatigue resistance shall be demonstrated through fatigue testing according to the PTI recommendations for anchorages.

3.3.2.4 Filtering Out Angular Deviations

The saddle shall incorporate a cable guide system at each end in order to prevent high bending stress concentrations resulting from angular deviations of the strand at the saddle entrance and exit points. The design of the cable guide system must take into account deviations resulting from:

1. Cable deformations caused by catenary effects and wind oscillations at service and maximum wind speed;
2. Pylon rotation under live loads;
3. Inaccuracy of saddle placing;
4. Permanent angle deviation due to the fanning out of the strand bundle.

3.3.2.5 Maintenance/Replacement

The saddle design must allow for maintenance and replacement of strand/cables with limited impact on traffic. Strand removal and replacement shall be performed using the strand-by-strand method.

3.3.3 Cable Damping Requirements

This Work shall consist of the design, installation, and testing of a stay cable vibration-suppression system as specified herein. The stay cable system shall include a vibration-suppression system consisting of one or more overlapping systems (dampers (other than neoprene washers), cross ties, and/or cable surface modifications). The vibration-suppression system shall provide a minimum damping ratio (percent of critical) calculated as (200 + L) / 1200, or higher as required to meet the performance specifications. In this calculation, L is the stay cable length in feet.

Prepare and submit a Stay Cable Wind, Rain, Vibration, and Pedestrian Comfort Study Report that recommends a cable-dampening system ensuring that excessive cable vibration will not take place. The Stay Cable Wind, Rain, Vibration, and Pedestrian Comfort Study Report shall include, at a minimum, the following:

1. Introduction
2. Wind climate and site analysis including introduction, data sources, methodology, results, conclusions, and recommendations
3. Wind load and stability information including the design wind loads and load combinations
4. Pedestrian vibration comfort assessment from vehicle, wind, and wind-on-vehicle-induced vibrations
5. Pedestrian-load vibration information including the factors affecting the bridge, the comfort criteria for pedestrian-induced vibrations, excitations from walking, running or jumping and discussion of results
6. Cable vibration information including rain-wind excitation and galloping, vortex shedding, cable deck/tower interaction, assessment summary, motion-induced and parametric excitation of cables, conclusions, and recommendations
7. Plan sheets and details of the proposed stay cable dampening system
8. The DB Contractor shall design and construct the stay cable system to prevent excessive vibration of stay cables due to all effects of operating and environmental loadings over the range of temperature associated with steel design in the AASHTO LRFD Specifications. Excessive vibration is defined at two levels:
    a. Vibration which exceeds L/1200 under normal operating conditions, which includes rain-wind excitation and normal wind conditions up to and including 35 mph.

b. Vibration under any service, strength or extreme loading condition that causes damage to or fatigue failure of any strand, cable, appurtenance or bridge component. The acceptable level of vibration and displacement for strength and fatigue limit states shall be established by test.

Establish displacement criteria for service, strength and extreme load vibration levels, in addition to the normal operating criteria noted above, that are based on and consistent with cable testing and detailed analysis of cables and bridge components. In all cases, provide at least a mass-damping parameter in conformance with the commentary of Section 5.2.3.2 of the PTI "Recommendations for Stay Cable Design, Testing and Installation."

Provide damping system(s), cable surface treatment and cable stiffening ropes as required to achieve the performance requirements for cable vibration.

Have an independent laboratory perform on-site testing before and after installation of the suppression system to verify that the additional damping provided by the system meets the specified value. Include in the Stay Cable Wind, Rain, Vibration, and Pedestrian Comfort Study Report a detailed pre-installation qualification plan for the suppression system to demonstrate through physical testing that the system will meet these requirements. The pre-installation qualification plan shall provide detailed methods for remedy of damping value if the post-installation testing indicates that the required additional damping value has not been achieved for each stay cable. Following completion of these tests, provide a Cable Damping Evaluation Report that demonstrates that the performance of the vibration-suppression system meets or exceeds the required performance level.

Provisions shall be made by the DB Contractor to facilitate rapid introduction of temporary suppression measures for stay cable susceptible to vibrations during construction. The cables shall be monitored for vibrations. Monitoring shall take place during erection, at the time of major wind events, and under the combined action of wind and rain.

3.3.4 Protection System for Stay Cables and Stay Cable Components

A waterproof protection system shall be provided near deck level to prevent snow, ice, rain and other deleterious substances from coming into contact with the stay cable (defined for purposes of this requirement to be the individual strands and the stay cable pipe enclosing the strands) and with the stay cable end anchorage. Such protection shall extend from the lower anchorage to a height of sixteen (16) feet above the top of the sidewalk/bikeway deck or roadway deck whichever is higher.

In addition, a vandal-resistant sleeve, pipe or other protection shall be provided from the lower anchorage to a minimum vertical height of sixteen (16) feet above the top surface of the deck. The vandal-resistant sleeve may be part of the supplemental waterproof protection system. Both protection systems shall include provisions for removal and replacement to facilitate inspection.

The details of both supplemental protection systems shall be submitted in Shop Drawings for approval including a list of reusable components for each protection system.

4.0 Design Requirements

Reserved.

5.0 Construction Requirements

5.1 Testing

Submit a Cable System Vendor Testing List which includes the testing laboratory (or laboratories) selected by the DB Contractor that will perform cable system testing. List with each laboratory their name, location where each test will be performed, experience in the required testing and testing capabilities. Testing laboratory (or laboratories) shall be independent of the DB Contractor and Engineer of Record and shall test all materials, strands and cable specimen assemblies required for both the initial acceptance-testing phase and the stay cable component fabrication/production phase. The DB Contractor shall be responsible for all coordination between the DB Contractor's laboratory (or laboratories), DB Contractor's supplier(s), and DDOT representatives.

Furnish and submit to DDOT for review and comment, all materials and written test procedures, as prepared by the DB Contractor's supplier(s). Each component of the assembly, including items such as wedges, shall have an AASHTO or ASTM material and test specification. The DB Contractor's supplier(s) and laboratory (or laboratories) shall prepare separate material testing reports. Each of these material testing reports shall independently describe all the testing data and testing results. Material test reports will serve as independent records of the testing. The DB Contractor shall be responsible for Subcontracting and coordinating with the DB Contractor's laboratory (or laboratories) and DB Contractor's supplier(s) for all testing laboratory services.

Material or cable stay system components tested during the acceptance-testing phase are not allowed to be incorporated into the actual structure. All items which comprise the permanent production stay cable system shall be identical in nature, origin, and composition to those that were the basis of the stay cable system acceptance tests. The DB Contractor's supplier(s) shall provide detailed stay cable handling recommendations to the DB Contractor regarding storage, handling, transporting, assembly, stressing, and re-stressing of the cable-supported bridge system components that conform to PTI Recommendations for Stay Cable Design, Testing, and Installation, as a minimum standard.

Certified test reports shall contain a description of tests completed and a statement that the material that was tested does or does not meet the testing criteria. All certified test reports shall be signed by the person or persons in charge of the testing.

Fabrication of any anchors, components or stay cable strands for permanent installation in the structure shall not begin until all initial phase tests are successfully completed in accordance with the requirements of the PTI "Recommendations for Stay Cable Design, Testing and Installation," DDOT has Approved the test results, the requirements of the Stay Cable Quality Control Program are met, and written Approval is given by the Engineer of Record.

When the cable tests (or similar cable tests) have been conducted for previous projects on specimens identical in material supply, design and details to those proposed for this Project, the previous tests may, at DDOT's sole discretion, be used as the basis for system Approval for this Project. However, the quality control tests outlined in Section 3.2 of the PTI "Recommendations for Stay Cable Design, Testing and Installation" shall establish that the strand supplied for this Project has fatigue characteristics equal or better than the strand used in the acceptance tests of the support cable (or stay cable) specimens in the previous project. Further, the load-bearing anchorage and wedge hardware shall be the same as in the previous tests.

5.2 Handling and Inspection

5.2.1 Strand

The Engineer of Record, or their representative, and DDOT shall have unrestricted access to all manufacturing, fabrication, and testing performed at the supplier's facilities, laboratories, and shipping and storage facilities. The DB Contractor shall furnish certified test reports for Approval, complete test reports and certificates that are prepared by the supplier for the strand from each production lot number, including stress-strain curves and modulus of elasticity of the coated strand. The strand will be furnished in coils and shall have padded contact areas, wherever possible. Each coil will identify the cable into which it is to be installed and the length of strand on the coil. Each coil shall be protected by a supplier-approved method to ensure a uniformly sheathed and coated strand having no adhering foreign matter or damage to the coating, including that from ultraviolet exposure. The ends of the strand shall be sealed at all times.

At all times, the strand shall be properly stored in a weatherproof enclosure. A weatherproof enclosure shall be considered to be a fully enclosed building complete with floor or a fully enclosed container with wooden or metal roof, sides and floor capable of protecting the strand reels and packing from exposure to rain, wind, snow/ice and sunlight. All strands shall similarly be shipped in closed bed trucks or containers to avoid exposing packing to weather. Each coil shall also be marked with the order number, coil number and heat number. The starting end of each coil shall also be marked. The DB Contractor shall minimize unnecessary bends in the field when uncoiling strands. Handling resulting in sharp kinks or short-radius bends less than the spool radius shall be cause for rejection. If, as determined by the Engineer of Record or DDOT, the kink or short-radius bend was inherent in the

coil, it shall be immediately replaced by the DB Contractor and the rejected coil immediately removed from the Site.

All systems for handling coated strands shall have padded contact areas. All bundling bands shall be padded or suitable banding shall be used to prevent damage to the coating. All reels of coated strand shall be lifted with a strong back, spreader bar, multiple supports, or a platform bridge to prevent abrasion. The reels and strand shall not be dropped or dragged.

All strand ends shall be sealed with approved patching materials by the end of the same day that the strand is cut.

Any damage to the coating shall be repaired by the DB Contractor utilizing Project-approved materials, procedures and personnel. It is imperative that the strand coating be undamaged over the full length of cable in order to provide long-term protection to the strands.

5.2.2 Sheathing

The DB Contractor shall use padded points of contact during storage, handling, fabrication and erection. Care shall be taken at all stages of the construction process to avoid damage to the finish. The DB Contractor shall immediately repair any damage to the surface finish. The visible grain of the finish shall be uniform in appearance and direction. These handling/finish requirements shall also apply to exposed portions of any guide pipes.

5.2.3 Anchorage and Miscellaneous Components

The anchorage components and miscellaneous components shall remain in their original shipping containers as supplied by the supplier until ready for immediate use unless specified otherwise by the supplier. These components shall be kept in appropriate weatherproof enclosures. During handling, fabrication, erection and all construction operations, the DB Contractor shall use the utmost in care to protect the components from any damage. Any and all damage shall be repaired by the DB Contractor utilizing previously approved procedures for this Project and/or shall replace damaged components.

5.2.4 Fabrication of Stay Cables

Cables shall be fabricated in a manner consistent with the design and testing requirements for the cable-supported bridge system as indicated in this attachment. Appropriate measures shall be taken to ensure that all strands are installed parallel to each other.

The DB Contractor shall develop and implement procedures to assure that stay cable components will not be damaged during handling. All stay cable components shall be protected from corrosives, heat, abrasion and other harmful effects throughout the fabrication and installation.

Spreader bars and slings or other appropriate devices shall be used to handle all cable and sheathing components. Slings or similar devices shall be positioned on the cable to carry both the anchor and adjacent cable in a tangent position, preventing bending of the cable at the anchor. Slings and spreader devices shall be padded to prevent damage to the cable sheath.

All damage to cables or any components thereof shall be evaluated and remedied by the DB Contractor to the Approval and certification of the Engineer of Record. All repair materials and procedures shall be submitted to DDOT for review and comment prior to installation of the cable. Damaged strand shall be replaced. Damage to non-load-carrying components shall be repaired or replaced to the Approval and certification of the Engineer of Record. All repair or replacement materials and procedures shall be submitted to DDOT for review and comment prior to the installation of the cables. Any damage occurring after installation shall similarly be evaluated and immediately remedied by the DB Contractor to the Approval and certification of the Engineer of Record.

Storage, handling, fabrication, assembly, erection, stressing and completion of all stay cable system components shall follow without deviation the procedures, details, methods and equipment used as presented in the DB Contractor 's approved Shop Drawings and in the detailed, step-by-step Bridge Erection Manual.

5.2.4.1 Guide Sleeve and Bearing Plate

The DB Contractor shall install and align the guide sleeve and bearing plate assemblies during construction and develop a Geometric Controls section of the Bridge Erection Manual that includes detailed survey and alignment

procedures for such alignment. The Geometric Controls section shall include detailed equipment and procedures used to secure the guide sleeve and bearing plate assemblies during concrete placement and curing.

5.2.4.2 Stay Pipe

All pipe ends shall be prepared for joining with full penetration welds. The welds must be flush with the pipe walls inside and outside. The DB Contractor shall submit to DDOT for review and comment a Stay Pipe Welding Report that contains recommendations for the welding details and procedures to achieve the weld. The DB Contractor shall include individually for each welder, a detailed qualifications and experience resume. Each welder proposed for the Project must prove substantial experience in welding pipe material using the method proposed by the DB Contractor. The DB Contractor shall, concurrent with the experience/qualifications resume, supply to DDOT a pipe weld sample produced by the proposed welder. The sample shall utilize the same materials and methods to be used for production welds. The sample shall include at least one (1) full circumferential weld and have a length of sample not less than two feet (2') and not more than four feet (4'). Review of the test weld by DDOT shall in no way be interpreted as any acceptance of responsibility by DDOT for the quality of the welder's future Work on the Project.

The DB Contractor shall follow the approved welding details and procedures. All fusion welds of HDPE pipe shall conform to ASTM D2657. All pipe splices shall develop the full yield strength of the pipe cross section.

No welding of the pipe shall take place with the coated strands inside. Finishing of all welds to the required finish shall principally occur prior to installation of the strands into the pipe. Any remaining finish repair to the weld or other areas shall be conducted in a manner that will not heat the pipe at any point to more than 150 degrees Fahrenheit (150°F).

5.2.4.3 Strand Installation

Installation of strands shall follow the fully engineered procedures contained in the DB Contractor's Shop Drawings and detailed step-by-step Bridge Erection Manual. Deviations from procedures, methods, details or equipment is not permitted unless submitted to, and approved by DDOT. The resulting installed strands shall be parallel and damage free.

5.2.4.4 Anchorage and Miscellaneous Components

The anchorage components and miscellaneous components shall be installed following the fully engineered procedures contained in the DB Contractor's Shop Drawings and detailed step-by-step Bridge Erection Manual. Deviations from procedures, methods, details or equipment shall not be permitted. The installed anchorage and miscellaneous components shall be damage free. Flame cutting of strands is not permitted.

5.2.5 Cable Stressing

The allowable procedures for cable stressing during the installation procedure shall be contained in the DB Contractor's Shop Drawings and detailed step-by-step Bridge Erection Manual. Deviations from procedures, methods, details or equipment shall not be permitted.

5.2.6 Painting

All ferrous metal surfaces, other than stainless steel and hot-dipped galvanized surfaces of the stay cable system shall be painted with DDOT-Approved zinc primer and top coats. Finish coat color shall be in accordance with the Visual Quality requirements in Section 15, of these Technical Provisions. Bearing plates, guide pipes, and tower deviation pipes shall be galvanized in accordance with AASHTO M111M (ASTM A123M), Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products, six (6) kilograms per square meter.

6.0 Submittals

All deliverables and other materials produced by the DB Contractor to test, certify, fabricate, erect, and accept complete stay cable systems shall be provided first to the Engineer of Record for Approval. Once the Engineer of Record Approves the item, it shall then be submitted to DDOT for review and comment.

Shop drawings showing all dimensions, materials and operations required for testing, fabrication, and erection of the stay cable system components shall be submitted to DDOT for review and comment. Shop drawings shall show the strand pattern for each cable (symmetrical about vertical and horizontal axis). The DB Contractor shall provide detailed procedures that are recommended by the cable system supplier for installing all components,

insertion of the strands, installation of wedges, stressing and anchorage corrosion protection. Complete Shop Drawings with supporting calculations shall be submitted showing all equipment (jack, stressing chair, etc.) and procedures required for stay cable force adjustments and for complete de-tensioning of the stay cable. No installation will be permitted by the DB Contractor for any portion of the permanent stay cables or anchor assemblies until all submittals of procedures and test reports are certified and Approved by the EOR and the Signed and Sealed submittals have been reviewed by DDOT.

SECTION 14

Hydrology and Hydraulics

14.1 General

The Design-Build Contractor (DB Contractor) shall provide and/or perform all investigations, evaluations, analysis, coordination, documentation, and design required to meet all Hydrologic and Hydraulic, Drainage, Stormwater Management, Erosion and Sedimentation Control, Stormwater Pollution Prevention, and Municipal Separate Storm Sewer System (MS-4) permitting requirements.

The DB Contractor shall conduct all drainage Work necessary to design, document, and construct the roadway storm sewer system, culverts, bridge deck drainage, underdrains, roadside ditches, stormwater management facilities, flood protection, and erosion and sediment control measures for the Project. The DB Contractor shall demonstrate that there will be no potential flooding damage to all adjacent property, including the Navy property, as a result of the South Capitol Street Corridor Project. The Navy property has a critical role in preserving the nation's security and military preparedness during emergency. The DB Contractor's approach to drainage design and construction should demonstrate that the DB Contractor will make sound engineering efforts to avoid risks and minimize future maintenance requirements for all drainage-related items. The DB Contractor's Stormwater Management Plan (SWMP) and Erosion and Sediment Control Plan shall describe how the DB Contractor will prevent or minimize potential environmental impacts.

Elements of the hydrologic, hydraulic, and drainage Work shall include, but are not limited to, the design and construction of the following:

1. Hydrologic and hydraulic analysis of the Anacostia River floodplain and South Capitol Street Corridor Project bridge structures, as well as an analysis to determine scour potential;
2. Catch basin spacing and storm sewer system design for both permanent facilities and temporary construction conditions;
3. Roadside ditch design;
4. Bridge deck drainage analysis and system design;
5. Erosion and sediment control measures;
6. Stormwater management as required to meet the mandatory federal and District Standards and permitting requirements;
7. Best Management Practices, including green infrastructure low impact development, bioretention, permeable pavement, and other practices to retain and improve the quality of stormwater;
8. Maintenance of existing offsite flows that pass through the Project area;
9. Subsurface drainage systems including maintaining existing DC Water storm sewer systems and/or improve, if necessary;
10. Design of underdrain systems that include adequate outfalls for future maintenance access;
11. Design documentation;
12. Protection of existing collection, conveyance, detention, runoff treatment, and other existing facilities; and
13. Cleaning of the existing culvert and storm sewer systems, refer also to Section 29, Maintenance During Construction.

Catch basin spacing, storm sewer pipe systems, culverts, bridge deck drainage, and roadside ditches shall be designed per District Department of Transportation (DDOT) and DC Water (previously known as District of Columbia Water and Sewer Authority [WASA]) design criteria and specifications. The plan for the storm sewer

systems shall be submitted to DDOT and DC Water for review, permitting, and/or Approval as appropriate prior to construction.

The Project stormwater management facilities and erosion and sediment control measures shall be designed in accordance with the District Department of the Environment's (DDOE's) design guidebook. Efficient performance of the drainage system utilizing best management practices (BMPs) and environmentally sustainable solutions is an integral part of the operation of the Project. The DB Contractor shall account for all sources of runoff that may reach the Project, whether originating within or outside the Project right-of-way (ROW), in the design of the drainage facilities.

All BMP design shall comply with the DDOE Stormwater Management Guidebook (SWMG). The BMP design shall be submitted to DDOT and DDOE for review, permitting, and/or approval as appropriate prior to construction.

14.1.1 Methodology and Computer Software

The following list of primary methodologies and computer software are accepted by DDOT for use on the Project. Use of other methodologies and/or computer software by the DB Contractor may require submittal of additional details about the methodologies and/or computer software and coordination/acceptance from DDOT that the programs conform to existing programs.

Approved methodologies and software include:

1. DDOE Calculator-General Retention Compliance spreadsheet
2. DDOE Maximum Extent Practicable (MEP) Worksheet
3. Federal Highway Administration (FHWA) HY-8, Culvert Hydraulic Analysis Program
4. GEOPAK Drainage, Bentley
5. FlowMaster, Bentley
6. Hydro-CAD Stormwater Modeling
7. CulvertMaster, Bentley
8. PondPack, Bentley
9. Hydraulic Engineering Circular Hydrologic Modeling System (HEC-HMS), U.S. Army Corps of Engineers (USACE)
10. Hydraulic Engineering Circular River Analysis System (HEC-RAS), USACE
11. Hydraulic Engineering Circular Geospatial Hydrologic Modeling System (HEC-GeoHMS), USACE
12. Hydraulic Engineering Circular Geospatial River Analysis System (HEC-GeoRAS), USACE
13. Win TR-20, Natural Resources Conservation Service (NRCS)
14. Win TR-55, NRCS
15. Rational Method/Modified Rational Method
16. Stormwater Management Modeling (SWMM) Computer Model, United States Environmental Protection Agency (EPA)

14.2 Performance Requirements

The storm sewer system consists of runoff collection systems, conveyance systems, flow control facilities, stormwater retention volume facilities, and outfalls for the Project's new impervious and pollution-generating surface areas and shall meet the requirements of this Section, the Mandatory Standards, and the Project permits. The DB Contractor shall maintain and provide facilities for handling other runoff from non-pollution-generating surfaces; flows originating from offsite; and cross-drainage, as required, in the Mandatory Standards and the Project permits. These storm sewer, quantity control, stormwater retention volume, and cross-drain facilities shall be sized using the methods described in the Mandatory Standards. The DB Contractor shall provide the

stormwater retention volume in addition to the Anacostia Waterfront Development Zone (AWDZ) water quality treatment volume.

14.3 Design Requirements

14.3.1 Hydrologic and Hydraulic Analysis

The DB Contractor shall comply with DCMR, DDOT Design Manual, FEMA Floodplain Compliance, FHWA Compliance, and AASHTO Guidelines in performing hydrologic and hydraulic analyses.

The DB Contractor shall comply with the minimum floodplain management criteria set forth in the National Flood Insurance Program (NFIP) regulations and also conform to the FEMA flood elevation increase limitation for the site covered by the NFIP. The final Project design should not significantly alter the flow distribution in the floodplain. The DB Contractor shall develop a Hydrologic and Hydraulic (H&HA) Report detailing analysis methodology, input parameters and conclusions. The H&HA Report shall include justification for the analysis for no-rise in the Anacostia floodplain elevation in accordance with the Mandatory Standards.

Proper drainage and sub-drainage on public property and the location of public Utilities and service facilities, such as sewer, water, gas and electrical systems and streets, shall be designed to minimize exposure to flood. The DB Contractor shall ensure the backwater effects from the bridge structure will not significantly increase flood damage to property upstream of the crossing. The DB Contractor shall maintain the existing flow distribution to the extent practicable and ensure the velocity through the structure will not damage either the highway facility or cause damage to adjacent property. Refer to the DDOT Design and Engineering Manual (DDEM).

14.3.1.1 Hydrology

Many hydrologic methods are available. The selected method should be calibrated to local conditions and verified for accuracy and reliability. It is the DB Contractor's responsibility to examine all applicable methods and obtain DDOT's concurrence as to which is the most appropriate one to use.

The DB Contractor shall utilize the estimated peak discharges contained within the Flood Insurance Study (FIS) for the District of Columbia, published by FEMA for the proposed Frederick Douglass Memorial Bridge Crossing H&HA over the Anacostia River.

Tidal effects should be evaluated and considered in accordance with HEC-25, Highway in the Coastal Environment.

14.3.1.2 Hydraulics

A detailed hydraulic analysis that reflects the new Frederick Douglass Memorial Bridge (FDMB) shall be performed for the Anacostia River. The hydraulic analysis shall be in compliance with federal (i.e., FHWA, FEMA, etc.) and District (locally delineated floodplains) rules and regulations.

The H&HA shall include the following four hydraulic models:

1. **Effective/Original Model**: Obtain the current effective hydraulic model from FEMA or mathematically reproduce the FEMA hydraulic model, which shall match the official model as closely as possible.
2. **Existing Conditions Model (Adjusted)**: Use the most recent survey and detailed bridge data to create or update any natural ground cross sections to the locations necessary to subsequently model any proposed construction. Any changes made in the effective/original model should be for the purpose of facilitating the modeling of proposed conditions, updating the survey, and correcting any observed errors in modeling methodology within the Project area.
3. **Proposed Conditions Model**: Once the existing conditions model has been calibrated and verified, the hydraulic model will be modified to include any and all proposed construction and will be referred to as the proposed conditions model.
4. **Interim Condition Model**: Model the presence of both the existing bridge and proposed bridge during construction. Evaluate the water surface elevation changes.

Reasonable efforts should be made to assess any existing studies or historical data (if available) for the Anacostia River crossing.

14.3.2 Bridge Scour Evaluation

The procedures outlined in the FHWA HEC-18, Evaluating Scour at Bridges, will be used for evaluating scour depths for bridge piers, abutments and vessel impact protection (fenders). Hydraulic parameters from the proposed conditions HEC-RAS model results will be used as input for determining contraction scour and local (pier and abutment) scour using HEC-18 equations. The foundation for bridge piers, abutments and fenders shall be designed using the Scour Design Flood Frequency of 200-year. A factor of safety of 2 to 3 shall be used to account for the effects of this flood. These foundation designs shall be checked using Design Check Flood Frequency of 500-year event in order to be stable for the predicted scour. All foundations should have a minimum factor of safety of 1.0 under the Design Check Flood Frequency of 500-year (super-flood) conditions.

Bridge pier spacing and orientation and abutment shall be designed to minimize flow disruption and potential scour and will prevent debris accumulation during construction and after final completion. Foundation design and/or scour countermeasures are vital design components to avoid failure by scour. The DB Contractor shall evaluate and protect against the potential for scour adjacent to the existing river bulkheads as described in Section 6, Geotechnical Design.

Bridge pier stability shall not be dependent on countermeasures design. Scour countermeasures shall be designed using HEC-18 and in accordance with the procedures outlined in HEC-23, Bridge Scour and Stream Instability Countermeasures. The minimum recommended scour countermeasure Design Flood Frequency of 500-year shall be used.

Scour information for the existing bridge may be found in the bridge inspection reports (see Volume III, Book I, Reference Information Documents (RIDs).

Geotechnical information for the site shall be reviewed, such as type of soil and rock properties; and the mud line presence should be considered to estimate a reasonable scour depth.

The DB Contractor shall perform a scour evaluation for all the proposed retaining walls over the floodplain. The procedures outlined in FHWA's HEC-18 and AASHTO Load and Resistance Factor Bridge Design Specifications shall be used to design the foundation for retaining walls over floodplains. Countermeasure designs are acceptable for retaining walls using the procedure outlined in FHWA's HEC-23.

Natural stream design, bank hardening, and revetments will be considered as part of the hydraulic design to minimize impacts in accordance with District and Federal requirements applicable to this Project.

The bridge scour evaluation analysis and conclusions shall be included in the H&HA Report.

14.3.3 Storm Sewer System

The DB Contractor shall design all elements of the drainage facilities in accordance with applicable design criteria and Good Industry Practice. The design of new and reconfigured storm sewer systems shall meet DDOT and DC Water Standards and performance requirements.

The DB Contractor shall provide storm sewer systems compatible with existing DC Water storm sewer systems and all applicable drainage plans or Approved systems.

The DB Contractor shall base its Final Design on design computations and risk assessments for all aspects of Project drainage and is encouraged to seek cost-effective solutions that provide equal or greater environmental benefits and reduced long-term maintenance, with respect to the solutions shown in the Conceptual Design Plans. Cost-effective solutions may include the innovative use of stormwater retention volumes and quantity control techniques, BMPs, reduction or conversion of existing impervious surfaces, and design features that lead to the increased infiltration of stormwater runoff where practical and feasible.

14.3.3.1 Data Collection and Conveyance Structures

To establish a drainage system that complies with the requirements and accommodates the historical hydrologic flows in the Project Limits, the DB Contractor is responsible for collecting all necessary data and performing all hydrologic and hydraulic investigations for the design and construction of the drainage system.

The DB Contractor shall collect available data identifying all water resource issues, including stormwater retention volume requirements as imposed by DDOE and federal government regulations; National Wetland Inventory and other wetland protected waters inventories; FEMA-mapped floodplains; and official documents concerning the Project, such as the Supplemental Final Environmental Impact Statement (SFEIS) or other drainage studies. Water resource issues include areas with historically inadequate drainage (flooding or citizen complaints), environmentally sensitive areas, localized flooding, maintenance problems associated with drainage, and areas known to contain Hazardous Materials. The DB Contractor shall also identify protected waters, ditches, and areas classified as wetlands or floodplains.

The DB Contractor shall acquire all pertinent existing storm sewer plans and/or survey data, including data for all culverts, drainage systems, and storm sewer systems within the Project Limits. The DB Contractor shall also identify existing drainage areas that contribute to the Project drainage system and the estimated runoff used for the design of the existing system.

The elements of the existing drainage system (i.e., the DC Water storm sewer trunk lines) within the Project Limits scheduled to remain-in-place must meet hydraulic capacity requirements per design information obtained from DC Water.

All proposed drainage structures within the Project Limits shall be sized and/or checked for capacity and included in the DB Contractor's SWMP. Where proposed DC Water trunk lines connect to existing DC Water trunk lines, proposed discharge rates will be submitted to DC Water for existing capacity verification.

The DB Contractor shall obtain photogrammetric and/or geographic information system (GIS) data for the Project Limits that may depict the Outstanding National Resource Waters and/or impaired waters as designated by EPA. The DB Contractor shall conduct surveys for information not available from other sources.

The DB Contractor shall investigate and perform a TV inspection of the existing drainage system within the Project Limits as part of the Existing Conditions Drainage Survey before and after construction to identify any damage caused by the construction and as described in Section 5, Surveys and Mapping. Additionally, this TV inspection can be used to determine the condition, size, material, location, and other pertinent information of the existing drainage system. The collected data shall be incorporated into the Final Design of the drainage facilities.

The DB Contractor shall design all drainage facilities to accommodate probable future land use in accordance with current development plan policy. The DB Contractor shall incorporate anticipated changes in the land use and characteristics to the hydrologic parameters. This may affect the magnitude of runoff and the design capacity of drainage structures.

14.3.3.2 Storm Sewer Systems

The proposed capacity of the DC Water storm sewer pipes is designed using the discharge rate and slope of each reach. These computations start at the upstream reach then proceed downstream reach by reach to the point where the proposed DC Water storm sewer connects to the existing DC Water storm sewer trunk line or the outfall. The DB Contractor shall design closed systems to convey runoff per DDOT and DC Water guidelines.

The DB Contractor shall prepare storm sewer plan sheets to be included in the SWMP that contain, at a minimum, the following items:

1. Drainage area maps for each storm sewer catch basin with pertinent data, such as boundaries of the drainage area, topographic contours, runoff coefficients, time of concentration flow paths, land use with design curve number and/or design runoff coefficients, discharges, velocities, ponding, and hydraulic grade line data.
2. Location and tabulation of all existing and proposed pipe and drainage structures. These include size, class or gauge, catch basin spacing, detailed structure designs, and any special designs.

3. Specifications for the pipe bedding material and structural pipe backfill on all proposed pipes and alternative pipes.
4. Complete pipe profiles, including pipe size, type, and gradient; station offsets from the centerline of the roadway; length of pipe; class/gauge of pipe; and numbered drainage structures with coordinate location and elevations.

The DB Contractor shall design all storm sewer systems such that the hydraulic grade line for the design frequency event does not exceed any critical elevation that will cause unacceptable inundation of the roadway or adjoining property. This requirement includes the top elevations of drainage structures (manholes, junction boxes, and catch basins) along with the throat length of catch basins.

14.3.4 Best Management Practices

The stormwater management regulations issued by DDOE (DCMR, Title 21, Chapter 5) and the DDOE SWMG, shall be used by the DB Contractor to comply with the District's MS4 Permit issued by EPA. The DB Contractor shall complete the design of the BMPs to meet requirements for the stormwater retention volume, quantity control requirements (Qp_2 and Qp_{15}), and the extreme flood requirements (Q_f) as determined by the current DDOE Stormwater Management and Soil Erosion and Sediment Control regulations.

The DB Contractor shall consider applying green infrastructure and Low Impact Development (LID) in the Project in order to meet the regulatory requirements for the stormwater retention volume. Any proprietary stormwater treatment products proposed by the DB Contractor shall be specifically submitted for review and Approval to DDOT and to FHWA for a public interest finding prior to being incorporated into the Project.

The Preliminary SWMP included with the RFP package is considered to be conceptual and intended for initial informational purposes only, providing the DB Contractor with a concept which may contain numerous general depictions of existing and/or anticipated conditions. The DB Contractor shall be responsible for ensuring that all design standards are incorporated properly into the final drainage design.

The DB Contractor shall review the BMP selection process in the DDOE SWMG and document the procedures and final selections. The use of enclosed vaults, tanks, or galleries for runoff quantity control or stormwater retention volume shall be minimized. Where vaults, tanks, or galleries are required, the DB Contractor shall minimize the sizes by incorporating other BMPs, wherever practicable. The DB Contractor shall design vaults and BMP facilities in such a manner that they can be expanded or accommodate adjacent additional vaults/BMPs for runoff quantity control requirements for forward compatibility. Information on any future improvement designs is available from DDOT.

14.3.5 Erosion and Sediment Control for Design

The DB Contractor shall develop an Erosion and Sediment Control (ESC) plan in compliance with DCMR, DDOE's Soil Erosion and Sediment Control Handbook and Rulemaking on Stormwater Management and Soil Erosion and Sediment Control. The DB Contractor shall comply with the DDOE Approved ESC Standards and Specifications.

The DB Contractor shall submit an ESC plan for DDOE's review and Approval as a requirement to the construction permit issued by DCRA. ESC measures shall be installed in accordance with applicable standards and specifications on the Project Site undergoing clearing and grading. The DB Contractor shall exercise temporary and permanent measures throughout the Project term to control erosion and prevent or minimize siltation of rivers and streams.

14.3.6 Coordination

Prior to proceeding with the Drainage Design, the DB Contractor shall meet with the DDOT Stormwater Team. The purpose of this meeting is to provide information to the DB Contractor to better coordinate the Preliminary and Final Drainage Design efforts. This meeting is mandatory and will occur within 30 Calendar Days following First Notice to Proceed (NTP1) and prior to any submittals containing drainage components.

The DB Contractor shall coordinate all storm sewer systems, floodplain, stormwater management, and other water resource-related issues with affected interests and regulatory agencies. The DB Contractor shall document the resolutions of these issues.

The DB Contractor shall coordinate with and involve the Utility owners, as the need occurs, and keep them informed on the status of the Project's development. This coordination will minimize damage and interruptions to the Utilities and will help eliminate conflicts and coordination problems with the DB Contractor's operations.

1. The DB Contractor shall coordinate and conduct a preliminary review meeting with all affected Utilities to assess and explain the impact of the Project.
2. The DB Contractor shall provide all Utilities with roadway design plans as soon as the plans have reached a level of completeness adequate to allow them to fully understand the Project's impacts.

The DB Contractor shall provide temporary drainage systems to the greatest extent practicable for the safety and convenience of the general public and residents and the protection of people and property during construction.

14.4 Construction Requirements

The DB Contractor shall design the drainage to accommodate construction staging. The design shall include temporary erosion control ponds and other BMPs needed to satisfy DDOE and other regulatory requirements. The drainage notes in the plans shall include a description of the drainage design for each stage of construction.

14.4.1 Construction and Mitigation Permits

The DB Contractor shall be responsible for all drainage-related mitigation.

14.4.2 Erosion and Sediment Control for Construction

The DB Contractor shall develop a Stormwater Pollution Prevention Plan (SWPPP) including, but not limited to, an Erosion and Sediment Control (ESC) Plan and narrative which meets the requirements of the National Pollution Discharge Elimination System Permit. Additionally, a Post Construction Storm Water Management Plan shall be prepared and implemented by the DB Contractor which meets District and Federal requirements for the Project site.

The Project shall adopt ESC practices when planning to clear, grade, or otherwise disturb the existing land surface. An ESC Plan must be developed and approved by DDOE before grading permits can be issued.

ESC measures shall be applied to erodible material exposed by any activity associated with construction, including local material sources, stockpiles, disposal areas, and haul roads. Temporary measures shall be coordinated with the Project construction to ensure effective and continuous erosion and siltation control. Permanent erosion control measures and drainage facilities shall be installed and operational as the Project construction progresses before temporary measures are removed.

Erosion and siltation control devices and measures shall be maintained in a functional condition at all times to meet the appropriate requirements of the District of Columbia Standards and Specifications for Soil Erosion and Sediment Control. The DB Contractor shall have, within the limits of the Project during all land disturbing activities, an employee certified in ESC through a DDOE-approved training program. This employee shall inspect erosion and siltation control devices and measures for proper installation and maintenance, and shall inspect for, and evaluate any deficiencies immediately after each rainfall.

14.4.3 Protection and Restoration of Sensitive Resource Areas

All DB Contractor staff shall have environmental training and be aware that no access or impacts are permitted beyond the high-visibility construction fencing. All sensitive areas (including wetlands, streams, riparian zones, and their buffer boundaries) shall be protected. Where possible, pipe outfalls to natural waterways shall be constructed using infiltration trenches with overtopping level spreader designs for a more natural dispersion type discharge. Direct pipe discharge shall be armored against erosion using bioengineering techniques, to the greatest extent possible. All temporary Work areas for pipe or ditch Work shall be graded, and vegetation restored to existing conditions. Refer to Section 8, Environmental.

14.4.4 Abandonment and Removal of Existing Drainage Structures

Abandonment and/or removal of existing drainage structures and pipes when authorized shall meet the applicable requirements of the District of Columbia Standards and Specifications. Any existing storm sewer pipe or drainage structure that is planned to be abandoned and remains under any traffic pavement shall be filled using methods and materials that ensure the pipe or structure is completely filled in a supported, non-void condition. The DB Contractor plans shall include the abandonment details, including any abandon-in-place filling methods and materials, with the drainage structure and pipe shop drawings.

14.4.5 Other Drainage Requirements

The DB Contractor shall provide temporary drainage systems to the greatest extent practicable for the safety and convenience of the general public and residents along the roadway and the protection of persons and property during construction. The DB Contractor shall clean all drainage facilities and remove debris and sediment to ensure proper operation at all times during construction. The DB Contractor shall maintain existing drainage patterns at all times during construction. The minimum design storm for temporary drainage design shall be the 10-year storm event.

All drainage facilities (new and existing) within the Project area shall be cleaned out by the DB Contractor prior to Final Acceptance.

Refer to Section 8 for the soil and groundwater contamination data.

14.5 Submittals

The DB Contractor shall coordinate, deliver, and process all drainage-related submittals to DDOT, DDOE, DC Water, and others, as required by the Design-Build Agreement (DBA). All draft, revised, and final plans, design calculations, technical reports, and shop drawing submittals shall be accurate, complete, and in a form and at a level of detail to enable DDOT to satisfactorily discharge its review and approval obligations.

The DB Contractor shall provide all design documentation and construction documentation as both a hard-copy document and electronic files. These documents shall be deemed “received” by DDOT, thereby, triggering the applicable timeframe for review on submission of both the electronic files and hard copy documents, inclusive of all required information necessary to perform a complete review.

The DB Contractor will be required to provide seven hard copies of all submittal documents for DDOT reviews. Drawing submittals shall be complete with associated engineering documentation sufficient to verify that the design meets the Mandatory Standards, specifications, permits, and applicable agreements.

14.5.1 Drainage Design Plans

The DB Contractor shall prepare Utility/drainage construction plan sheets in accordance with the Standard Specifications and Section 2 of the DDEM.

In addition to the items listed in the DDEM, all sensitive areas (including wetlands, streams, riparian zones, and their buffer boundaries), stream and wetland ordinary high water elevation contours, and FEMA flood level contours shall be shown on the grading and Utility/drainage plan sheets. The grading plans shall also show placement locations and type requirements for the high-visibility sensitive area protective fencing.

14.5.2 Stormwater Management Plan

A SWMP shall be prepared by, or under the direct supervision of, the Lead Stormwater Engineer. The SWMP shall be in accordance with the DDEM and the DDOE SWMG.

The DB Contractor shall submit a Draft SWMP to support DDOT's review of the drainage design drawings. The Draft SWMP shall show the DB Contractor’s overall Project stormwater retention volumes, quantity control requirements (Qp_2 and Qp_{15}), extreme flood requirements (Q_f), and the storm sewer concept for the Project. In particular, the report shall include the overall basin and drainage area layouts; locations of cross-drains and outfalls; floodplain impact analysis; basic hydrology and hydraulic calculations; downstream analysis; major

conveyance system layout; and concepts to be used at specific locations for the stormwater retention volume and flow control of the Project runoff.

The DB Contractor shall update the SWMP to reflect changes in the original design during construction. All drawing submittals for changes made during construction shall include a supplemental hydraulic design attachment to support DDOT design review. The supplements shall reference the SWMP and be specific as to the changes; be easily readable as stand-alone documents; show why the revision was made and how it affected the design; and include the revised drawings and exhibits, supporting calculations, and revised summaries and tables. The combined SWMP and supplemental updates shall reflect the design and As-Built condition of the drainage system at the end of construction.

The DB Contractor shall assemble the Final SWMP and all Supplemental SWMPs into a single document, in accordance with Chapter 5 of the DDOE SWMG. The Final SWMP shall incorporate the final As-Built documentation in accordance with Chapter 5, including the updated report text, records of decision, associated design criteria, drainage maps, Utility/drainage plans and profiles, stream restoration plans, calculations, and profiles. The Final SWMP is subject to review and comment.

14.5.3 Design Calculations/Reports

The DB Contractor is responsible for completing all calculations necessary for the design of the Project. The DB Contractor shall prepare calculations in accordance with the DDEM and the DDOE SWMG to support the design shown on the Utility/drainage plans and profiles.

The calculations shall include a narrative that describes the approach taken and the order of the calculations, including sections on the methodologies used (appropriateness and accuracy requirements), design decisions made, and resultant summaries. The calculations shall include copies of the input and output printouts from the supporting computer programs, spreadsheets, hand calculations, exhibits, and sketches. The calculations shall also include, but are not limited to, the following items:

1. Index Sheets – The DB Contractor shall number all calculation sheets and prepare an index by subject with the corresponding sheet numbers. The DB Contractor shall list the name and number of the Project, designer/checker initials, date (month, day, and year), and supervisor's initials.
2. Design Calculations – These calculations shall include design criteria, hydrology and hydraulic calculations, and pertinent computer input and output data (reduced to 8.5-inch by 11-inch sheet size). The calculations shall include a narrative of the approach taken and final conclusions and summaries of the calculation results in both narrative and table format. The calculations shall be in logical order, technically clear, and cross-referenced to correspond directly with drainage structure and basin numbering on the Utility/drainage plans, maps, and exhibits for ease of reference.
3. Special Design Features – The DB Contractor shall include a brief narrative of major design decisions or revisions and the reasons for them.
4. Design decision summaries.
5. Any amendments to the Standard Specifications, Special Provisions, and Technical Specifications necessary as construction specifications.
6. Drainage maps showing the hydrologic features, drainage basins, sub-basins, existing and final conveyance and cross-drain structures, flow direction arrows, numbering system, and any other features necessary to support and clarify the design calculations. The drainage maps shall also show all geotechnical and environmental sensitive areas, streams and wetlands with buffer boundaries, riparian zones, the ordinary high water and FEMA flood level contours, sanitary drain fields, and major Utilities that will affect the drainage design. The drainage design drawings and maps shall be on 11-inch by 17-inch bond paper.
7. Documentation justifying use of vaults and detention tanks in place of enhanced bioretention BMPs.
8. Other exhibits to provide details necessary to clarify and support the calculations.

14.5.4 Shop Drawings

The DB Contractor shall submit shop drawings for all drainage structures and pipe elements.

Prior to the manufacture of non-standard items, the DB Contractor shall furnish DDOT a certification of the acceptability of the design of such non-standard items, as determined from a review, which shall be made by the Lead Stormwater Engineer and shall cover all design data, supporting calculations, and materials.

14.5.5 Existing Conditions Drainage Survey

The DB Contractor shall provide the type, size, location, and video surveys of all existing DC Water storm sewer systems that will remain in place after completion of the Project within the existing ROW.

As part of the Preliminary Design Submittal, the DB Contractor shall complete the existing condition inventory, survey, and TV inspection, as required, to include all existing DC Water storm sewer systems and associated structures that are to remain in place within the Project Limits. This Work shall include storm sewers and cross-drains. The survey shall identify each system by Milepost (MP) and Project stationing, and show the pipe end and structure coordinates, sizes, and types; invert elevations at pipe ends and top of structures; skews; the general condition of the structure; the upstream and downstream channel profile; and cross sections within the construction limits.

The inspections shall be done using video sewer inspection techniques. If additional storm sewer systems are identified, the DB Contractor shall prepare a supplement to the Existing Conditions Drainage Survey describing the condition of the pipe systems to remain in place, including summaries of the inventory survey, pipe types, general condition of the pipe, and structures for each system, along with photo and plan exhibits that illustrate the general condition and specific problems of each pipe run. The report shall identify specific failures and blockages.

Before and after construction, all existing pipes to remain in place within the Project Limits will be cleaned and TV inspected.

The DB Contractor shall submit the draft Existing Conditions Drainage Survey for DDOT review along with or prior to submittal of the Draft SWMP. The final Existing Conditions Drainage Survey shall include all supplemental survey and revisions incorporating DDOT review comments, the before and after construction inspection videos, and electronic format survey data.

14.5.6 Design Revisions During Construction

Calculations for revisions made during construction shall be incorporated into the Final SWMP and submitted to DDOE for review when construction is completed.

When new plan sheets are required as part of a construction revision, the new plan sheets will include all relevant supporting information in accordance with Section 14.5.3.

14.5.7 List of Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 14-1
Hydrology and Hydraulics Deliverable Requirements Summary

Item	DDOT Review Type	Schedule	Section
Hydrologic and Hydraulic (H&HA) Report	Review and Comment	Before commencing bridge foundation construction	14.3.1 and 14.3.2
Erosion and Sediment Control Plan	Review and Comment	Before commencing construction	14.3.5 and 14.4.2
Storm Water Pollution Prevention Plan	Review and Comment	Before commencing construction	14.4.2
Stormwater Management Plan	Review and Comment	Various submittals – draft, supplemental, final	14.4.2 and 14.5.2
Supplemental Stormwater Management Plans	Review and Comment	Before commencing associated construction activities	14.5.2
Final Stormwater Management Plan	Review and Comment	Before Final Acceptance	14.5.2
Draft Existing Conditions Drainage Survey	Submit	Before commencing earthwork or excavation	14.5.5
Supplemental Existing Conditions Drainage Survey	Submit	Within 30 Calendar Days of discovery	14.5.5
Final Existing Conditions Drainage Survey	Submit	Before Final Acceptance	14.5.5

SECTION 15

Visual Quality Requirements

15.1 General

The DB Contractor shall conduct all Work necessary to meet the requirements associated with Visual Quality, including: development and implementation of a Visual Quality Management Plan and provision of qualified personnel to ensure informed visual quality decisions that meet or exceed the standards for visual quality.

15.2 Administrative Requirements

15.2.1 Environmental Compliance

The DB Contractor shall be responsible for ensuring that design for visual quality complies with the Project Commitments as established by the Environmental Documentation:

1. Combined FHWA Record of Decision and Supplemental Final Environmental Impact Statement / Section 4(f) Evaluation (ROD/Supplemental FEIS), August 2015
2. Final Environmental Impact Statement / Section 4(f) Evaluation (FEIS), March 2011

15.2.2 Context Sensitive Solutions

The DB Contractor shall develop the design for visual quality and conduct visual quality management work consistent with the principles established by DDOT's Context Sensitive Design Guidelines and FHWA's Context Sensitive Solutions toolbox (http://contextsensitivesolutions.org/content/topics/misc/fhwa-toolbox/) through using inclusive design approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions shall be reached through a collaborative, interdisciplinary approach involving all Stakeholders.

15.3 Performance Requirements

15.3.1 Personnel Requirements

15.3.1.1 Visual Quality Manager

DB Contractor shall assign a Visual Quality Manager to the Project responsible for the following:

1. Preparing and implementing the Visual Quality Management Plan (VQMP) and ensuring that the document is revised as required throughout the duration of the Contract;
2. Ensuring the DB Contractor's Final Design satisfies DDOT's Project Commitments as established by the Environmental Documentation;
3. Oversee the preparation of drawings (plan views, elevations, and sections), manually drawn renderings, and 3D and 4D full-color computer generated visualizations that graphically present and serve to resolve visual quality issues of all Project components (e.g. sculptural form, shape, texture, materiality, color, proportion, magnitude, scale);
4. Attend and participate in all community, public and stakeholder meetings to understand the community context; and
5. Act as the DB Contractor primary point of contact for all decisions that relate to visual quality both during design and construction.

The Visual Quality Manager may be either be either the Lead Urban Designer or Lead Bridge Architect but may not dually serve as both.

15.3.1.2 Lead Urban Designer

DB Contractor shall assign a Lead Urban Designer to the Project responsible for the following:

1. Actively manage design components for a multi-modal concept that considers the best way of providing the public space, landscape, streets, and structural aesthetics for the use and enjoyment of both the local residents and end users of the facilities.
2. Conceptualize, coordinate and synthesize the various design elements of the Project in a manner which best provides the public space, landscape, streets, and structural aesthetics of the Project.
3. Coordinating the use scenarios of all elements of the Project and take into consideration the multi-modes of transportation as well as the use and enjoyment of the Project as an extension of the urban open spaces of Washington, D.C.
4. Direct the design of the Project with respect to the long-term urban development of the Project area and the contextual relationship of the Project to projected future development actions.

15.3.1.3 Lead Bridge Architect

DB Contractor shall assign a Lead Bridge Architect to the Project responsible for the following:

1. Actively manage and be responsible for the aesthetics for all bridges, retaining walls, and other structural elements of the Project and will work closely with the Lead Urban Designer to integrate the bridge design into the overall urban design of the Project.

15.3.1.4 Project Architectural Lighting Designer

DB Contractor shall assign an Architectural Lighting Designer to the Project responsible for the following:

1. Developing the overall lighting concept for the Frederick Douglass Memorial Bridge (FDMB) that is consistent with the design of the bridge and allows an appreciation of the structure from all viewpoints.
2. Minimizing harsh or dominant reflections off the river, light trespass, over illumination, glare and sky glow.
3. Ensuring the daytime appearance of lighting supports are integrated into the overall design of the bridge.
4. Designing for future maintenance of the lighting systems whilst minimizing impacts to the traveling public.

The Architectural Lighting Designer shall have the following minimum qualifications:

1. Professional Member of the International Association of Lighting Designers (IALD).
2. Completion of the aesthetic lighting on at least two iconic bridge project of similar scope and complexity to the FDMB.

15.4 Design Requirements

15.4.1 Visual Quality Management Plan

The DB Contractor shall develop, implement and maintain a Visual Quality Management Plan (VQMP) to be submitted in accordance with Section 15.6 herein. The VQMP shall:

1. Establish the responsibilities and authority of the Visual Quality Manager and define how the Visual Quality Manager will work with the Lead Urban Designer, Lead Bridge Architect, Lead Structures Engineer, Lead Roadway Engineer and other members of the project team;
2. Define the process for meeting the commitments for visual quality set forth by the Environmental Documentation, including design review by project stakeholders;
3. Describe the approach to ensuring compliance and consistency with the visual quality aspects of the DB Contractors Technical Proposal commitments;
4. Establish the methods for coordinating and interacting with DDOT and providing submittals for Stakeholder review in accordance with the requirements of the Environmental Documentation;
5. Define the method by which the Record of Recommendations and Decisions, as described in Section 15.4.2, will be managed and maintained;

6. Define the process for overseeing the production and review of required mock-ups or trial panels including describing any additional mock-ups or trial panels;
7. Define how the design of the project will provide opportunities for future memorials and allow for civic art and cultural interpretive elements to be incorporated into the design;
8. Address how aesthetic lighting will be integrated into the design of the FDMB and the overall Project; and
9. The VQMP will establish a schedule for visual quality review meetings to include:
    a. A visual quality kickoff meeting to be scheduled within two weeks of NTP1.
    b. Visual quality review meetings to be scheduled every second week during design development and review phase and monthly thereafter up to Final Acceptance.
10. Set out the content for preliminary and final visual quality design submittals including drawings for landscaping, lighting, barriers, railings and site furnishings.

15.4.2 Record of Recommendations and Decisions

The DB Contractor shall compile and maintain a Visual Quality Record of Recommendations and Decisions, documenting actions of the DB Contractor, DDOT and Stakeholders relating to Visual Quality. This document shall be updated throughout the Project as revisions or additions occur and shall guide the DB Contractor throughout the design and construction of the Project with regard to visual quality and context sensitive solutions issues. At a minimum, the Visual Quality Record of Recommendations and Decisions shall contain visual quality recommendations, decisions made, dates of decisions, participating parties, and supporting information for the decisions. The record shall be revised after each meeting that results in changes in visual quality design elements, including materials, appearance, extent, and installation.

The Design-Builder shall submit the initial version of the Record of Recommendations and Decisions to DDOT for review and comment before NTP2 and submit monthly updates to document changes in visual quality design elements, including materials, appearance, extent, and installation.

15.4.3 Visual Quality Graphics

The DB Contractor's shall provide sketches, 2D drawings, 3D drawings, 3D visualizations, renderings and photo simulations as necessary to adequately portray visual quality concepts to DDOT and stakeholders. Visual quality graphics shall be developed by a Graphic Support Team that shall be experienced in developing presentation quality material for projects of similar scope and public/stakeholder involvement. Specific requirements are provided below.

15.4.3.1 3-D Computer-Generated Visualizations

The DB Contractor shall submit computer-generated geographically and photographically accurate visualizations from a minimum of 10 significant point-of-view locations and additionally for detail elements. These locations shall be identified by the DB Contractor during the course of design development to include as a minimum bird's-eye perspectives of the Project from various locations, drivers' perspectives from each travel direction taken from a number of locations throughout the project corridor, and water-body perspectives of the FDMB from key upstream and downstream viewer locations.

DB Contractor shall submit 3-D computer generated visualizations in the following formats:

1. High-resolution TIFF format reproducible to poster size (30 inch x 40 inch minimum)
2. Hard copy prints (11 inch x 17 inch)
3. Mounted foam-boards (22 inch x 34 inch)

The visualizations described above shall be submitted within 30 Calendar Days following NTP1. The DB Contractor shall provide updated visualizations as required to support DDOT's stakeholder and public outreach as described in Section 9.

15.4.3.2 Computer-Generated Animations

The DB Contractor shall submit a full-color computer-generated 4-D ("fly-through") animation, set in the context of the District of Columbia, depicting the final bridge design as viewed from a bird's-eye perspective, from the West Oval, and continuing across the FDMB to the I-295 interchange and from the river/ground level. Minimum standards for animation: Frame rate = 30 fps; Screen Resolution = 1280 x 720; Sound = 1,536 kbps

Files shall be submitted in high-definition Windows Media Video (WMV) encoded with 5 megabits per second (mbps) bitrate, CD or data DVD.

15.4.4 Visual Quality Elements

In developing the design for visual quality the DB Contractor shall follow and compliment the visual quality standards established by prior studies, reports, guidelines and plans including:

1. Anacostia Waterfront Initiative Transportation Architecture Design Guidelines, DDOT, 2008
2. South Capitol Street Task Force Report, NCPC, 2005
3. South Capitol Street Urban Design Study, DCOP, 2003
4. South Capitol Gateway and Corridor Improvement Study, NCPC, DC, DDOT, 2003
5. Anacostia Waterfront Initiative Framework Plan, District of Columbia, 2003
6. Memorials and Museums Master Plan, NCPC, 2002

In addition to Project Design Appearance Goals set forth by the Environmental Documents, the following qualities shall be inherent in the overall design of the Project:

1. The design for the FDMB shall integrate with the overall Project.
2. The design shall consider the many and varied vantage points from which the FDMB and the overall project may be viewed (e.g., from the Anacostia River and riverfront, from the Anacostia Park, from trails and neighboring buildings). Unobstructed visual prospects ("Viewsheds") shall be established between curbs on all streets.
3. The design shall consider the appearance of the FDMB both during the day and at night. Architectural accent lighting shall be included in the design solution, and the functional lighting on the roadway shall be designed to be as unobtrusive as possible.
4. Travelers should have a clear sense of a bridge "crossing" that celebrates or communicates that one is crossing the Anacostia River and providing for unobtrusive views.
5. The design of embankments and open parcels of land shall integrate "greenscape" to the greatest extent possible, and the "greenscaping" shall blend with the surroundings.
6. The design shall coordinate the architectural character, surface treatments, and materials used on bridges, retaining structures, curbs, lighting, railings and barriers so that a consistent standard or family of standards is used throughout the Project.
7. Define the special areas of the Project as described in the Anacostia Waterfront Initiative Transportation Architecture Design Guidelines (e.g., the FDMB, symbolic corridors, waterfront access segments, and waterfront promenades) and address the architectural elements for each (e.g., roadway paving and treatment, curbs, medians, lighting, furnishing, signage, street trees, planting and LID).

15.5 Construction Requirements

15.5.1 Mock-ups and Samples

DB Contractor shall provide DDOT mock-ups and samples for Approval a minimum of 60 Calendar Days in advance of starting construction of the applicable item. Mock-ups and/or samples approved by DDOT shall become reference standards for the Project and shall be maintained undisturbed until Final Acceptance. At a minimum,

the DB Contractor shall submit the following to DDOT; DDOT may determine additional submittals based on the DB Contractor's Final Design.

1. A minimum of three sample panels for each steel coating applied using similar coating procedures and substrate preparation as the final product, minimum size 1-ft by 1-ft;
2. A minimum of three sample panels for each concrete coating applied using similar coating procedures and substrate preparation as the final product, minimum size 1-ft by 1-ft;
3. Sample panels for all textured concrete surface finishes (including non-standard pavement), minimum size 5-ft by 5-ft;
4. Material samples for all block paving, pervious paving, cobblestones and rip rap / revetment protection;
5. Sample panels for all salvaged stone or new stone retaining walls in accordance with the Standard Specification;

Sample panels shall be portable so they can be viewed on the site at different sun angles and times of day.

In addition, the DB Contractor shall provide full size samples of the following items before ordering material for construction:

1. Light fixtures and light poles that are not DDOT standard;
2. Mock-ups of pedestrian railing and hand rails at least 8-ft long;
3. Mock-ups of tree pit fencing at least 8-ft long;
4. Mock-up of any custom vehicular barrier;
5. Sample wayfinding signs; and
6. Sample bench, trash receptacle and bike rack.

Streetscape elements shall be detailed and provided with corrosion-protection systems to ensure a minimum durability of 20 years and to prevent unsightly rusting or staining at any point in the future.

15.6 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated within Section 1, General Information, of these Technical Provisions.

TABLE 15-1
Visual Quality Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Visual Quality Management Plan (VQMP)	Review and Approval	Within 30 Calendar Days after issuance of NTP 1 and as a condition for issuance of NTP2	15.4.1
Record of Recommendations and Decisions	Review and Comment	Within 30 Calendar Days after issuance of NTP 1, monthly thereafter	15.4.2
3D Visualizations	Review and Comment	Within 30 Calendar Days after issuance of NTP 1, updated thereafter	15.4.3.1
Computer Generated Visualization	Review and Comment	Within 30 Calendar Days after issuance of NTP 1, updated thereafter	15.4.3.2
Visual Quality Mock-ups and Samples	Review and Approval	60 Calendar Days before commencing construction of each related element	15.5.1

SECTION 16

Illumination

16.1 General

The DB Contractor shall perform all Work necessary to meet the requirements for temporary and permanent lighting for the Project, including the required illumination specified in DDOT Design and Engineering Manual, Streetlight Policy and Design Guidelines, and all other requirements of this RFP. All Work performed under this Contract shall conform to the National Electrical Code (NEC), District of Columbia Electrical Code, District of Columbia Standard Specifications for Highways and Structures, South Capitol Street Project Technical Provisions, and DDOT Streetlight Policy and Design Guidelines.

Refer to Section 22, Maintenance of Traffic, of these Technical Provisions for additional temporary lighting requirements.

16.2 Performance Requirements

16.2.1 Software

The DB Contractor shall use DDOT compatible software to prepare the required lighting analysis. The software used shall allow for review of the lighting analysis by DDOT staff. DDOT recommends that the DB Contractor use AGI32 Lighting Design Software available from Lighting Analysts, Inc., Littleton, Colorado, (303) 972-8852 for this task. The software shall use data files in Illuminating Engineering Society (IES) standard format for the luminaires. Lighting analysis shall be submitted to DDOT in both hard copy and on CD.

16.2.2 Meetings

The DB Contractor shall meet with DDOT to discuss and receive input on the design and construction of traffic-related design issues including, but not limited to, signing, lighting, pavement marking, traffic signals, and Intelligent Transportation Systems (ITS). The DB Contractor shall schedule bi-weekly meetings and chair the meetings during the design and construction stages. The DB Contractor shall prepare the agenda, meeting minutes, exhibits, and design plans necessary for each meeting. Meetings may include representatives from DDOT and other representatives as requested by DDOT.

16.3 Design and Construction Requirements

16.3.1 Street Lighting Scope

The DB Contractor shall provide a complete lighting system (permanent and temporary) for the South Capitol Street Corridor Project which at a minimum includes the following lighting elements: roadway lighting, pedestrian lighting for the walkway/bikeway, aesthetic/architectural lighting at the Frederick Douglass Memorial Bridge (FDMB), security lighting, general lighting, as well as navigational and aviation beacon lights. Submit to DDOT, for informational purposes, the name, publisher, and version of the software utilized for all lighting calculations. Clearly state the assumptions, procedures and design methods employed in the lighting design. Lighting fixtures shall be designed to limit spillover and sky glare beyond the Project ROW.

The lighting system shall fully comply with National Electrical Manufacturers Association (NEMA) requirements for exterior installations. Provide explosion-proof fittings or fixtures wherever needed.

All lighting elements shall utilize light emitting diode (LED) lamps wherever possible.

Each lighting system shall be controlled by a photocell unit, independent of the other lighting system controls, and shall be easily accessible for replacement or repair and shall be secured from unauthorized access. All lighting systems shall be connected to a supervisory control and data acquisition (SCADA), or similar system, for performance monitoring. The aesthetic lighting system shall be controlled by SCADA (or similar) to allow the Communication Desk to change the aesthetic lighting display. Reference Section 17, Traffic Signals/Intelligent

Transportation Systems, of these Technical Provisions for information on the systems monitoring and control network.

The Potomac Electric Power Company (pepco) currently supplies power to the existing streetlight system from its manholes. Pepco will supply the power to the permanent roadway lighting system. The DB Contractor shall install the new feeder cables into pepco's facilities under pepco's supervision and inspection, if applicable. All work involved with pepco facilities shall be performed in conformance with pepco's requirements.

The DB Contractor shall cut, when required, the existing District of Columbia cables for new connections in pepco-owned manholes. Pepco owns the service tap onto their electrical system. District of Columbia owns the cable after the service tap to the streetlight(s).

All new electrical service taps into pepco's distribution system will be performed by pepco forces.

The DB Contractor shall coordinate with pepco to relocate all overhead power lines within the limits of work to underground, unless physically impossible.

16.3.1.1 Roadway and Pedestrian Lighting System

Provide roadway and pedestrian lighting systems for the FDMB, including the approach spans and pedestrian walkway/bikeway, as well as other roadways within the limits of work. The roadway and pedestrian lighting systems shall be on the same photocell control system independent of other lighting systems. The design shall include the following components:

1. Layout Plan – location and spacing of roadway and pedestrian lighting with point-by-point illumination level at 5-foot intervals.
2. Luminaire Schedule – type and catalogue number of luminaire, wattage and pole height.
3. Calculations – illumination level: minimum, maximum, average, and uniformity ratio.

The average maintained illumination level on the roadway pavement, including the right shoulders, shall meet or exceed those as recommended by the Illuminating Engineering Society of North America (IESNA), as well as the DDOT Streetlight Policy and Design Guidelines.

The average maintained illumination level for the pedestrian walkway shall be satisfactory or better as recommended by the IESNA and DDOT Streetlight Policy and Design Guidelines.

All roadway and pedestrian lighting shall be designed in conjunction with the Visual Quality Management Plan and Aesthetic Lighting Plans. The proposed fixtures, standards and lamps for the roadway and pedestrian lighting systems shall be submitted to DDOT for review and comments.

Lighting construction shall be performed by the DB Contractor includes but is not limited to:

1. Furnish and install new conduits, manholes, streetlight pole foundations, hand boxes, light poles, luminaires, conversion kits, globes, photo controls, feeder cables, cables, and all necessary electrical splices.
2. Removal of the existing street lighting system including luminaires, photo controls, poles, transformer bases, cables, foundations, and abandonment of conduit, as directed by the Engineer. The DB Contractor shall maintain the level of streetlight illumination within the Project Limits by the use of the existing, temporary and proposed lighting poles.
3. Removal of all signs on the existing streetlight poles, storage, and permanent reinstallation of the signs on the new streetlight poles or new posts.
4. During this Contract, all the streetlight service conduits will be replaced with new conduits. The existing streetlight feeder cables will be removed from the conduits.
5. Other essentials necessary for the satisfactory installation of the roadway lighting system shown on the plans, whether specifically mentioned or not.

16.3.1.2 Aesthetic/Architectural Lighting at the FDMB

Provide aesthetic/architectural illumination of the FDMB to enhance the visual quality of the structure. All aesthetic and architectural lighting shall be on a photocell control system independent of the other lighting systems.

The aesthetic/architectural lighting system may include multiple color options and various displays but shall not conflict or affect, in any way, the function of the aviation and navigational lighting.

The visual impact of the aesthetic/architectural lighting system on bridge patrons, large vessels navigating the waterway, and nearby aircraft shall be incorporated into the design.

Ensure that any glare produced by the selected luminaire is properly controlled to minimize the effect on migratory fowl, the local ecosystem in general, and any historic areas noted in the Final Environmental Impact Statement (FEIS). The use of visors, special optical systems as well as precise alignment of each luminaire will be considered for such applications.

All aesthetic/architectural lighting shall be designed in conjunction with the Visual Quality Management Plan and Aesthetic Lighting Plans. Design of the system shall accommodate maintenance and replacement of lamps and system components to minimize impacts on operations during those routines.

16.3.1.3 General Lighting

Provide general lighting for the interior and exterior of all Project structures and enclosures. Interior lighting shall provide sufficient illumination to support all anticipated maintenance and operational activities to be performed within the structures and enclosures. Interior lighting shall include all emergency exit and illuminated warning signage in accordance with applicable building codes. Interior lighting fixtures and lamps shall be specified in accordance with the use rating of the utility structure and enclosure. Determine if explosion-proof fixtures or hazardous area fixtures are needed. Exterior lighting shall provide sufficient illumination to gain safe access to the structures and enclosures from adjacent roadways or parking lots during night hours and shall be on photocell control system independent from other photocell control systems. Exterior lighting shall also provide sufficient illumination around the perimeter of each structure and enclosure to allow observation of unauthorized personnel in the immediate vicinity or safety threats. Exterior lighting fixtures shall be tamper-resistant and impact resistant and NEMA rated for exterior use. The design of the exterior lighting system shall be coordinated with security lighting design.

The design shall include the following components:

1. Layout – location and spacing of general lighting fixtures for the interior and exterior of the utility structures and emergency generator enclosures.
2. Fixture Schedule – type and catalogue number of fixtures and wattage.

16.3.1.4 Navigational Alert System

Provide navigational lights in accordance with the DDOT Standard Specifications for Highways and Structures unless specified differently below to identify the navigable channel. Provide fog horns as an audible beacon identifying obstructions in low-visibility conditions. The technical data, locations and operating procedures of the light fixtures and fog horns shall be in compliance with U.S. Coast Guard (USCG) requirements.

The location plans, proposed fixtures and operational procedures for the navigational lights and fog horns shall be submitted to the USCG for review and approval. The lighting and fog horn system shall be designed to facilitate maintenance routines and minimize impacts to bridge operations when maintenance or replacement of lighting fixtures, horns or system components is required. Coordinate with the USCG to determine the appropriate control system for the warning lights and fog horns.

The Design shall include the following components:

1. Layout – locations and spacing of navigation lighting for the bridge structure complete with point-by-point illumination level at 5-foot intervals.

2. Layout – locations of navigation horns for the bridge structure complete with point sound-generation levels (tones and timing of the signal).
3. Fixture Schedule – type and catalogue number of fixtures for navigational lighting and fog horns and wattage levels for navigational lighting.
4. Calculations – illumination (navigational lighting) and decibel level (fog horns): minimum, maximum, average, and uniformity ratio.

Submit for review and approval by the USCG the proposed navigational alert systems prior to installation. Provide a copy of the submittals and approvals to DDOT for records. The navigational lighting system shall be accounted for in the Visual Quality Management Plan and Aesthetic Lighting Plans.

16.3.1.5 Temporary Illumination

Typical construction requires reduction in lane and shoulder widths, shifting of lanes, and modification to gore points at the ramps. Additional lighting is often necessary for the safety of the traveling public and workers.

Lighting design criteria for ramps is based on the merge and diverge locations; therefore, shifting gore points impact the effectiveness of existing lighting. The DB Contractor shall evaluate the lighting levels of the existing illumination in relation to the temporary configuration to determine if the existing illumination provides the required illumination levels. If the required illumination levels are not satisfied, the DB Contractor shall provide temporary illumination satisfying the light level and uniformity ratios in accordance with DDOT Streetlight Policy and Design Guidelines.

Where temporary illumination is required, the existing illumination system shall not be removed until the temporary system is operational. Only lighting equipment no longer needed for illumination of the roadway shall be removed.

Existing overhead sign lighting shall be maintained at all times.

The DB Contractor shall provide temporary lighting satisfying the DDOT Streetlight Policy and Design Guidelines defined light level and uniformity ratios when existing lighting must be removed or disconnected and new lighting is not in operation.

The DB Contractor shall provide temporary lighting for all intersections where traffic control devices are in place.

Temporary lighting is required when an obstruction (such as a new bridge) is placed over an area requiring illumination and shall be installed prior to placing the obstruction. The DB Contractor shall also provide temporary lighting for temporary channelization or traffic control.

Flood lights or portable light stands shall not be used for temporary roadway lighting.

At a minimum, the DB Contractor shall provide temporary illumination satisfying the required illumination described in the DDOT Standard Specifications for Highways and Structures and the DDOT Streetlight Policy and Design Guidelines. Temporary illumination shall be in place and in operation prior to implementing the Traffic Control Plans which require the temporary illumination.

General

At a minimum, the Design-Builder, shall perform the following:

1. Design temporary lighting plans;
2. Maintain current required levels of roadway illumination for all roadway segments and interchanges that exist even if they are not currently lit;
3. Provide all materials and equipment for temporary lighting installations;
4. In the clear zone, provide only lighting units that are breakaway or protected from crash potential; and
5. Provide maintenance for the temporary lighting system. Any damage to the existing illumination system shall be repaired prior to hours of darkness on the following day.

Timber Light Standards

Timber light standards may be used for temporary lighting where breakaway or slip bases are not required. Timber light standards must be outside of the clear zone or protected by barrier. These light standards must be Approved by DDOT.

Power Service Costs

The DB Contractor shall provide payment for all power costs during construction.

16.3.2 Permanent Lighting Design Requirements

16.3.2.1 General

The DB Contractor shall provide illumination at all locations within the Project Limits and as specified in these Technical Provisions. On the collectors, local roads, arterials, expressways/freeways, and interstates within the limits of work, the DB Contractor shall use the light levels and uniformity ratios presented in the DDOT Streetlight Policy and Design Guidelines, under the appropriate area classification.

All existing equipment that is removed including, but not limited to, poles, pole bases, cabinets, lamps, and luminaires shall be replaced with new equipment. No existing equipment may be reused for the permanent illumination system, unless otherwise specified or Approved in writing by DDOT.

The DB Contractor shall design and construct the illumination system to accommodate future maintenance. The illumination system shall be designed to minimize lane closures required for maintenance.

The allowable line voltage loss for illumination circuits shall be a maximum of 5 percent.

No aluminum pole is acceptable.

16.3.2.2 Proposed Roadway Lighting Poles

The proposed lighting types, spacing, and locations shall be in accordance with the Mandatory Standards.

16.3.2.3 Photometric Analysis

The DB Contractor shall complete a Photometric Analysis that includes the following:

1. Lighting intensities (maximum, average, and minimum foot-candles) and uniformity (average/minimum); light pole locations, types, heights, fixture mounting heights, and arm lengths; luminaire types; wattage and brightness; and quantities of each.
2. Lighting calculations that account for the anticipated loss of light due to Lamp Lumen Depreciation (LLD) and Lamp Dirt Depreciation (LDD) shall be 0.86 for cobra-head and Capella (or proven equivalent) lights, and 0.81 for post-top (Twin-20 and #16) and teardrop lights.
3. Roadway safety, ease and cost of maintenance, cost of construction, annual energy cost, and provision for future lighting needs and local planning policies shall be considered during the design of all lighting systems.
4. Lighting contours for nighttime illumination shall show the distances from the light source at lighting levels 1.0, 0.5, and 0.2 foot-candle. Lighting contours of 0.1 and 0.05 foot-candle shall be provided for permanent surfaces adjacent to sensitive areas such as streams and rivers. Topographic plan features shall be shown at least 150 feet beyond the illumination contours.
5. Lighting calculation grid spacing shall be 5 feet by 5 feet.
6. Veiling luminance calculations.
7. Photometric calculations for all existing lighting system within the limits of work. If the existing lighting system meets the DDOT standard, the proposed lighting shall maintain a similar average intensity and uniformity.

The DB Contractor shall consider the three-dimensional aspects of the roadway with respect to the positioning of the illumination assemblies. For example, roadways, ramps, and overpasses are typically located at various vertical and horizontal distances from the luminaires being used to light the roadways. The analysis may be

presented using two-dimensional computer modeling for areas where vertical considerations are minimal, and the analysis shall use three-dimensional computer modeling where overhead signs, elevated ramps, bridges, retaining walls, and highway tunnels impact lighting of the road below.

A surface shall be created for each lighting design area which matches the roadway contours.

16.3.2.4 Lighting Under Structures and Tunnels

The DB Contractor shall furnish and install suitable under-deck or wall-mount luminaires to meet all lighting design criteria and standards for all roadways affected by this Project. Coordination with DDOT will be required to determine the power source for the lighting and for design Approval. The DB Contractor may be required to obtain a permit and inspections from DDOT.

16.3.2.5 Spillover Light

When adjacent to non-commercial areas, the maximum spillover light allowed shall be 0.2 foot-candles at ground level at the edge of the ROW, unless otherwise noted. The DB Contractor shall install flat lens, medium cut-off fixtures to limit spillover light outside of the ROW. The DB Contractor may use shielding to limit spillover light.

16.3.2.6 Specific Requirements

The DB Contractor shall provide illumination when required in accordance with light levels and uniformity ratios provided in the DDOT Streetlight Policy and Design Guidelines.

All existing light standards that are removed shall be replaced with light standards meeting the Contract requirements. Existing light standard foundations shall not be reused and shall be removed.

16.3.2.7 Equipment Provided by DDOT

The DB Contractor shall supply all equipment.

16.3.2.8 Design Documentation

The DB Contractor shall provide all documents and information required for the Design Documentation Package in accordance with Section 12, Project Documentation, of these Technical Provisions.

16.3.3 Permanent Illumination Construction Requirements

The DB Contractor shall use Materials Approved in accordance with the DDOT Standard Specifications for Highways and Structures and Section 25, Control of Materials, of these Technical Provisions.

Illumination systems shall remain operational at all times during construction unless a temporary illumination system is provided to cover the affected area. Any damage to illumination systems shall be repaired prior to hours of darkness on the following day.

All lighting conductors shall be installed using conduits containing only lighting electrical conductors. The conduit, manhole and pull-box system shall be separated from traffic signal conduits and ITS conduits. A shared trench, shared power service, and shared cabinet foundations may be used.

The DB Contractor shall provide maintenance for all lighting within the Project Limits in accordance with this Section until Final Acceptance.

The DB Contractor shall coordinate with the Utility companies to determine the minimum separation between overhead Utilities and illumination structures. A minimum of 10 feet of circumferential clearance to all power lines including the neutral shall be maintained.

It shall be the DB Contractor's responsibility to notify and coordinate with pepco throughout the construction of the Project in connection with all pepco services and facilities in the construction area, so that removal and restoration of services can be done in a timely and orderly manner at all times.

It should be noted that the District of Columbia electrical system is not fused and unprotected with no disconnecting means other than cutting the cable from the feed source.

The DB Contractor shall be expected to perform electrical work on District of Columbia cables with the knowledge that the circuits are energized.

The DB Contractor shall coordinate with pepco for the following:

1. Payment to pepco for manhole entry before any entry into their manholes.
2. Payment to pepco for any pepco forces work (Streetlight Work Orders).
3. To have each "pepco manhole" inspected by pepco forces and the electrical contractor on this Contract for safety, clearing of the cables racked on the walls, spotting of the wall for new conduit penetrations and the knowledge of the location of each feed manhole for the streetlights.
4. Calling pepco when it is necessary for pepco Forces to make the taps onto their electrical system to energize the street lighting and signal systems.
5. Calling pepco for the final inspection of their manholes after all electrical work is complete in the pepco manholes as called for in this Contract.

All work performed within pepco facilities shall be performed in conformance with pepco requirements. The DB Contractor shall initiate communication with pepco as early as possible after execution of this Contract for the purpose of establishing scheduling guidelines and to exchange telephone numbers between the principal points of contact.

16.3.3.1 Material and Work Procedures

The DB Contractor shall be responsible for furnishing all proposed Materials associated with the electrical work in accordance with the DDOT Standard Specifications for Highways and Structures.

Concrete Encasement Portland cement concrete (PCC) mix design for encased conduits shall conform to the DDOT Standard Specifications for Highways and Structures for Class F General Use. All conduits shall be encased to provide a 4-inch minimum cover all around the conduit.

If existing utilities or conduits are present in the trench, these utilities or conduits shall be surrounded with an encasement of at least 3 inches of sandy fill, free from objects which might damage the conduit. PCC encasement shall then be placed over the sand encasement to the appropriate level.

Conduits Two sizes of conduits will be used for roadway lighting. Four-inch conduit shall be installed between manholes. Two-inch conduit is for the connection from the manhole to each streetlight pole. Conduits and fittings shall bear Underwriters Laboratories, Inc. label. Conduit shall be marked with the manufacturer's name, trade name, or trademark, nominal trade size, and type of material.

Junction Boxes The boxes shall have been drilled and tapped to allow the installation of threaded conduit fittings. Interior mounting buttons will be provided to allow the installation of grounding lug and cable brackets.

Grounding and Bonding The DB Contractor shall take a clear 4- by 6-inch photograph of the completed ground connection for all new streetlight poles, streetlight/traffic signal poles, and manhole frames and covers at the time of installation. All photographs that do not clearly show the connection will be returned to the DB Contractor and new photos will be taken. The photograph will be marked with the pole location, installation number and grid number. The manhole photographs will be marked with the manhole installation number. All photographs will be put into a photo album and delivered to DDOT. All costs associated with creating the photo album are to be included in the DB Contractor's lump sum price.

Steel Pendant Light Pole, Arm and Decorative Shroud The Contract drawing of the decorative shroud is to be used as a standard of quality and dimensional requirements. Deviating from these dimensions will not be permitted.

#16 Cast Iron Post With each pole supplied, the manufacturer shall supply an extra base door.

Electrical Tests A written report shall be submitted for Approval. All ground rods installed under this Contract will be tested with the Project Engineer in attendance and a written report be submitted for Approval.

Teardrop Luminaire

Light Source

Luminaire light source shall be composed of 126 Cree XPG high power LEDs.

Optics

External light control shall consist of high-precision refractive lenses mounted above the LED emitter arrays in such a way to achieve optimum uplight control. The optical lenses shall control the vertical distribution of the light so that the vertical cutoff angle does not exceed 73 degrees above nadir at a plane angle of 75 degrees for maximum horizontal spacing. The lenses shall also control horizontal light distribution so that either IESNA Type II or Type V patterns are achieved.

Lens

The Decorative Deep-Dish Globe shall be molded of rippled acrylic, Acrylite Plus, or equivalent, having a minimum thickness of 0.090" with an overall diameter of 12 5/8 inches and an over-all height of 13 ½ inches. It must have an IES Type II, III or V classification, with less than 2 percent uplight that has been verified by an independent certified photometric report. The refractor is secured by means of a cast A319 aluminum refractor holding ring and shall allow the refractor to open at least 90 degrees from the horizontal and is tool-less in design. The holding ring shall have a latching arrangement to prevent the refractor holding ring from falling. A stainless-steel safety wire with a minimum diameter of 1/16 inch must be permanently attached to the holding ring and luminaire housing and acts as a safety mechanism to ensure the refractor and holding ring cannot fall from their placement.

Wiring

All internal wiring and connections shall be completed so that it will be necessary only to attach the incoming supply connectors to Mate-N-Loc connectors or to a terminal block. Terminal blocks shall be certified to 250V, 70A and consist of three sets of terminals. They shall be rated to 250V and meet NEMA Specifications for Wiring Terminals. Mate-N-Loc shall be certified for 600V operation. Internal wire connectors shall be crimp connector only and rated at 1000V and 150ºC. All wiring to be CSA certified and/or UL listed, type SFF-2, SEWF-2, or SEW-2 No. 14 gauge, 150ºC, 600V, and color coded for the required voltage.

Plumbizer (KPL30)

The plumbizer allows for plumbing of fixture and must be comprised of two components. The outer housing is a fully machined 6061-T6 aluminum enclosure and houses the internal plumbing nipple. The plumbing nipple must be a fully machined aluminum alloy 6061-T6 component with a yield strength minimum of 35,000 pounds per square inch with a minimum cross-sectional area of 1.3 square inches and a tensile strength of 45,000 pounds per square inch. Additionally, the horizontal level device must be cast from A319 and work to allow vertical adjustment of the fixture. The level device must be fastened to the horizontal arm by means of a u clamp that secures the entire assembly into place. A NEMA approved twistlock photo receptacle must also be positioned in the top and be sealed to avoid water or bug entry.

Post-Top (Washington Globe) Luminaire

Light Source

Lamps shall be an array of solid-state, light-emitting diodes mounted to a multi-sided, vertical heat sink of highly conductive aluminum. The luminaire efficacy should be greater than 75 lm/w.

Protective Globe

The Protective Globe shall be molded of rippled acrylic, Acrylite Plus, having a minimum thickness of 0.125 inch with an overall diameter of 17.5 inches and an over-all height of 28 inches.

The Luminaire Globe Assembly is a self-contained unit consisting of the Globe itself, a rugged cast ring, and the LED light engine consisting of vertical heat sink tower, circuit boards, LED emitter arrays, and optical baffles. The LED light engine is of a modular design and is able to be quickly removed from the globe assembly without need

to disassemble the globe assembly itself. The Globe Assembly is secured to the main housing by means of set screws maintaining a secure seal between the Globe Assembly and the Main body of the luminaire.

High-performance protection against water or dust particle ingress is provided for the optical chamber in which the LED light engine is contained, making the K118 suitable for an outdoor environment.

Wiring

All internal wiring and connections shall be completed so that it will be necessary only to attach the incoming supply connectors to Mate-N-Loc connectors or to a terminal block. Terminal blocks shall be certified to 250V, 70A and consist of three sets of terminals. They shall be rated to 250V and meet NEMA Specifications for Wiring Terminals. Mate-N-Loc shall be certified for 600V operation. Internal wire connectors shall be crimp connector only and rated at 1000V and 150ºC. All wiring to be CSA certified and/or UL listed, type SFF-2, SEWF-2, or SEW-2 No. 14 gauge, 150ºC, 600V, and color coded for the required voltage.

Cobra-Head Luminaire

Lamp: Composed of high-performance white LEDs.

Optical system: Composed of high-performance lenses, protected by a flat tempered-glass lens. System is rated IP66.

Surge protector: Surge protective device provides all phases protection for line-ground, line-neutral, and neutral-ground in accordance with IEEE / ANSI C62.41.2 C High. Surge rating 10 KV, 10 KA and DOE Model Specification for Roadway Luminaires Elevated requirements per Appendix D. Surge protection is standard for all product models 120 to 480V.

Driver: Electronic driver, operating range 50-60 Hz, maximum THD 20 percent. UL-recognized component. IP66 rated. Optional dimming (0 to 10V) and digital driver features available.

LED platform: The LEDGINE LED platform consist of two LED boards with 48, 64, or 80 LUXEON R LEDs each, as required to provide total LEDs from 96 to 160. The LED boards are removable and replaceable.

LED Luminaire Provide luminaires as indicated and complete with LED light source and power-supply unit. Details, shapes, and dimensions are indicative of the general type desired but are not intended to restrict selection to luminaires of a particular manufacturer. Luminaires of similar designs, light distribution and brightness characteristics, and of equal finish and quality will be acceptable.

LED Light Source and Optical Requirements

Provide luminaries in accordance with the DDOT Standard Specifications for Highways and Structures.

Temporary Illumination Construction Requirements Refer to this Section and Section 22, Maintenance of Traffic, of these Technical Provisions.

Electrical Service Agreements

DDOT will obtain all Service Agreements from pepco. The DB Contractor shall pay all costs charged by pepco for the Service Agreement and for pepco's costs associated with upgrading its facilities to meet the requirements of the Service Agreement. DDOT will pay the monthly electric bills starting on the day Work begins for the existing lighting and for the lighting installed under the Contract until Physical Completion.

The DB Contractor shall coordinate with DDOT and submit a Service Agreement Request for all new and modified services required for the Project. The Service Agreement Request shall include the information listed in the Service Agreement Checklist and the following:

1. Location of existing or new service submitted in plan sheet format;
2. Load calculations showing design and future loads in kilo-volt-amps (KVA) and voltage required;
3. Request for modifications to existing services showing existing load, new load, and ultimate load; and

4. Name of the Utility and the service agreement number (for existing services).

The DB Contractor shall submit the Service Agreement Request a minimum of 90 Calendar Days in advance of when the power connection is needed. DDOT will begin procurement of the Service Agreement after the Service Agreement Request is accepted and determined complete by DDOT. If changes to the Service Agreement are required by the DB Contractor, the DB Contractor shall pay all costs associated with the Service Agreement revisions. Further, the 90 Calendar Day advance notice will begin when the revision to the Service Agreement Request is accepted and determined complete by DDOT.

If the DB Contractor proposes to remove an existing service, the DB Contractor shall notify DDOT in writing at least 30 Calendar Days prior to the proposed removal, so that the service account can be cancelled. The written notification shall contain the Service Agreement number, location, and electrical load in KVA.

Conduit System The DB Contractor shall not saw cut or open trench across limited-access roadways or ramps under any circumstances.

The DB Contractor shall not saw cut or open trench the following on roadways outside of limited-access Right-of-Way:

1. Cement concrete pavement;
2. Any pavement after the final lift of Hot Mix Asphalt or PCC Pavement is placed; or
3. Existing pavement to remain in place.

When the conditions described above are encountered, the DB Contractor shall install conduit using jacking, drilling, or boring methods.

The DB Contractor shall install a spare 2-inch conduit associated with every conduit crossing under pavement or through structures, including walls.

In new conduits, conductors shall occupy a maximum of 26 percent of the cross section of the conduit. In existing conduits, conductor fill shall meet NEC requirements for conduit with three or more conductors and shall occupy a maximum of 40 percent of the conduit's cross-sectional area.

The DB Contractor shall install two 2-inch conduit/junction box systems (embedded in concrete) in each of the following:

1. Bridge rail;
2. Median cast-in-place barrier; and
3. Roadside cast-in-place barrier.

Junction Boxes, Pull Boxes Where possible, junction boxes shall not be located within paved areas. Any junction boxes located within paved areas shall be Heavy Duty. The DB Contractor shall consult with DDOT when considering installation of heavy-duty junction boxes. No junction boxes shall be placed in the traveled way or auxiliary lanes.

Junction boxes installed face up in the sidewalk of bridge structures shall be cast-iron type with skid-resistant covers.

The maximum spacing for junction boxes in traffic barrier, retaining wall, or structures shall be 180 feet within each raceway system and 240 feet in all other areas.

Utility Locates Prior to installing any element of the illumination system, the DB Contractor shall contact Miss Utility (1-800-257-7777) for Utility locations. The DB Contractor shall be responsible for coordination with all Utility Owners and reconciliation of any Utility conflicts in accordance with Section 10, Utilities, of these Technical Provisions.

In addition, the DB Contractor shall be responsible for responding to Miss Utility requests as the owner (see Section 10, Utilities, of these Technical Provisions). When requested, the DB Contractor shall mark all conduit

installed as part of the Project. DDOT will locate and mark existing conduit remaining undisturbed that is owned by DDOT. Typically the DDOT locate will be within 4 feet lateral of conduit. The DB Contractor shall verify exact locations of all underground conduit before Work begins.

16.4 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

16.4.1 Preliminary Design Submittal

16.4.1.1 Photometric Analysis

Photometric analysis shall be performed for all illumination areas. The analysis shall identify the mounting height, light standard height, offset, spacing, and lighting fixture data. Photometric data files in IES standard format for the luminaires shall be submitted to DDOT for review and comment. The DB Contractor shall provide the following analysis data for the design areas:

1. Minimum light level
2. Average light level
3. Uniformity ratio (average per minute)
4. Maximum veiling luminance ratio

The DB Contractor shall submit a graphical report showing all design areas with calculation points. The report shall be legible and to scale and shall list all photometric files, luminaire definitions, and their characteristics. The DB Contractor shall also submit a rendering for each lighting area requiring 3D lighting analysis.

The DB Contractor shall submit an electronic copy of the Photometric Analysis (in AGI format) to DDOT with the Preliminary Design Submittal for review and comment.

Plans The Permanent Illumination Plans shall be prepared in accordance with the DDOT Design and Engineering Manual; the Photometric Analysis. The Plans shall include, but are not limited to, the following items:

1. Existing Utilities.
2. Proposed geometry.
3. Location of light standards, manholes, conduit, and junction boxes required for the installation.
4. Illumination for overhead signs as required.
5. Luminaire schedule specifying mounting height, luminaire type, lamp, voltage, wattage, station and offset, and service number.
6. Identification of existing illumination to remain.

The DB Contractor shall also submit photometric and voltage-drop calculations and narratives.

16.4.2 Final Design Submittal

The Permanent Illumination Final Design Submittal shall be complete and shall include all of the items from the Preliminary Illumination Design Submittal, in addition to the following:

1. Existing utilities.
2. Proposed geometry.
3. Light standards as specified, including foundation bases and anchorages.
4. Conduit and conductor schedule showing new wire and existing wire to remain.
5. Details and general notes.

6. Wiring diagram for each illumination circuit.
7. Complete construction notes.
8. All wire, cable, and terminators that are needed for the complete operation of the lighting system.
9. Illumination details for non-standard design elements.
10. All references to the Standard Plans and electrical details.
11. Structural calculations.
12. Geographic Information System (GIS) file containing all final lighting information within the limits of Work indicating pole locations, pole type/height, light source, wattage, mounting height, arm length, etc. (This GIS file shall be prepared as a new layer to the existing DDOT GIS system.)

The DB Contractor shall also submit photometric and voltage-drop calculations and narratives.

16.4.3 Shop Drawings

Shop drawings and product data shall include the following:

1. Light Standards and mast arms, for each type and size
2. Luminaires and lamps
3. Wiring diagrams
4. Splice enclosures
5. Conduit
6. Concrete for foundations
7. Junction boxes
8. Wiring

TABLE 16-1
Illumination Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Preliminary Design Packages	Review and Comment	21 Calendar Days	16.4
Final Design Packages	Review and Comment	21 Calendar Days	16.4
Shop Drawings	Review and Comment	21 Calendar Days	16.4

SECTION 17

Traffic Signals/Intelligent Transportation Systems

17.1 General

The Design-Build (DB) Contractor shall provide all materials and perform all Work necessary to meet the requirements for the traffic signal and intelligent transportation system (ITS) in accordance with the Contract. The Work will require the DB Contractor to modify or remove existing signals, construct temporary signals, construct new signals, and incorporate the ITS elements detailed in the District Department of Transportation (DDOT) *ITS and Communications Master Plan* and the *Conceptual ITS Design*, consistent with the improvements identified in the Contract Documents.

All Traffic Signal and ITS cable work shall be performed by the DB Contractor, except cable connection work within the cabinets shall be performed by DDOT.

17.1.1 Software

The DB Contractor shall use DDOT compatible software to prepare the required traffic signal timing plans. The software used shall allow for review of timing plans by DDOT staff using current DDOT software.

The firmware shall be in the 233/MC1 format consistent with the 170E controller. If other controller technologies are necessary to accomplish the desired operational patterns, alternative firmware consistent with the alternative controller may be used.

17.2 Performance Requirements

17.2.1 Traffic Signals

The DB Contractor shall perform all Work necessary to design and construct a traffic signal system in accordance with Section 17.1.1 of this Technical Provision. All traffic signal design must be approved by DDOT prior to construction.

The DB Contractor shall perform all work necessary to prepare up to four traffic signal timing plans to reflect the standard traffic flow scenarios that occur within the Project limits as follows:

1. AM peak period
2. PM peak period
3. Midday period
4. Weekend period
5. Special stadium events, including baseball games

In addition, the DB Contractor shall perform all work necessary to prepare up to four traffic signal timing plans to reflect the traffic flow scenarios for signals along evacuation routes which includes the standard scenarios noted above as well as four additional scenarios (nine total) for the rapid movement of traffic either into or out of the District using bi-directional or uni-directional flow.

DDOT will provide the DB Contractor with the AM and PM peak hour volumes used in the Synchro evaluation. The DB Contractor will be required to estimate midday/weekend and special stadium event traffic volumes using existing traffic/turning movement counts and/or studies, or collecting existing traffic/turning movement counts as needed, including but not limited to 24-hour traffic counts and 10-hour turning movement counts.

It is possible that signals in close proximity to each other may be controlled from a single location with a single traffic signal controller. In the final design, DDOT Traffic Operations Administration (TOA) will assign and provide to the DB Contractor intersection names and TS and S Numbers for all new and modified traffic signals. All modified and new traffic signals shall be upgraded with 2070 controllers (approved by DDOT TOA) and shall be connected with fiber.

The DB Contractor shall furnish and install electrical services necessary to provide power from the Potomac Electric Power Company (Pepco) to all signal systems, pursuant to the Contract. DDOT will issue a request to Pepco for all service connections. Separate signal plans shall be provided for all phases of construction.

Refer to Section 22, Maintenance of Traffic, of these Technical Provisions for additional temporary signalization requirements.

The DB Contractor shall maintain existing traffic signals during construction in accordance with Section 29, Maintenance during Construction, of these Technical Provisions.

The DB Contractor shall furnish, install, and maintain all required traffic control necessary to provide safe and efficient circulation during the performance of all traffic signal construction activity.

All data and reports directly related to the ITS and traffic signal design shall be collected and compiled by the DB Contractor and shall be incorporated into the Howard University Data Center for use by all.

17.2.2 Intelligent Transportation Systems

The DB Contractor shall comply with the DDOT ITS and Communications Master *Plan* and shall take under advisement the specific recommendations detailed below for addition of ITS elements. CCTV make and model shall comply with DDOT TOA requirements at the time of proposal due date.

The DB Contractor shall design, furnish, and install a complete ITS including, but not limited to, the elements described below.

17.2.2.1 ITS Devices

1. CCTV cameras
2. Non-intrusive radar detection technology devices
3. Termination cabinets, including required environmental control equipment where needed
4. Duct bank for fiber optic cable to each side of all roadways within the Project footprint (DB Contractor to determine the configuration in consultation with DDOT)
5. Weather station on the Frederick Douglass Memorial Bridge
6. Equipment cabinets, switches and other required equipment
7. Any required servers, work stations, and licenses at both Traffic Systems Management Centers (TSMCs).

This includes both items shown in the DDOT ITS and Communications Master Plan and the items recommended to be added or relocated according the DDOT Conceptual ITS Design.

17.2.2.2 Detectors

In addition to the vehicle detector locations shown in the DDOT Conceptual ITS Design, the design of the detector location shall be able to capture all the traffic entering and exiting the project area. Detectors shall be non-intrusive.

Although the placement of each detector could be optimized by having each one cover two areas of traffic flow, the DB Contractor shall not reduce the number of detectors so each detector can provide additional data at key points.

17.2.2.3 Cameras

CCTV cameras shall cover 100 percent of the project footprint. CCTV cameras shall adhere to DDOT TOA requirements. All stand-alone CCTV camera installations shall be on 40 foot poles and use a typical mounting bracket to attach the CCTV camera to the pole.

17.2.2.4 Fiber, Cabinet and Equipment

1. All ITS and signal equipment shall be connected using fiber optic cable.

2. Install duct bank for fiber optic cable along both sides of the roadway for all roadways within the Project footprint including South Capitol Street SW.
3. Fiber optic cable shall consist of a minimum;
    a. 24 strand fiber for trunk cable
    b. 12 stand fiber for distribution cable
4. Fiber optic cable shall be all-dielectric, dry-filled, loose-tube, dispersion-unshifted, single-mode fiber (SMF) with low water peak, gel free, and suitable for underground (i.e., in conduit) and aerial outside plant installation.
5. All fiber interconnect shall be ten gigabit Ethernet.
6. All fiber termination box locations shall be determined by the DB Contractor and reviewed by DDOT.
7. Layer two switches (approved by DDOT TOA) will be located at each device and splicing shall only be performed inside of cabinets. Cabinets may be pole mounted or ground mounted as long as TOA maintenance accessibility is achieved.
8. Layer three switches shall be installed in hubs as required by design.
9. Each device shall have a physical redundancy to reach the termination point along with collapsible ring.
10. Cabinets cannot be located on medians or between roadways. Accessibility for TOA maintenance will be a determining factor in location approval and locations shall be approved by DDOT TOA.
11. Multiple devices can be co-located at single cabinet if approved by DDOT TOA.
12. All underground fiber shall be installed in new conduits.

17.2.2.5 Conduit

Proposed conduit shall meet DDOT TOA requirements. Proposed fiber shall be installed in new conduit. Alternative conduit arrangements shall be approved by DDOT TOA prior to installation. Use of existing conduits for distribution fiber to reach equipment require pre-approval from DDOT TOA.

17.2.2.6 Weather Station

A weather station shall be located on the Frederick Douglass Memorial Bridge. The technology shall be non-intrusive, requires a communications connection, and shall comply with the requirements of these Technical Provisions.

17.2.2.7 System Integration

All equipment, software and licenses required for integration at TSMCs shall be provided by the DB Contractor. Integration of devices shall be performed by the DB Contractor. The DB Contractor shall demonstrate full functionality of all required features for all installed field devices using DDOT's Advanced Traffic Management System (ATMS) software upon completion of device integration. System integration shall be performed at both TSMC locations.

17.2.2.8 Testing of Equipment

To ensure that all equipment is in proper working order at a Project site where Work will be performed, the DB Contractor may request a meeting at each site with DDOT and the agency with current maintenance responsibility before any Work is performed at the site. At the time of this meeting, all loops, cabling, connectors, and cabinet operations may be tested by the DB Contractor. The DB Contractor shall be responsible for requesting, coordinating, and conducting the onsite meeting, and for providing all labor, materials, test equipment, and test documentation. All testing shall be non-destructive. If the DB Contractor begins Work at a site without arranging this pre-testing, DDOT will assume that all cabinet components and operations were in proper working order before the performance of any Work. The DB Contractor shall be responsible for ensuring that all cabinet components and operations are in proper working order during and upon the completion of the Work. If no pre-testing is completed, any equipment that is not functioning upon the completion of the Work will be assumed to

have been in proper working order as of the date of Notice to Proceed 1, and shall be replaced at the DB Contractor's expense.

ITS Testing

1. ITS device testing shall consist of Stand Alone Testing, System Operational Testing and Final Acceptance Testing. Stand Alone Testing consists of testing all stand-alone (i.e. non-network) functions of the field equipment using equipment installed as detailed in the plans. This requires field acceptance at device and cabinet level. System Operational Testing involves testing of field equipment from the traffic management Center through the ATMS network. Testing shall successfully demonstrate that users at the TMC can fully control all aspects of the installed ITS system.
2. Acceptance Testing involves full operation of installed ITS system over a sixty (60) consecutive day period under real-world operation conditions without system failure. The system shall not lockup, fail, or crash due to use, operator entry of data, or equipment malfunction during the 60 days. Operators will record any deficiency as it occurs. Any failure of supplied equipment of discovery of deficiency that cause a system failure shall be cause to halt and repeat Acceptance Testing in its entirety for another full 60-day period after correction of the problem.
3. The DB Contractor shall coordinate ITS testing with DDOT and with the Traffic Signal Systems Office. The DB Contractor shall make arrangements for the witnessing of tests by DDOT staff or representatives by sending notification fourteen (14) calendar days prior to scheduled tests.
4. The DB Contractor shall supply written test procedures for DDOT approval a minimum of thirty (30) days before testing can be started.
5. ITS components shall undergo all testing procedures when relocated.
6. During Acceptance Testing, the DB Contractor shall respond to any issues with four (4) hours of notification from DDOT. All repairs shall be completed within 48 hours, with the exception of communication failures that shall be completed within 24 hours.

17.2.2.9 Coordination with Adjoining Projects

The DB Contractor shall obtain the ITS design plans for any adjacent projects and identify the coordination requirements for continuous functioning of the ITS equipment for the Project. The DB Contractor shall adjust the design and construction schedule accordingly to coordinate the installation of the required components, while continuously maintaining the ITS.

17.2.2.10 Maintenance and Operation of ITS Components

The DB Contractor shall provide maintenance of all existing and new ITS components furnished and installed as part of the Project until Final Acceptance.

Upon execution of the Contract, the DB Contractor shall be responsible for all ITS and communications components within the construction limits. The DB Contractor shall maintain the components through Project Final Acceptance.

Maintenance and operation includes prompt response to faults. DDOT shall identify the category of the fault and direct the DB contractor accordingly. The three categories of faults -- urgent, priority, and minor -- are described as follows:

1. Urgent – Any fault that causes a total failure, disruption, safety impact, or system wide disruption of the following equipment or services:

   a. Communications links and equipment
   b. Closed circuit television (CCTV) facility

   The response time for urgent faults of ITS components shall be less than two hours. The repair time for urgent faults of ITS components shall be less than four hours.

2. Priority – Any fault that causes a failure or disruption of an operator workstation, local control unit for a Dynamic Message Sign (DMS), or the DMS itself. The response time shall be noon of the following day. The repair time shall be less than four hours.
3. Minor – Any other fault. The response time shall be midnight of the next Calendar Day. The repair time shall be less than four hours.

The DB Contractor shall provide a plan for maintenance of existing and new ITS components within the Project Limits. The plan shall include, at a minimum, the following:

1. Details of the proposed preventive maintenance program, including frequency, for each ITS component.
2. A general description of the proposed emergency maintenance and operation response program for each ITS component. This description shall include the categories of faults and how the faults will be detected.
3. Maintenance and operation activities.

The DB Contractor shall replace and not repair, hardware or equipment if any of the following occurs:

1. The DB Contractor has attempted to repair the hardware or equipment on at least one previous occasion and there has been a subsequent failure.
2. The repair activities interfere with the movement of traffic.
3. DDOT decides that replacement is necessary in the interest of public safety.

The DB Contractor shall maintain a log documenting maintenance activities and all repairs performed on ITS equipment. The maintenance log shall be made available to DDOT upon request.

17.2.2.11 ITS Training

The DB Contractor shall provide documentation and training for the installation, operation, and maintenance of all ITS equipment constructed by the Project.

DDOT Personnel

The DB Contractor shall coordinate the Work with the DDOT ITS Engineer and the DDOT Electrical Inspector.

DDOT ITS Engineer

The DDOT ITS Engineer will perform the following:

1. Review the certification of test device calibration (to guidelines specified by the American National Standards Institute).
2. Oversee connections to the existing ITS communication network.
3. Oversee testing procedures.

DDOT Electrical Inspector

It is the role of the DDOT Electrical Inspector to make sure that all electrical installations meet the requirements of the National Electric Code and all applicable laws of the District of Columbia.

DDOT will designate a DDOT Electrical Inspector. The DB Contractor shall contact DDOT to arrange for electrical inspection.

17.3 Design Requirements

17.3.1 Traffic Signals

New or modified electrical facilities Work shall consist of furnishing, installing, and testing all materials and equipment necessary for a complete and functional electrical system. The design of new and modifications to existing traffic signals shall comply with the DDOT Design and Engineering Manual and all Mandatory Standards.

The DB Contractor shall ensure the design complies with current federal law regarding Americans with Disabilities Act accessibility requirements.

17.3.1.1 Aesthetics

The DB Contractor shall design and construct all aesthetic Work in accordance with the Architecture Guidelines and the Visual Quality Plan. New traffic signal standards shall be in accordance with the DDOT Standard Specifications for Highways and Structures.

17.3.1.2 Design Documentation

The DB Contractor shall provide all documents and information required for the design documentation package per the DDOT Design and Engineering Manual. The Design documentation shall include, but not be limited to, the following:

Equipment Design

1. Traffic Signal Standards – The DB Contractor shall provide a signal standard schedule as required by the DDOT Design and Engineering Manual that identifies the station and offset of all signal standards; location and wind loading characteristics of all mast arm appurtenances; mounting height location of all pole appurtenances, including pedestrian pushbuttons and pedestrian signal displays; terminal cabinets; mast arm; and luminaire mast arm above the finished grade to maintain required clearance. Pedestrian hardware shall be installed at strategic poles nearest crosswalks. The traffic signals on each side of the proposed Frederick Douglass Memorial Bridge shall be hard-wired to allow for manual police control.
2. Pole Foundation Design – Should the DB Contractor choose to use a pole or foundations not identified in the DDOT standards, the DB Contractor shall provide supporting documentation supporting the design, including soil studies that specify the soil-bearing capacity at each proposed pole location.
3. Conduit Sizing – The DB Contractor shall support the selection of conduits with conduit fill calculations for each wire schedule.
4. Junction Box Sizing – The DB Contractor shall use DDOT standard sized manholes and hand boxes.
5. Signal Standard Illumination Design – Street lighting requirements for each intersection are included in Section 16, Illumination, of these Technical Provisions.
6. Detector Location Design – The DB Contractor shall perform a speed study to be used for detector locations on all signal approaches. The result of the speed studies should be documented in the design documentation.

Signal Operations

The DB Contractor shall conduct necessary studies to optimize traffic signal operations, with the exception that all signals shall be traffic-actuated. Other parameters requiring documentation include:

1. Coordinated versus non-coordinated (See DDOT Design and Engineering Manual)
2. Left-turn phasing (See DDOT Design and Engineering Manual)
    a. Lead/lag
    b. Protective/permissive
    c. Permissive/protected
    d. Flashing yellow arrow

Traffic Signal Programming

The DB Contractor shall conduct the necessary studies to optimize the following traffic signal timing elements:

1. Phasing
2. Time of day/traffic responsive
3. Maximum/minimum greens

4. Clearance intervals for pedestrians and vehicles
5. Time-space diagrams

17.3.1.3 Material Requirements

The DB Contractor shall furnish and install all materials required for revisions to the existing traffic signal systems. No traffic signal materials will be provided by DDOT. All materials shall be new and meet the requirements specified in the DDOT Standard Specifications for Highways and Structures as supplemented and amended by these Technical Provisions.

New traffic signals and modifications to existing traffic signals shall include at a minimum those listed below.

Traffic Controller Cabinet Assemblies

Controller cabinets shall be Model 336SS as identified in the DDOT Standard Specifications for Highways and Structures. The cabinet and all auxiliary equipment shall also comply with these DDOT specifications and the DDOT Standard Drawings. If the DB Contractor concludes the Model 336SS controller cabinet is unable to accommodate the proposed signal design, alternative cabinet designs will be considered.

Traffic Signal Controllers

Traffic signal controllers shall be Model 170E as identified in the DDOT Standard Specifications for Highways and Structures. If the Model 170E is not able to address the requirements of the proposed signal design, alternative controller technologies will be considered.

Traffic Signal Standards

Short mast arm standards with 8-foot mast arm lengths on a 20-foot pole with transformer base or streetlight pole shall be used at the intersections within the National Capital Planning Commission view shed. Signalized intersections outside this area shall use standard mast arms with lengths from 15 feet to 55 feet as required by the DDOT Standard Drawings. The short mast arm poles shall be located at the top of the ramp in compliance with the Americans with Disabilities Act requirements for pedestrian access. All traffic signal standards shall provide bolt patterns consistent with DDOT standards.

Pedestrian Signal Displays

All pedestrian signal displays shall be Accessible Pedestrian Signals and comply with the DDOT Standard Specifications for Highways and Structures and the most recent MUTCD and Public Rights-of-Way Accessibility Guidelines. All pedestrian signal displays shall provide countdown timers.

Vehicle Detection

Vehicle detection shall be provided using magnetic sensors or loops installed in the pavement. Alternative vehicle detection technologies may be considered.

Pedestrian Detection

All pedestrian detection shall be designed in accordance with the DDOT Standard Specifications for Highways and Structures and Accessible Pedestrian Signals as defined in the most recent MUTCD and Public Rights-of-Way Accessibility Guidelines**.**

Traffic Cameras

Traffic cameras shall be installed so that all directions of approach to the intersection are included within the view of the camera. All components shall be compatible with DDOT's existing traffic camera system. The cameras shall communicate with the DDOT Traffic Signal Operations Center over the same fiber optic cable network used for communication with the signal controllers.

Intersection Illumination

See Section 16, Illumination, of these Technical Provisions. Street lighting shall be provided at each signalized intersection.

Electrical Cable

All traffic signal conductors shall be installed using conduits containing traffic signal conductors only. The conduit and pull box system shall be separated from illumination conduits and ITS conduit; however, shared trench, power service, and cabinet foundations may be used.

Communication Cable

Communication cable for traffic signals shall use the same fiber optic cable installed for the ITS network.

Conduit

All conduits shall be polyvinyl chloride (PVC) and encased in "wet mix" Portland cement concrete.

Hand Boxes, Pull Boxes, and Manholes

All hand boxes, pull boxes, and manholes shall be designed in accordance with the DDOT *Standard Drawing*. Junction boxes shall be located within the sidewalk. Junction boxes installed face up in the sidewalk of bridge structures shall be cast iron type with skid resistant covers. Junction boxes shall be placed in the traveled way or auxiliary lanes only as a last option, and only with the consent of DDOT. The maximum spacing for junction boxes in traffic barriers, retaining walls, or structures shall be 180 feet within each raceway system, and the maximum spacing in grade shall be 240 feet. The maximum spacing pull box for traffic signal interconnect systems shall be 500 feet.

Emergency Vehicle Preemption

Emergency vehicle preemption will not be required as part of this Project.

Bus/Transit Priority

Bus/transit priority systems will not be required as part of this Project.

Signal Signing

Signing shall be in accordance with Section 19, Signing, of these Technical Provisions.

Foundations

Foundations will be required for all signal standards and controller cabinets. Existing signal foundations shall not be reused. All underground utilities within five feet of proposed signal foundations shall be located by potholing.

Removal of existing foundations will be performed in accordance with the requirements of Section 3, Demolition, of these Technical Provisions and the DDOT Standard Specifications for Highways and Structures.

17.3.2 Intelligent Transportation System

17.3.2.1 General Requirements

The ITS shall provide for fiber optic communications, real-time CCTV surveillance, data collection, DMS, and all associated traffic control devices. The DB Contractor shall develop an ITS Project architecture that describes system interconnects and data flows.

The DB Contractor shall provide a complete, operational, and maintainable ITS. The ITS and its components shall be compatible with all existing ITS in place. The DB Contractor shall furnish, install, and maintain all electrical power service and communications necessary for the ITS. The DB Contractor shall label all new and existing ITS devices. The DB Contractor shall provide ITS that meets the following requirements:

1. Expandability
2. Documentation reflecting the national ITS architecture, including Project architecture and required revisions to the regional architecture.
3. FHWA Rule 940 Compliance.
4. Support for stand-alone operation of all field devices using backup software components.

5. Protection from voltage surges and lightning.
6. Weather-resistant components capable of operating in rain, snow, and wind conditions, and in temperature and humidity ranges encountered in the Project area.
7. Hazard-free ITS components mounted along the side of the road outside of the clear zone, or in protected areas.
8. If ITS components are mounted in the clear zone, they shall be constructed and protected in accordance with the AASHTO Roadside Design Guide.
9. Field cabinets with standard DDOT locking devices.

All material, equipment, and components furnished by the DB Contractor shall be new of the latest design and manufacture, in an operable condition at the time of delivery and installation, and compatible with the existing system.

The DB Contractor shall install the cabinets so that they are easily accessible to maintenance personnel from the roadway, and so that they maximize safety for the maintenance personnel, where possible. The DB Contractor shall also install the cabinets so that maintenance personnel can park their vehicles and have access to CCTV poles and DMS. When possible, the DB Contractor shall locate the ITS elements so that the need for future relocation is eliminated.

The DB Contractor shall design and construct a temporary ITS that provides for continuous operation of all existing ITS components during construction.

The finish coat for all ITS cabinets shall be powder-coated in accordance with manufacturer's recommendations. The finish coat color shall be as specified in the Visual Quality Manual and the DDOT Standard Specifications for Highways and Structures.

The finish coat for all ITS poles shall be painted or powder-coated.

The DB Contractor shall allow for the installation of one highway advisory radio facility on Interstate 295 and will coordinate design and location with DDOT.

17.3.2.2 Vehicle Detection

The DB Contractor shall provide permanent vehicle detection that measures at a minimum vehicular traffic data consisting of travel time, volume, speed and occupancy. The design of the detector location should include the ability to capture all traffic entering and exiting the Project area. The DB Contractor shall place permanent detection in all ramps, all auxiliary lanes, and all mainline lanes.

Data stations shall have mainline speed loops and volume detection for all on-ramps and off-ramps within the Project Limits. The DB Contractor shall maintain and re-establish operation of all roadside radar detection systems outside the Project Limits if they lead to a new controller within the Project Limits.

The DB Contractor shall include a maximum of 32 detector inputs per cabinet.

Where existing roadside radar detection systems will be reused and routed into a new data station or ramp meter cabinet, the DB Contractor shall ensure that all roadside radar detection systems loops are connected to the new cabinet location. To achieve this, the DB Contractor shall comply with these Technical Provisions and the following requirements:

1. No splices will be allowed in the roadside radar detection systems lead-ins (2c(s) wires); if necessary, the DB Contractor shall replace the lead-in wires.
2. The lead-in wires shall be contained within a continuous conduit/junction box run from the roadside radar detection systems to the new cabinet.
3. Existing roadside radar detection systems shall be tested and replaced as necessary.
4. All roadside radar detection systems lead-in wires shall be labeled.

Roadside Radar Detection Systems

The DB Contractor shall furnish and install roadside radar detection systems. Roadside radar detection systems shall be used on all lanes of Interstate 295 including interchange ramps and loops, South Capitol Street, Suitland Parkway, Howard Road, and Firth Sterling Avenue.

The DB Contractor shall furnish and install queue roadside radar detection systems at distances based on volume and storage capability of the ramp.

Closed Circuit Television System

The DB Contractor shall provide a CCTV system that meets all design requirements. The DB Contractor shall furnish and install a CCTV system including CCTV cameras (top pole mount), camera control cabinets, video transmitters, video receivers, alternating current/direct current adaptors, camera poles, foundations, and all other accessories and components to make the cameras fully functioning and operable. The DB Contractor shall also furnish any equipment necessary to install the components, connections, and terminations to create a fully functioning and operable system.

The CCTV camera shall produce clear, detailed, and usable video images of the areas, objects, and other subjects visible from a roadside CCTV field site. The video produced by the camera shall be true, accurate, distortion free, and free from transfer smear, over-saturation, and any other image defect that negatively impacts image quality under all lighting and weather condition in both color and monochrome modes. The camera enclosure shall minimize glare and provide overexposure protection for the camera when pointed directly at the sun.

The CCTV camera shall provide tilting, masking, presets, and privacy zones capable of being superimposed on video image/stream and stored in non-volatile memory.

The CCTV camera shall include an integrated pan, tilt, and zoom mechanisms capable of providing 360 degree continuous pan, presets, programmable tours, and blackout privacy zones.

The DB Contractor shall ensure that all accessories and components are fully compatible with the existing ITS equipment.

Existing CCTV cameras removed within the Project Limits, including poles, cabinets, and associated hardware, shall be removed and salvaged in accordance with the requirements of Section 3, Demolition, of these Technical Provisions and replaced with new equipment.

CCTV cameras shall provide surveillance of every freeway, highway, and ramp segment. CCTV cameras at interchanges shall be located to provide a view of the intersecting arterial and ramps. CCTV cameras shall also provide the following:

1. Maximum visibility and coverage of ramp meter operations and ramp signal operations (including viewing of ramp meter signal indications).
2. Maximum visibility and coverage of weaving and merging areas near ramps and interchanges.
3. Verification of all DMS messages.
4. Complete visibility of all pavement surfaces (no blind spots).
5. Ability to provide suitable maintenance access for maintenance personnel based on the geometric layout of the area.
6. Minimum obstructions to view caused by landscaping, trees, billboards, buildings, fixed freeway signs or topography.
7. Suitable access to the proposed communication system.
8. Power, communication, and underground Utility considerations.

The DB Contractor shall consult with DDOT on the placement of CCTV hardware. The DB Contractor shall inspect the camera view from a bucket truck and provide video and still images of that view to DDOT for review and comment.

The proposed CCTV system shall not diminish the existing CCTV camera coverage of all roadways, including roadways outside of the Project Limits.

17.3.2.3 CCTV Camera Pole

Refer to the DDOT Standard Specifications for Highways and Structures for structural and foundation requirements.

The DB Contractor shall paint or powder-coat the CCTV camera poles in accordance with the requirements of the DDOT Standard Specifications for Highways and Structures and the AWI Architectural Design Guidelines.

New camera poles shall be used for all pole-mounted camera installations.

Access to CCTV Camera Pole

The DB Contractor shall construct access for maintenance vehicles such that bucket trucks can drive on and park adjacent to the camera pole for repairs to the camera, and to provide access back onto the freeway.

CCTV Control Cabinet

The DB Contractor shall furnish and install the CCTV control cabinets and shall provide all necessary tools and equipment to connect the cabinets to the cameras, electrical source, and communications system.

17.3.2.4 Communication Conduit System

The DB Contractor shall provide a complete conduit system, including all associated conduit, cables, junction boxes, pull boxes, cable vaults, and accessories.

The DB Contractor shall install all communications cables within the conduit system. Direct-buried or exposed cables will not be permitted. A minimum of one spare 2-inch conduit shall be provided to each cabinet or field device and at each roadway crossing. Inner duct conduit shall only be used for fiber optic distribution and transmission cables.

The DB Contractor shall not install pull boxes, junction boxes, or cable vaults (existing or new) in any portion of the traveled way or auxiliary lanes. If temporary striping causes encroachment of the traveled way or auxiliary lanes with pull boxes, junction boxes, or cable vaults, these items shall be relocated outside of the traveled way and auxiliary lanes, or protected in place to the satisfaction of the DDOT Engineer while providing a safe roadway for the public. Pull boxes, junction boxes, and cable vaults shall be placed in the traveled way or auxiliary lanes only as a last option, and only with the consent of DDOT.

All conduits shall be a minimum of two inches in diameter.

The conduit and pull-box system shall be separated from lighting conduits and traffic signal conduits, although a shared trench, shared power service, and shared cabinet pads may be used. Where conduit is trenched, it shall be encased in red-tinted controlled-density fill, and shall include a trace wire. When communication cable is installed as part of a new system, the communication cable shall be kept separate from all other wiring.

Conduit in Structures

Conduit installed within new structures shall be a rigid galvanized steel conduit. Where mainline communication conduit system is routed across bridge structures, the DB Contractor shall design, furnish, and install a structural hanger system and accompanying conduit sweeps and joints to convey conduit under the bridge structure. Conduits mounted under bridge structures shall be located between girders or within a box girder.

Where conduits transition from the ground to a structure, the DB Contractor shall furnish and install conduit deflection fittings. The DB Contractor shall furnish and install conduit expansion fittings, as required.

Junction Boxes

Existing junction boxes located within the traveled way of mainline, ramps, or auxiliary lanes (existing or new), shall be relocated by the DB Contractor outside of the traveled way including mainline, ramps, or auxiliary lanes whenever possible. Junction boxes shall comply fully with AASHTO M111.

The maximum spacing for junction boxes on traffic barriers, retaining walls, or structures shall be 180 feet within each raceway system, and a maximum spacing of 240 feet in all other areas.

Cable Vault and Pull Boxes

Existing cable vaults, pull boxes, and 25-TA vaults located within the traveled way of mainline, ramps, or auxiliary lanes (existing or new) shall be relocated by the DB Contractor outside of the traveled way, including mainline, ramps, or auxiliary lanes whenever possible.

Pull boxes shall not be placed in paved areas unless there are no other alternatives.

Pull boxes placed in paved areas shall have load-bearing lids. However, load-bearing lids shall not be installed on pull boxes that are outside of paved areas.

Pull boxes shall be used for intermediate pull points where cable vaults are not needed. No splices will be allowed in pull boxes.

At a minimum, the DB Contractor shall place cable vaults at each end of the Project Limits and at each hub location. Cable vaults shall be used as pull points, at splice locations, and where there are major changes in mainline conduit direction. Cable vaults shall be located with consideration for accessibility, including access along arterial routes. A cable vault shall be placed at each ITS cabinet.

Cable vaults shall not be placed within paved areas. The maximum spacing for cable vaults is one mile. The DB Contractor shall clean existing vaults before installing cable.

The DB Contractor shall coil and rack a minimum of 50 feet of each cable at all cable vaults and pull boxes.

The maximum spacing for pull boxes or cable vaults in a mainline conduit run is 1,000 feet.

17.3.2.5 Communication Cables and Interfaces

The DB Contractor shall provide a communication network that meets the requirements of these Technical Provisions. The backbone of the communication network shall be single-mode fiber optic (SMFO) cable.

The DB Contractor shall provide a complete communication cable and interface system to all ITS elements.

The DB Contractor shall perform the following:

1. Ensure the existing communications functionality during the construction period at all times.
2. Design and construct a fully functioning and operable communications network to serve the ITS components along the Project.
3. Provide a HUB at the NW quadrant of Suitland Parkway/Firth Sterling Avenue intersection. Exact location to be coordinated with TOA.
4. Provide termination cabinets at north and south ends of I-295 and the NW quadrant of South Capitol Street/Potomac Avenue SW intersection. Exact locations to be coordinated with TOA.

The DB Contractor shall furnish and install a RS900 Ethernet switch, in every traffic signal controller cabinet at each ramp terminal traffic signal, within the Project Limits for interconnect purposes.

The DB Contractor shall not substitute, apply any part, or attach any piece of equipment contrary to the manufacturer’s recommendations and standard practices.

The DB Contractor shall not use leased telephone lines, microwave, or wireless communications for permanent communications systems.

Fiber Optic Cable

The DB Contractor shall furnish, install, test, and maintain during construction all SMFO cable for mainline trunk and distribution.

The DB Contractor shall furnish and install a six-strand SMFO cable between traffic signal controller cabinets at each ramp terminal traffic signal within the Project Limits to the nearest CCTV cabinet.

When fiber optic mainline cable parallels overhead electrical transmission lines, the DB Contractor shall locate the fiber optic cable as far from the transmission lines as possible. The DB Contractor shall not place the fiber optic cable within a ditch or near culvert clean-out areas.

The DB Contractor shall design a temporary fiber optic cable system as required to maintain continuous communication of all ITS components (distribution and transmission) throughout construction.

All fiber optic cable shall be designed and routed through pull boxes and cable vaults. Fiber optic cable shall not be routed through junction boxes. The DB Contractor shall remove all existing cables that are no longer needed to operate the ITS.

Splices in distribution cable shall be performed inside cable vaults placed in the vicinity of ITS cabinets. The splices shall be connected to ITS cabinets with pre-terminated cables.

Indoor Patch Cords

The DB Contractor shall supply all patch cords in accordance with these Technical Provisions. The patch cords shall have less than two feet of slack at all locations.

Fiber Optic Connectors

The DB Contractor shall use factory-installed ST-compatible connectors unless otherwise specified. Ceramic ferrule connectors shall be used for single-mode and multi-mode applications. Connectors shall be installed as per manufacturer application and recommendations.

Only factory-installed connectors shall be used for all applications except for connectors installed on outside plant drop cables in traffic signal cabinets. Factory-installed connectors with a thermal-set heat-cured epoxy and machine-polished mating face shall be used.

Where barrel couplers are used in passive termination applications, such as fire department connections, only ST-compatible ceramic-insert couplers shall be used. Only manufacturer-recommended single-mode couplers for single-mode connector applications shall be used. Dust caps for both sides of couplers shall be provided at all times until permanent connector installation.

The connectors listed in Table 17-1, which do not exceed the maximum loss listed for each connector, shall be provided.

TABLE 17-1
Connectors Provided

Connector Type	Installation	Max. Loss	Typical Loss	Optical Return Loss
Multimode	Field	0.70 dB	N/A	N/A
Single-mode	Field	0.70 dB	0.35 dB	>35 dB
Multimode	Factory	0.50 dB	N/A	N/A
Single-mode	Factory	0.50 dB	0.25 dB	>45 dB

Notes:
dB – decibel
N/A – not applicable

Patch Panel Components

The DB Contractor shall furnish and install new pre-terminated patch panels to replace the fiber distribution panels where required.

Outdoor Fiber Splice Closure

The DB Contractor shall provide an outdoor fiber splice closure, which includes an outer enclosure and plastic splice trays. The DB Contractor shall provide the outdoor fiber splice closures in accordance with the Technical Specifications and Contract requirements.

Outer Enclosure

The DB Contractor shall provide an outer enclosure, which meets the following requirements:

1. Protects splices from damage.
2. Is composed of salt corrosion-resistant material and compatible materials not supporting galvanic cell action.
3. Is re-enterable.
4. Permits splicing without circuit disruption.
5. Has a grounding lug (ground all fiber optic cable shields).
6. Has cable (trunk and pigtail) strain relief and is compatible with the inner enclosure, splice trays, and cables.

Splice Closure

The DB Contractor shall provide a splice closure that allows re-entry of fiber optic cable. The splice closure shall permit the cable to enter without exceeding the minimum bending radius; shall have non-oxidizing coating on all connections; and shall have a cable clamp bonding it to the cable. The enclosure shall have space to terminate up to two trunk cables.

The splice closure shall permit selective fiber splicing (that is, a cable can loop in and out with only the selected fibers cut).

Splice Tray

The DB Contractor shall provide a plastic splice tray (inner enclosure), which meets the following requirements:

1. Allows entry to individual fibers.
2. Is stackable.
3. Holds 12 splices and 24 fibers.
4. Fiber patch panel within traffic signal controller cabinets shall be sealed, pre-terminated modules with appropriately sized pigtail.
5. Fiber patch panel within traffic controller cabinets shall be factory terminated cable, epoxy filled patch panel with twelve fiber optic connectors, and appropriately sized fiber pigtail ready for fusion splicing onto main fiber.
6. Does not violate the bare fiber bend radius.
7. Has room for identification of the splice on the cover.

Wireless Communications

The DB Contractor shall not use wireless communications between field devices and communication nodes, except for temporary communications during construction as permitted in these Technical Provisions.

Twisted Pair Media

Twisted pair media may be used for the Project's permanent communications system, where a fiber optic system is not feasible.

17.3.2.6 Video, Voice, and Data Distribution and Transmission System

The DB Contractor shall furnish and install all the necessary fiber optic distribution and transmission system equipment to provide a fully functioning ITS meeting the requirements of this Technical Provision and the following:

1. Fiber optic communications between each device and the ITS hub.
2. Relocation of all existing communications systems and cables, as necessary, from the existing hub to the new hub to provide a fully functioning ITS (including ITS outside of the Project Limits).
3. New communications equipment provided as necessary.
4. The DB Contractor shall ensure that all ITS components and devices (existing and new) are connected to the hub and the Traffic Systems Management Center and are fully functional in accordance with this Technical Provision. All material and equipment shall be compatible with the existing ITS system.
5. All equipment in the exiting hub that is not relocated to the new hub shall remain the property of DDOT. All items shall be returned to DDOT unless it is decided that they will need to be relocated to the new hub.
6. The new ITS shall be connected to the existing single-mode fiber optic system with all new equipment, including using media converters to interface with the twisted pair network.
7. The ITS work shall extend outside the limits of the work area to meet the existing twisted pair network. The DB Contractor shall account for this in the design.

Communication Hubs

Communication hubs shall be designed for use as data-gathering points in the field. The hubs shall function as enclosures with a controlled environment suitable for the installation of system equipment and regular, safe inspection and maintenance by personnel. Data from the field devices shall be transmitted to the hub through twisted wire pair copper and single-mode fiber optic cables. These data shall be placed on single-mode fiber optic cables and sent to the TSMC where it may be compiled for immediate use and stored for future use. Connection to the TSMC shall be made using fiber optic cables. The TSMC are located at the following locations:

1. TSMC – 2720 Martin Luther King, Jr. Avenue SE, Washington DC, 20032, and;
2. TSMC – Reeves Center, 2000 14th Street NE, Washington DC, 20009.

17.3.2.7 Electrical Service

Furnished and Installed Service Equipment

The DB Contractor shall furnish and install all required electrical service equipment and transformers.

Coordination with Power Utility

The DB Contractor shall coordinate with Pepco.

17.3.2.8 Road Weather Information System

The DB Contractor shall install a road weather information system on the Frederick Douglass Memorial Bridge.

17.4 Construction Requirements

17.4.1 Traffic Signals

17.4.1.1 General

Traffic signals shall be constructed in compliance with the documents identified in this Technical Provision. The DB Contractor shall furnish and install all signal equipment. The DB Contractor shall use materials approved in accordance with this Technical Provision.

For traffic signal modifications, the DB Contractor shall install temporary detection for stop bar and advance locations before disconnecting existing detection. No down time will be allowed.

Existing traffic signal systems shall be kept operational at all times. The DB Contractor shall install a temporary traffic signal system if any portion of the existing traffic signal system will be removed before the new traffic signal system becomes operational.

The DB Contractor shall perform the required testing. DDOT will perform the final electrical inspection and acceptance of traffic signal systems.

The DB Contractor shall coordinate the Work with the DDOT ITS Engineer and the DDOT Electrical Inspector.

17.4.1.2 Vehicle Detection

Vehicle detection shall be installed in the base pavement before final surface paving. The DB Contractor shall recognize material requirements for installation of detection in this manner.

17.4.1.3 Operation and Maintenance

All existing traffic systems, including the detection and preemption systems, shall remain in place and operational at all times until the permanent traffic signal system becomes operational.

Before modifying an existing traffic signal, the DB Contractor shall contact DDOT a minimum of 72 hours in advance of any work.

Relocated equipment shall be replaced with new material meeting current standards including, but not limited to, pedestrian pushbuttons, pedestrian and vehicular displays, roadside radar detectors pull boxes, junction boxes, conduit, conductors, traffic signal standards, light standards, controller cabinets, preemption detectors, and signing. The DB Contractor will be responsible for developing final intersection restoration plans where applicable in addition to any temporary signal plans.

Prior to beginning work, the DB Contractor shall establish a relationship with the DDOT Signal Maintenance Contractor. The DB Contractor shall maintain existing traffic signals for the duration of the Project and shall be responsible for maintaining all signals and components identified for modification upon NTP1. The DB Contractor shall retain maintenance responsibility for all devices until Final Acceptance of the Project.

The DB Contractor shall be responsible for repairing, to DDOT's satisfaction and at no cost to DDOT, any damage caused by the DB Contractor to traffic signal systems.

The DB Contractor shall take all necessary action to ensure safe operation of the intersection.

If the DB Contractor's Work affects the operations of an existing traffic signal, the DB Contractor shall coordinate a new operational strategy for the traffic signal with the owner of the affected traffic signal.

The DB Contractor shall remove all temporary signal system installations, if any, after the new permanent signal systems are completed and operational.

17.4.1.4 Emergency Maintenance

The DB Contractor shall immediately notify DDOT in the event that a situation related to public safety is observed, such as a dark or flashing signal intersection, improper signal timing, misaligned signal heads, exposed wires, or knockdowns.

17.4.1.5 Temporary Traffic Signal Plans

The DB Contractor shall furnish and install all required materials for temporary signalization. The DB Contractor shall provide vehicle detection to optimize all temporary signal system installations. The DB Contractor may use induction loops or video detection for temporary signal installations.

The DB Contractor shall provide a minimum of seven Calendar Days' notice to DDOT before implementing temporary signalization. DDOT will perform the final electrical inspection and acceptance of temporary signal systems as required.

The DB Contractor shall develop temporary traffic signal plans, including timing plans and phasing for the temporary signal operation. Upon approval of timing and phasing, DDOT will enter the timing parameters into the

signal controller. The DB Contractor may be allowed to enter the timing parameters in the signal controller with the approval of DDOT.

The DB Contractor shall be responsible for the operations and maintenance of temporary signals and shall remove all temporary signal systems upon completion and operation of the permanent signal systems.

ITS Communications During Construction

DB Contractor shall maintain all ITS devices and communications in a fully operation condition until Final Acceptance of the Project.

DB Contractor shall be responsible for restoration of communications immediately following notification of a failure.

17.4.1.6 Salvage

Refer to Section 3, Demolition, of these Technical Provisions for additional information.

17.4.1.7 Permits

No traffic signal permits will be required as part of this work.

17.4.1.8 Utility Locates

The DB Contractor shall be responsible for responding to DDOT's One-Call number requests. When requested by DDOT, the DB Contractor shall mark all conduit and Utilities installed as part of the Project. DDOT will locate and mark existing Utilities remaining undisturbed that are owned by DDOT.

17.4.1.9 Signal System

The DB Contractor shall construct all components of the traffic signal system necessary to provide a complete and functional system that meets the performance requirements specified in these Technical Provisions.

17.4.1.10 Electrical Service

The DB Contractor shall coordinate with Pepco to have power furnished for the traffic signal and street lighting systems. DDOT will issue order to Pepco for electrical service requirements using the approved DB Contractor plans.

17.4.2 Intelligent Transportation Systems

At the preliminary design level, the DB Contractor shall design the ITS as a whole before installing of any individual field component. The DB Contractor shall notify DDOT a minimum of seven Calendar Days in advance of staking locations for ITS devices. The DB Contractor shall not make final connections of the newly installed or temporary ITS components to the existing system until receiving concurrence from DDOT.

17.4.2.1 Salvage

Refer to Section 3, Demolition, of these Technical Provisions for additional information.

17.4.2.2 Surveillance to Support Motorist Information during Construction

Existing ITS elements, including CCTV cameras, ramp meters, DMS, highway advisory radio, and data stations, shall remain operational during construction of the Project, except during the allowable working hours on the ITS. Before installing new equipment, the DB Contractor shall provide temporary equipment for locations where the existing equipment will be removed, unless otherwise permitted in these Technical Provisions.

17.4.2.3 Allowable Working Hours on the ITS

All ITS devices, whether inside or outside of the Project Limits, shall not be taken out of operation by the DB Contractor, and shall remain operational during all phases of construction.

The DB Contractor shall work on active ITS elements within the Project from 9 p.m. to 5 a.m. only. DDOT approval is required for any working hours outside these limits.

Unless otherwise specified in these Technical Provisions, the DB Contractor shall contact DDOT a minimum of seven Calendar Days before performing any Work on existing and active ITS devices and 30 Calendar Days in

advance of performing any Work on the hub. The DB Contractor shall perform all Work in a manner ensuring the integrity and proper performance of all ITS components.

17.4.2.4 Repair Parts

During construction, the DB Contractor shall identify local vendors for repair parts for all ITS components, so that the parts can be obtained within four hours. The DB Contractor shall provide a list of vendors to DDOT within 60 Calendar Days of execution of the Contract.

17.4.2.5 Materials and Fabrication

The DB Contractor shall round and smooth sharp corners and edges on all ITS components that the DB Contractor furnishes and installs.

The DB Contractor shall furnish and install all necessary structures, mounting brackets, cabinets, conduit, cable, and communication equipment including, but not limited to, fiber optic cable, modems, patch panels, and splice trays.

Before fabrication and delivery of sign structures and mounting brackets, the DB Contractor shall verify the required hardware.

Equipment Provided by DDOT

The DB Contractor shall furnish and provide all ITS components and materials. DDOT does not anticipate providing any equipment to the DB Contractor.

17.4.2.6 Fiber Optic Cable Test Documentation

The DB Contractor shall submit fiber optic cable test documentation (including calibration and certification of the fiber optic cable test equipment), as part of the component documentation; and any testing documentation required in accordance with the Technical Specifications and Contract requirements.

The DB Contractor shall follow the format of the fiber optic system test plan.

The DB Contractor shall use DDOT's file naming convention for all test files, and shall provide all test documentation to DDOT in accordance with the Technical Specifications and Contract requirements.

The DB Contractor shall provide a test summary describing the final measurements that are out of range; any approved changes in specified methods; and actual dates of tests performed by both power meter and Optical Time Domain Reflectometer.

Upon completion of the Project, the DB Contractor shall provide DDOT with two copies of the manufacturer's reel (spool) test documentation.

17.4.2.7 Maintenance/Operation of Furnished and Installed ITS Components Plan

The DB Contractor shall submit to DDOT a written plan for providing maintenance and operation of ITS components furnished and installed by the DB Contractor a minimum of 21 Calendar Days before performing Work on any portion of the ITS.

17.5 Submittals

17.5.1 General

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

The DB Contractor shall submit shop drawings as necessary and catalog cuts of all materials to be used on the Project to DDOT for review, concurrence and approval.

17.5.2 Preliminary and Final Plans

The Preliminary Traffic Signal Plans shall be prepared in accordance with the Mandatory Standards and with the DDOT Design and Engineering Manual and submitted to DDOT for review and comment. All final plans shall be signed and sealed by the DB Contractor's designer.

The Traffic Signal (S) drawing, Sequence of Operation (TS) drawing, and Dial Sheet shall be submitted together.

The DB Contractor shall submit a Traffic Signal testing plan with each Final Design Submittal that includes Traffic Signal Work.

All Phasing, TS Operations, and Timing Sheets shall be approved by DDOT before issuing them for construction.

The ITS Preliminary Plans, including a complete network diagram showing switch locations, cabinet details, and ring details and the fiber optic system test shall be submitted to DDOT for review and comment.

17.5.2.1 ITS Final Design Submittal

The DB Contractor shall provide the ITS Final Design Submittal, signed and sealed by the DB Contractor's designer, as part of the Final Design Submittals described in these Technical Provisions, that addresses the comments received from the ITS Preliminary Plans Submittal review, and any issues raised during the ITS design meetings.

The ITS Final Design Submittal shall be complete and include all of the items from the ITS Preliminary Plans, including but not limited to the following:

1. All ITS details
2. All ITS labels
3. Temporary ITS plan
4. Pull box, cable vault, and junction box locations and details
5. Communication schematics and fiber distribution diagrams
6. Fiber optic splice details and connections
7. Loop termination schedule
8. Panel service details
9. Transformer/breaker schedule
10. Power service locations
11. Power distribution schematic
12. Cabinet foundation details
13. Hub details
14. Fiber termination cabinet details
15. CCTV camera pole structure details
16. Foundation details for CCTV camera poles
17. Details for non-standard elements
18. Wire notes (including identification of new and existing conductors and cable) and construction notes
19. Calculations to support transformer sizing and transformer over current protection devices
20. Conduit fill and junction box capacity calculations
21. Service load calculations
22. Test plans for ITS devices
23. Integration to existing software

The DB Contractor shall submit a fiber optic splicing and testing plan with each Final Design Submittal that includes ITS Work.

17.5.3 Other Submittals and Required Information

1. Component, test, and project documentation
2. Fiber optic cable test documentation
3. Maintenance and Operations Plan
4. Product manuals
5. As-built plans provided by the DB Contractor shall include:
   a. All newly installed ITS components, communication conduit systems, and the existing components when they are connected to the new components by the Project.
   b. Show all adjustments and revisions to the construction plans made during construction and serve as a permanent record of the actual location of all constructed elements.
   c. Shall have the Global Positioning System (GPS) location data of all installed TTMS field devices, including, but not limited to:
      i. Communication cable and interface systems
      ii. Video, voice, and data distribution and transmission systems
      iii. Communication hubs
      iv. Permanent traffic recorder stations
      v. Roadside Radar Detection System Control cabinets
      vi. All junction and pull boxes, and cable vaults
      vii. Mainline fiber-optic cable (every 50 feet)
      viii. Fiber-optic splices vaults
      ix. Stand-alone electric service pads
   d. Provide fiber optic splicing diagrams detailing all cable splices, terminations, equipment port assignments, and optical circuits within the communication network. Document the sequential cable length marking at each splice box and pull box wall that the cable passes through, and include the information with the as-built documentation. Provide splicing details for all existing DDOT cabinets that have had splicing altered. Splicing details shall include specific splicing numbers.
   e. Provide a complete set of as-built plans showing all directional bores (successful and failed) on completing the work. Ensure that the plans are dimensionally correct copies of the Contract Plans and include roadway plans and profile, cross-section, boring location, and subsurface conditions as directed by the Engineer. The plans must show appropriate elevations referenced to a permanent DDOT feature (mast arm foundation, manhole inlet cover, head wall, etc.). Plans must be the same scale in black ink on white paper, of the same size and weight as the Contract Plans.

TABLE 17-2
Traffic Signal/ITS Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Catalog cuts and shop drawings for all materials	Review and Comment	60-90 days prior to installation depending on supplier lead time	17.5
ITS & Traffic Signal Testing Plan	Review and Comment	30 days prior to implementation	17.5
Preliminary Traffic Signal Plans	Review and Comment	45 days prior to implementation	17.5
Final Traffic Signal Plans	Review and Comment	14 days prior to implementation	17.5
Preliminary ITS Plans	Review and Comment	45 days prior to implementation	17.5
Final ITS Plans	Review and Comment	14 days prior to implementation	17.5

Attachment 17A
DDOT Special Provision for Splicing and Attachment of Fiber Optic Telecommunications

Attachment 17A
DDOT Special Provision for Splicing and Attachment of Fiber Optic Telecommunications

The standard specifications are amended by the following modifications and additions and shall prevail over requirements published in the DDOT Standard Specifications for Highways and Structures.

May 23, 2014

I. DESCRIPTION

This work shall consist of all labor, materials, equipment and services necessary to perform all operations to complete fiber optic telecommunications connections between existing DDOT assets, assets to be installed via adjacent projects, and assets to be installed as part of the South Capitol Street Corridor Project. The work is to be done in accordance with the specifications, this Special Provision and with the details and dimensions shown on the plans. In this Special Provision, telecommunications assets comprise a redundant "collapsible ring" topology and include duct bank, fiber optic trunk line, hubs, fiber optic connecting cable (12 strand), and termination points. In this Special Provision, the terms "Design-Build team" and "Contractor" are generic terms that refer to the party under contract with DDOT to design and construct the project.

Where not explicitly revised by this Special Provision, all requirements of the DDOT Standard Specifications for Highways and Structures shall apply.

II. QUALIFICATIONS OF TELECOMMUNICATIONS CONTRACTOR

The Contractor performing the work described in this specification shall have experience consisting of successful installation of at least 10 fiber optic communications networks installed within the past 5 years, 2 of which shall be similar to or greater in size than the Work anticipated for this project and completed in an urban environment.

III. SUBMITTALS

A communications diagram shall be submitted for DDOT review prior to submission of the ITS, Signing and Lighting design package(s). Installation and splicing plans shall be submitted as part of the ITS, Signing and Lighting design package. A written splicing and connection procedure shall be submitted to DDOT for review prior to proceeding with field work. Within the submittal documents, include the proposed process, cleave tool and the specific fusion splicer to be used.

Results of Optimal Time Domain Reflectometer (OTDR) and Attenuation Tests shall be submitted to DDOT for review and comment.

IV. SPLICING AND ATTACHMENT REQUIREMENTS

The Contractor shall provide the following splices and attachments:

1. Between existing 12 strand fiber cable trunk line run in existing duct bank on Firth Sterling Avenue and a hub to be located at the northwest corner of the Firth Sterling Ave and Suitland Parkway intersection.
2. Contractor will provide 12 strand fiber cable from hub to splice location. Contractor will provide termination cabinets at the end of fiber runs on both sides of I-295 and on South Capitol Street adjacent to Washington Nationals Stadium.
3. Between all traffic signal controllers and adjacent fiber optic trunk lines.
4. Physical redundancy shall be provided along with collapsible ring.

All splices are to be made by the Fusion Splicing method. Fusion splicing consists of aligning the cores of 2 clean, cleaved fibers or a group of such fibers and fusing the ends together with an electric arc. Position the fiber ends under a microscope or a high-resolution video monitor and then align them using precision movement micro-positioners. High-voltage electrodes contained in the splicer conduct an arc across the fiber ends as the fibers are moved together, thus linking the fibers together. Verify maximum core alignment prior to splicing and estimate splice loss after the fusion process by the use of light injection and detection devices or profile alignment algorithms.

All splices are to be tested using the OTDR Test and the Attenuation Test.

V. COORDINATION

Contractor shall coordinate closely with ongoing projects in proximity to the South Capitol Street Corridor Project, including the reconstruction of Firth Sterling Avenue and the potential construction of the Washington, DC, United Soccer Stadium. The Contractor shall coordinate closely with DDOT and shall submit splicing plans for review and Comment by DDOT. DDOT at their discretion may identify alternative splicing locations. During design phase of this project, contractor shall meet with TOA to receive more precise direction regarding location of splices and attachments.

SECTION 18

Reserved

SECTION 19

Signing

19.1 General

The Design-Build (DB) Contractor shall conduct all Work necessary to meet the requirements for permanent signing for the Project. Refer to Section 22, Maintenance of Traffic, of these Technical Provisions for additional temporary signing requirements.

19.2 Performance Requirements

The DB Contractor shall ensure all signing on the Project meets the requirements of the Mandatory Standards.

19.2.1 Material Requirements

All signing Materials and supports shall be in accordance with the DDOT Design and Engineering Manual and the DDOT Standard Specifications for Highways and Structures.

19.3 Signing Design Requirements

19.3.1 General

Prior to furnishing and installing signs, the DB Contractor shall prepare a Signing Plan to be reviewed by DDOT.

The Conceptual Guide Sign Plan is shown in the Final Environmental Impact Statement (FEIS)/IMR Conceptual Design Plans and is being supplied for informational purposes only. DB Contractor is hereby advised that a Supplemental FEIS has been executed. The DB Contractor shall be responsible for including all guide signs, regulatory, warning, marker, ramp, and cross-road signs in the permanent signing design. Final placement of all signs shall be determined by the DB Contractor in accordance with the Mandatory Standards.

All new guide signs shall be mounted overhead, unless otherwise specified.

19.3.2 Plan Requirements

The DB Contractor shall prepare and submit a Permanent Signing Concept Plan for the Project. The Plan shall include all necessary guide, warning, regulatory, marker, information, and Dynamic Message Signs (DMS) within the Project Limits. Additionally the Permanent Signing Concept Plan shall provide for modifications to signs outside of the Project Limits that are rendered inaccurate, ineffective, confusing, or unnecessary by DDOT as a result of modifications by the Project. All sign panels shall be new.

Mile Marker signs shall be placed on Interstate 295 at two-tenth (0.2) mile increments and shall match those signs already installed along the facility. The DB Contractor shall perform a pre-construction survey of existing mile markers to get an accurate count of signs that are existing before construction. A copy of this survey shall be submitted to DDOT.

The Permanent Signing Concept Plan shall include, but is not limited to, the following:

1. Sign locations
2. Panel legends
3. Guide sign worksheet (if required)
4. Proximity to Intelligent Transportation System (ITS) devices and light standards
5. Types of proposed sign structures
6. Overhead sign cross section sheet (if required)
7. Overhead sign support design (if required)
8. Foundation details (if required)

9. Boring data sheets (if required)
10. Permanent signing proposed on cantilever or bridge structures
11. Signal system mast arm sign legends
12. Identification of all existing signs to remain or be removed

The DB Contractor shall replace all signs (sheeting and panel) within the Project Limits or affected by the Project that fail to meet the minimum reflective intensity requirements as defined in the DDOT Standard Specifications for Highways and Structures. This includes all signs affected by the Project due to modified lane or ramp configurations.

The Permanent Signing Plans shall include, but are not limited to, the sign legend, the legend layout and spacing, the sign material requirements, and overhead sign truss cross sections and details. Placement of the signs shall account for the required sight distances. All regulatory, warning and directional signs shall be shown at their proper locations. Each sign face shall be shown in close proximity to its respective sign with a leader line connecting the sign location and sign face. Each sign face shall be oriented on the plan sheet to be read as viewed from the direction of travel along the roadway. The location of all signs shall be indicated by station or milepost.

The DB Contractor shall coordinate with DDOT and other impacted agencies regarding proposed signing modifications within the city's Right-of-Way (ROW).

The DB Contractor shall not mount signs on bridges without prior Approval from DDOT.

Should bridge-mounted signing be necessary, signing shall be limited to regulatory and lane designation signing. The DB Contractor shall design the signs so that the structure and the sign panel height compliment the depth of the structure and/or the railing height.

The DB Contractor shall place sign structures no closer than 100 feet in advance of bridges.

The DB Contractor shall adjust all signage within the construction limits whose messages conflict with construction work.

The DB Contractor shall maintain all existing signs during construction, unless they are to be removed permanently or have been replaced as required by the Project. For any existing signs that require relocation due to construction, the DB Contractor shall present pertinent details – such as sign designs, mounting details, locations, etc. – for DDOT's review and approval prior to relocation.

For signing along the mainline, all guide signs, dynamic message signs and supplemental guide signs on overhead structures shall be installed such that 800 foot minimum spacing is maintained between signs. In areas where the 800 minimum spacing cannot be maintained, the DB Contractor shall obtain a design waiver/exception to reduce the spacing.

The DB Contractor shall perform line of sight analysis for all sign structures to confirm drivers have sufficient time to read the sign messages and too ensure signs are not visually obstructed.

19.3.3 Motorist Information Signs

Directional ramp signing that does not have related mainline signs will not be allowed. All mainline guide and Motorist Information Signs (MIS) shall be represented on the ramps.

If the removal of any MIS is required for construction, the DB Contractor shall salvage and temporarily reinstall the existing MIS at a location acceptable to DDOT, in accordance with this Technical Provision. Existing MIS shall be relocated, replaced, or temporarily mounted within eight hours of removal.

The DB Contractor will supply new sign back panels or business logo signs to replace existing MIS being relocated. MIS damaged by the DB Contractor shall be replaced at the DB Contractor's expense. The DB Contractor shall furnish new sign foundations and steel posts and install the new sign panels.

19.3.4 Wayfinding Signs

The DB Contractor shall provide up to 25 wayfinding signs in accordance with the Anacostia Waterfront Transportation Architectural Design Guidelines. The DB Contractor shall be responsible for the manufacture and installation of the wayfinding signs, including all Materials necessary including post and foundations.

Wayfinding signage shall include directional and entrance signs for Anacostia Park.

19.3.5 Aesthetics

The DB Contractor shall design and construct all Work in accordance with the Anacostia Waterfront Transportation Architecture Design Guidelines and the DDOT Standard Specifications for Highways and Structures.

19.3.6 Overhead Sign Illumination

Sign illumination requirements shall be in accordance with the policy outlined in the DDOT Design and Engineering Manual.

19.4 Permanent Signing Construction Requirements

19.4.1 General

The DB Contractor shall perform a field inventory and show all existing signs within the Project limits. Existing single and multi-post sign assemblies impacted by construction shall be replaced entirely and upgraded to meet current standards. Existing sign assemblies not impacted by construction may remain.

All existing signs; new permanent signs installed as part of this Contract; and construction signs that are inappropriate for the traffic configuration at a given time shall be removed or completely covered with metal, plywood, or an Approved product specifically manufactured for sign covering during periods when they are not needed.

Signs, structures, and foundations shall not encroach onto shoulders. In areas where there is no other available option, the DB Contractor shall prepare and submit a deviation for any clear zone or shoulder encroachment of sign structure supports or foundations in accordance with Section 4, Design Deviations, of these Technical Provisions.

The DB Contractor shall use Materials Approved in accordance with Section 25, Control of Materials, of These Technical Provisions.

Existing sign panels and sign structures shall remain in place or shall be temporarily mounted until new or replacement signs are installed. New or replacement signs shall not be installed in a location that obscures the visibility of an existing sign. Refer to Section 22, Maintenance of Traffic, of these Technical Provisions for additional requirements.

The DB Contractor shall not mount signs on top of barrier without prior Approval from DDOT.

The DB Contractor shall provide accurate and detailed elevations for all sign structures, including all dimensions, existing physical features and proposed constructed features to confirm physical locations and orientation.

19.4.2 Material Requirements

The DB Contractor shall supply new Materials for all sign posts, structures, and foundations. All metal sign posts shall be painted or powder-coated in accordance with the Anacostia Waterfront Transportation Architectural Design Guidelines and the DDOT Standard Specifications for Highways and Structures.

19.4.3 Salvage

The DB Contractor shall salvage materials in accordance with Section 3, Demolition, of these Technical Provisions.

19.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

19.5.1 Preliminary Design Submittal

The DB Contractor shall submit the Preliminary Signing Concept Plan for review and comment.

19.5.2 Permanent Signing Plans (Final Design Submittal)

The Permanent Signing Plans shall include, but are not limited to, the following items:

1. Sign Specification Sheets containing all necessary fabrication (size, color, sheeting type), installation (mounting), station offset, relocation, and removal information for each sign.
2. Design drawings showing the location of all new signs and existing signs to remain or to be removed. The drawings shall include the following:
   a. Sign number referenced from Sign Specification Sheet.
   b. Small-scale layout of all signs including guide, regulatory, warning, and object markers.
   c. Existing and proposed Utilities within a 20-foot radius of new overhead sign structure foundations.
3. Final pavement markings on the Permanent Signing Plans.
4. Sign format plans (using *Transoft GuidSign* program, or similar format shall be used), including panel sizes; background and legend color; border width and corner radius; text height; font and character spacing; and sign numbers corresponding to the Sign Specification Sheets.
5. Sign drawings (other than Standard Plans) showing details of sign mounting, foundations, base connections, and frames.
6. For each overhead span and cantilever sign structure, the DB Contractor shall provide the following: depictions of cross sections showing footing details; locations of Utilities within 20 feet of foundations; offsets; sign placement, including relations to travel lanes; mounting heights; design of the support truss, columns and foundations, boring data and vertical clearance.
7. Structural calculations for complete design of overhead signs, sign structures, and foundations, including provisions for sign lighting where required. Sign structure designs shall be included in the structural plans and shall be stamped by a licensed engineer who holds a current professional engineers license in the District of Columbia.
8. Details for the modifications to signs outside of the Project Limits communicating accurate information addressing Project changes.

The Permanent Signing Plans shall be submitted to DDOT for review and comment as part of the Final Design Submittal.

TABLE 19-1
Signing Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Sign Plan Submittal Packages	Review and Comment	21 Calendar Days	19.5

SECTION 20

Pavement Marking

20.1 General

The Design-Build (DB) Contractor shall conduct all Work necessary to meet the requirements for permanent pavement markings for the Project. Refer to Section 22, Maintenance of Traffic, of these Technical Provisions for additional temporary pavement marking requirements.

20.2 Performance Requirements

The DB Contractor shall ensure that all pavement markings on the Project meet the requirements of the Mandatory Standards.

The DB Contractor shall provide and maintain pavement marking and reflective pavement markers meeting the Mandatory Standards

20.3 Design Requirements

20.3.1 Permanent Pavement Marking Design Requirements

The DB Contractor shall prepare permanent Pavement Marking Plans that show the Project limits, basic information pertaining to roadway geometrics, all tapers, horizontal curve data, lane shoulder, buffer widths, marking elements as outlined in Chapter 43 of the DDOT Design and Engineering Manual, and any other markings consistent with the needs of the Project.

The Pavement Marking Plans shall provide a basis for the pavement marking requirements for the Project. All pavement markings shall be clearly shown and labeled with their widths, color and spacing specified.

The DB Contractor shall be responsible for removing and replacing existing pavement marking in areas where temporary pavement marking will be used during construction. The DB Contractor shall eradicate existing pavement marking that conflict with proposed temporary markings and all reinstallation and restoration which may be required up to and including mill and overlay work. The DB Contractor will be required to replace the surface of existing pavement and install new pavement markings when any type of destructive method (visible pavement scarring present) is used to remove existing and/or temporary pavement markings.

Where new permanent pavement markings are required, all adjacent RPMs, edge lines, and lanes lines shall also be replaced.

On any pavement reconstruction undertaken by the DB Contractor, the DB Contractor shall tie-in and match the existing permanent pavement marking systems.

20.3.2 Additional Permanent Pavement Marking Requirements

Crosswalks shall not be used in lieu of a stop line.

Crosswalks and corresponding ADA compliant ramps shall be installed at all legs of all intersections. Special emphasis crosswalks shall be provided at all signalized intersections. Crosswalks may be eliminated in certain situations, but all eliminations shall require the Approval of DDOT and a Ward Traffic Engineer.

RPMs where applicable, shall be installed per the DDOT Standard Drawings and the DDOT Standard Specifications for Highways and Structures.

20.4 Construction Requirements

All pre-markings shall be temporary and of the same general color as the pavement markings being pre-marked. When tape is used as pre-marking, pre-marking shall consist of 4-inch by 4-inch maximum squares or 4-inch maximum diameter circles spaced at 25 feet minimum intervals. At locations where the pavement markings will

switch colors—for instance, gore markings—the ends of the markings may be pre-marked regardless of the spacing.

No pre-markings shall be installed when the ambient air temperature is below 50 degrees Fahrenheit, and in no case will the removal of temporary lane markings require destructive measures including, but not limited to, burning or grinding from the permanent roadway surfaces.

20.4.1 Permanent Pavement Marking

The DB Contractor shall provide and apply all necessary control points for preliminary spotting and pavement marking layout. Materials used for preliminary spotting and pavement marking layout shall be temporary. Refer to the DDOT Standard Specifications for Highways and Structures.

The DB Contractor shall not grind or blemish pavement after the final lift of pavement is applied.

20.4.2 Temporary Pavement Marking

Temporary striping shall be required prior to the reopening of a roadway for travel where pavement or permanent striping cannot be completed due to construction staging, weather, or time constraints.

20.4.3 Replacement of Unsatisfactory Pavement Markings

The DB Contractor shall remove and replace pavement markings that fail to meet any of the criteria established in the DDOT Standard Specifications for Highways and Structures. In the event that the Work required to remove and replace unsatisfactory pavement would result in the marring or scarring of final pavement surface, DB Contractor shall be required to perform a mill and overlay of the impacted area. The decision to require a mill and overlay will be made at DDOT's sole discretion.

20.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

20.5.1 Pavement Marking Plans (Preliminary Design Submittal)

The preliminary Pavement Marking Plans shall be prepared in accordance with the DDOT Design and Engineering Manual and shall include the following:

1. All existing pavement marking for a minimum of 300 feet past the limits of construction, and adequate transition and tapers to maintain traffic at the design speed. Typical sections in lieu of plans will not be accepted.
2. All new pavement marking by material type, color, and line width. The DB Contractor shall dimension the pavement marking across the roadway completely, tying the pavement marking to a construction center line or a monument line.
3. Station and offset for all pavement arrows, legends, crosswalks, and miscellaneous pavement markings.
4. Station and offset for the beginning and ending of all pavement markings and the beginning and ending of each taper. The DB Contractor shall locate the beginning and ending points of all curves and the associated radii.
5. Design drawings, other than the Standard Plans, that show details of pavement markings, tapers, and transitions.

The Pavement Marking Plans shall not be combined with the Paving Plans.

The preliminary Pavement Marking Plans shall be submitted to DDOT for review and comment as part of the Preliminary Design Submittal.

20.5.2 Pavement Marking Plans (Final Design Submittal)

Prior to releasing the Final Design Submittal, the DB Contractor shall respond to and incorporate all comments from DDOT following DDOT's review of the preliminary Pavement Marking Plans. Refer to Section 28, Design-Build Quality Management Plan Requirements.

TABLE 20-1
Pavement Marking Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Pavement Marking Plan Submittal Package	Review and Comment	21 Calendar Days	20.5

SECTION 21

Traffic Operations

21.1 General

A traffic operational analysis has been prepared based on the South Capitol Street Final Environmental Impact Statement (FEIS)/Interchange Modification Report (IMR), which is included in Volume II, Book III, Contract Data and Reports.

The IMR is based on the preliminary concept for the Project and the Travel Forecast Model Assumptions described in the IMR.

The DB Contractor shall perform a revised IMR or supplemental IMR for any proposed design which deviates from the base design configuration shown in the South Capitol Street IMR prepared by DDOT. A revised IMR will require a comprehensive traffic operational analysis. Any modifications to the IMR will be subject to Approval by DDOT, the FHWA Washington, D.C., Division Office, and the FHWA Headquarters Office prior to the advancement of design efforts beyond 30 percent design.

The DB Contractor shall perform and submit to DDOT for Approval a traffic analysis for Maintenance of Traffic that includes all phases of construction, including any closure outside of permitted closures. Refer to Section 22, Maintenance of Traffic, of these Technical Provisions for additional requirements. The DB Contractor will perform a capacity assessment of all detour routes. It will be the responsibility of the DB Contractor to forecast changes to the traffic patterns on all impacted routes based on the Maintenance of Traffic Plan developed by the DB Contractor.

21.2 Performance Requirements

21.2.1 Performance Criteria

The DB Contractor shall analyze the following traffic performance parameters:

1. Mainline speed
2. Mainline density
3. Volume throughput
4. Ramp queues
5. Intersection control delay
6. Intersection maximum queues
7. Travel Times on the following corridors:
    a. South Capitol Street—M Street to Firth Sterling and Firth Sterling to M Street
    b. Suitland Parkway—Martin Luther King Interchange to South Capitol Street and South Capitol Street to Martin Luther King Interchange
    c. I-295—11th Street to Malcolm X and Malcolm X to 11th Street
    d. I-695—I-395 to I-295 and I-295 to I-395

Traffic analysis shall follow the guidelines from the DDOT Design and Engineering Manual–Chapter 44: Guidelines for Reviewing Traffic Conditions and Preparing Traffic Impact Studies. The analysis shall assess traffic conditions for Opening Year and Design Year 2040.

21.2.2 Mainline Traffic Analysis and Performance

The 2020 and 2040 Build Freeway Conditions presented in the IMR were established using the Basic Configuration as outlined in the referenced documents. The 2020 traffic volumes shall be considered the year of opening volumes.

21.2.3 Interchange Analysis and Performance

The DB Contractor shall perform a traffic operations analysis of the impacted mainline lanes, interchanges, ramp terminals/intersections, access points, and local roads.

The VISSIM Traffic Simulation Software, Version 5.4, or the latest compatible version to DDOT, shall be used for the analysis of freeway segments, ramps, and identified intersection on the local street network. Simulation modeling approach and procedures shall follow the guidelines from the FHWA Traffic Analysis Toolbox Volume III. Queue distances shall be based on VISSIM maximum queue values. All results shall be based on a statistical analysis with a minimum of five separate random seed runs. All modeling assumptions should be documented in a memorandum and submitted to DDOT at the same time a request is submitted.

The analysis shall be conducted for design years 2020 and 2040 and shall include the morning and evening peak hour periods.

21.2.4 Crash Analysis and Mitigations Proposed

The DB Contractor shall review crash data in the Project area for the latest 3-year period available from DDOT and identify any crash trends, including the root causes of crashes involving vehicles, pedestrians or bicyclists at intersections within the Project limits. The DB Contractor shall submit a memorandum to DDOT describing how the proposed design mitigates the crash trend including an assessment of any predicted changes in potential future crashes and safety conditions prior to submittal of the DB Contractor's Preliminary Design.

21.2.5 Traffic Operations during Construction

Any proposed reduction in the number of lanes within the Project area, outside of closure hours described in Section 22, Maintenance of Traffic, of these Technical Provisions shall require an operational analysis of the impacts to the freeway, ramps, intersections, and streets. The DB Contractor shall also consider impacts to the non-motorized traffic. The Approval of any proposed reduction in the number of lanes will be made solely by DDOT.

Any reduction in intersection capacity shall require a traffic operations analysis using VISSIM. Queue distances shall be based on VISSIM maximum queue values. All results shall be based, at a minimum, on an average of five separate random seed runs. The FHWA Traffic Analysis Toolbox Volume III–Appendix B shall be used to determine the required number of runs for each scenario. In addition, intersection analysis shall be performed using both the VISSIM and the SYNCHRO software. Furthermore, signal timing information used in VISSIM shall match those from the SYNCHRO software.

The analysis shall include the morning and evening peak hour periods and/or the peak hours within impact periods.

The DB Contractor shall submit an operational assessment of proposed detour routes prior to scheduling any ramp closures.

21.3 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

21.3.1 Supporting Documents

The DB Contractor shall provide the following supporting documents:

1. Design drawings showing the DB Contractor's proposed configuration.
2. VISSIM analysis input files (electronic) and SYNCHRO files for intersection analysis (electronic).
3. VISSIM analysis output files for all random seed runs (electronic).
4. VISSIM analysis summary and a memorandum summarizing main modeling assumptions.

The DB Contractor shall provide the following calculations:

1. Intersection Analysis
    a. Control delay and Level of Service for every turn movement
    b. Average control delay and Level of Service for the entire intersection
    c. Volume throughput for every turn movement
    d. Maximum queue lengths
2. Freeway Analysis
    a. Average speed, average density, and Level of Service for every freeway segment
    b. Average and maximum queue length for every ramp
    c. Volume throughput and volume demand for every freeway segment and ramp
    d. Travel times

SECTION 22

Maintenance of Traffic

22.1 General

The Design-Build (DB) Contractor shall conduct all Work necessary to meet the requirements associated with Maintenance of Traffic (MOT), including providing for the safe and efficient movement of people, goods, and services through and around the Project, while minimizing negative impacts to residents, commuters, and businesses.

The DB Contractor shall submit all proposed lane closures, detours, flagging operations, closures, or other operations which may impact the travelling public to DDOT for Review and Approval a minimum of 48 hours prior to planned initiation of the operation.

The DB Contractor shall prepare a Traffic Management Plan (TMP) that lays out a set of coordinated transportation management strategies and describes how they will be used to manage the Work Zone impacts. The strategies shall be a multi-faceted program of operational, communications, and demand-management strategies to maintain acceptable levels of vehicular and pedestrian/bicycle traffic flow during the periods of construction activities. The TMP shall include roles and responsibilities, Work Zone Impacts, Strategies, Traffic Control Plans (TCP) with staging/phasing, Traffic Incident Management Plans (TIMP), Monitoring during Construction, and Contingency Plans. The DB Contractor shall conduct all onsite activities relating to traffic maintenance in accordance with this Section.

This Section also provides the DB Contractor with the following:

1. Project requirement for minimum number of lanes for specific directions on roadway sections and ramps, and Damage Recovery/User Costs per incident for each TCP phase/stage duration that has less than the required minimum number of required lanes. This Damage Recovery/User Costs is per section of road, per direction, for the incident that the required number of lanes is not provided. The per section of road and per direction means that Damage Recovery/User Costs could be for multiple locations during the same time if multiple required lanes are not provided.
2. Project-required pedestrian facilities with sections that must be initially constructed and the entire length maintained through every phase or stage of this Project and Damage Recovery/User Costs for the time period that either trail facility is closed, blocked or not provided.
3. Roadway and ramps (ramp lanes) closure time limitations and Damage Recovery/User Costs per minute, rounded up to the nearest quarter hour and recorded by the DDOT Construction Manager or his/her designee, for any lane closure where the DB Contractor fails to restore all planed lanes to traffic by the designated ending times.

The DB Contractor shall be responsible for coordinating with other projects within the vicinity of the Project including, but not limited to, scheduling of lane closures, detours, ramp closures, temporary alignments, and phasing of construction activity. Construction activities shall be scheduled to minimize the number of lane and/or ramp closures; and to maximize the opportunities available to perform Work during lane and/or ramp closures required by other projects. The DB Contractor shall not schedule or perform activities that will impede or hinder the progress and schedule of other projects.

The DB Contractor shall coordinate with District of Columbia agencies and departments and Utility Companies to identify other projects scheduled for construction during the duration of this Project.

All Materials used on the Project which previously would have to meet the requirements of NCHRP 350, shall now meet the requirements of the AASHTO Manual for Assessing Safety Hardware (MASH).

22.2 Performance Requirements

22.2.1 General

The DB Contractor shall prepare a TMP that minimizes confusion and delays to motorists and pedestrians, as well as reduces crashes and provides greater road safety to trail users, construction workers, businesses, and the community. The TMP shall lay out a set of coordinated strategies with descriptions of how these strategies will manage the Work Zone Impacts. The TMP shall be reviewed by DDOT prior to any construction activity commences which may impact vehicular or pedestrian traffic. DDOT will only permit activities such as surveying or environmental and other design-related Work prior to review l of the TMP, provided the DB Contractor prepares a TCP in accordance with the requirements of this Section.

22.2.2 Transportation Management Plan

The DB Contractor shall develop a TMP that includes all components from the FHWA Transportation Management Plan Checklist, Appendix A of the Developing and Implementing Transportation Management Plans for Work Zones guide in the FHWA's Work Zone Safety and Mobility Rule.

22.2.2.1 TMP Roles and Responsibilities

The DB Contractor shall identify the roles and responsibilities for the following:

1. MOT Manager—The DB Contractor shall identify the person responsible for developing, implementing, and managing the overall TMP. Additional responsibilities may be found in Section 612.02 B.1., of the DDOT Standard Specifications for Highways and Structures. This person shall work closely with DDOT. The MOT Manager is a key position on the Project.
2. TCP Task Force—The DB Contractor MOT Manager, in coordination with the DDOT Construction Manager or his/her designee, shall establish, assemble, and chair a TCP Task Force.

The DB Contractor shall also be responsible for assembling and managing the TCP review and Approval process and data as well as the TCP Task Force information database.

The TCP Task Force will also serve as an advisory committee to the DB Contractor. The DB Contractor shall consider all recommendations and input provided by the task force; however, final design and implementation remain the responsibility of the DB Contractor.

1. Meetings
   a. The DB Contractor shall schedule and chair a TCP Task Force meeting a minimum of once every month from Contract execution to Project Completion. The meeting schedule and frequency may be adjusted in agreement with DDOT.
   b. The purpose of the meetings shall be to provide information to DDOT to assist them in their TCP reviews and to provide communication to these agencies, groups and facilities of DDOT-Approved TCPs. More specifically the meetings shall be to achieve the following:
      i. Further refine and develop the TCPs and TMP strategies.
      ii. Review the DB Contractor's TCP details.
      iii. Disseminate Project TCP information to task force meeting attendees.
      iv. Obtain TCP input from task force meeting attendees.
      v. Develop, refine, and review the TIMP and its implementation (see Section 22.2.2.2 herein).
      vi. Review the Traffic Safety Officer (TSO) log.
      vii. Identify the need for improvements based on traffic control implemented previously.
      viii. Discuss comments/complaints about traffic control from DDOT and the public, and determine how they will be addressed.
      ix. Discuss Work Zone-related crashes and identify appropriate revisions to traffic control to prevent future crashes.

x. The DB Contractor shall prepare the agenda, meeting minutes, exhibits, and design plans required for the meetings and shall invite representatives from adjacent projects to the meetings.

Additional TMP roles and responsibilities include the following:

1. Approval Contacts—The DB Contractor MOT Manager shall identify who from the DB Contractor is able to give final DB Contractor approval to DDOT-required TMP revisions and update as the Project progresses. The TMP can only be Approved by DDOT.
2. TMP Implementation Task Leaders—The DB Contractor MOT Manager, in coordination with the DDOT Manager, shall identify who is responsible for implementing specific tasks recommended by the TMP
3. TMP Monitors—The DB Contractor shall identify monitor(s) to conduct windshield surveys and site visits to report back to the TMP Manager and to DDOT.
4. Emergency Contacts—The DB Contractor TMP Manager shall establish a list of emergency contacts, update as necessary, and ensure all traffic-control personnel are familiar with the list.

TMP Monitoring Requirements

During the implementation of the TMP, the DB Contractor TMP Manager shall monitor the effectiveness of the TMP for each phase/stage of construction, including intersections and ramps both inside and outside the Project limits. This shall include the following:

1. Verifying the Work Zone Setup matches what is shown in the temporary TCPs.
2. Verify the performance of the TMP by collecting traffic data:
   a. 24-hour continuous data collection stations. DB Contractor shall provide a minimum of eight data collection stations that are capable of being relocated. The location of the data stations shall be determined and agreed to by both the DB Contractor TMP Manager and DDOT. Data stations shall be placed at any location for a minimum of seven Days. The data stations shall collect data during the entire Project construction time. Data shall be submitted to DDOT twice monthly. The TMP Managers shall meet weekly to coordinate the locations for the next four weeks.
   b. After every change in traffic phase, the DB Contractor shall be responsible for collecting queue lengths and travel times during the AM and PM peak hours of travel. Queue lengths shall be collected at every impacted intersection and ramp, and travel times shall be recorded for the following roadways by direction:
      i. South Capitol Street
      ii. Suitland Parkway
      iii. I-295 (Anacostia Highway)
      iv. I-695
      v. Howard Road, SE
      vi. Firth Sterling Avenue, SE
      vii. Potomac Avenue, SE
      viii. Potomac Avenue, SW
      ix. M Street, SE & SW
      x. P Street, SW
      xi. Q Street, SW
      xii. R Street, SW
      xiii. S Street, SW
      xiv. Half Street, SW
      xv. First Street, SW

      This data shall also be submitted to DDOT twice monthly for the duration of the Project.

3. Mitigation—The DB Contractor shall present mitigation strategies to the TCP Task Force for selection and implementation when it is observed that the current TMP strategy is not performing as predicted. From the data, if it is observed that the strategy is failing, the DB Contractor shall have seven Days to present a mitigation plan to the DDOT Manager for review/comment/Approval. If the DB Contractor fails to present a feasible plan within this time frame, DDOT may at its discretion direct the DB Contractor to stop Work until the situation is remedied.
4. DB Contractor Response Time—the DB Contractor shall have a Traffic Safety Officer (TSO) on-call or onsite equipped with a mobile phone that can respond to and take appropriate action to manage an emergency situation. The TSO shall be onsite within 45 minutes of notification of an emergency situation, in accordance with this Section. Upon arrival, the TSO shall have the experience, resources, and Equipment required to set up temporary traffic control, as necessary. This may include closing lanes, ramps, setting up detours, and replacing or repairing TCB.
5. Descriptions of traffic phasing, including conceptual TCPs, to accommodate construction staging.
6. Descriptions of the requirements for temporary roadways.
7. Procedures to identify and incorporate the needs of transit operators, Utility Owners, schools, and business owners in the Project corridor.
8. Procedures for obtaining concurrence of Stakeholders and implementing road and lane closures.
9. Processes for developing and obtaining agreement among Stakeholders for traffic switching procedures.
10. Procedures to identify and incorporate the needs of other agencies affected by the Work.
11. Processes for signing transitions during construction from one stage to the next and from interim to permanent signing.
12. Procedures to identify and incorporate the needs of emergency service providers, law enforcement entities, and other related corridor users. The DB Contractor shall also include procedures to ensure all information required by these agencies to protect the public is made available.
13. Provisions for incident and emergency response.
14. Processes to identify, produce, and receive acceptance for designs of temporary traffic signals.
15. Methods and frequency of inspection and maintenance of all traffic control throughout the Project Limits, including response times to correct, modify, or implement changes to pavement marking, signing, temporary lane configurations, and changes in TCB configurations.
16. Descriptions of contact methods, personnel available, and response times for responses to any conditions requiring attention during off-hours. Include communications plan to DDOT radio and field offices.
17. Identification of measurable limits for the repair and replacement of traffic-control devices, including pavement markings.
18. Processes to determine the need for revised traffic signal timings; and if revisions are required, detail the procedures for the development, approval, implementation, testing, and maintenance of all affected signals.
19. Provisions to maintain existing access to all properties within the Project Limits for the duration of the Project, except as provided by other Sections. Appropriate information about access modifications shall be made available to the appropriate parties.
20. Provisions to provide continuous access to established truck routes, hazardous material routes, transit routes, and school bus routes.
21. Procedures to modify the plans as needed to adapt to current Project circumstances.
22. Procedures to determine detour routes and for obtaining acceptance from all Stakeholders for all proposed detour routes. The DB Contractor shall identify special needs for transit service and truck routes.

23. Procedures to communicate TCP information to the DB Contractor's public information personnel and to notify the public of TCP issues in accordance with Section 9, Public Information, of these Technical Provisions.
24. Procedures to accommodate adjacent project's TCPs, if applicable.
25. Procedures to accommodate the TCPs when the staging schedule of the Project or any adjacent project changes.
26. Identify haul and/or delivery routes.

22.2.2.2 Traffic Incident Management Plan

During construction, the TCP will become increasingly sensitive to incidents such as Equipment malfunctions, traffic crashes, inclement weather, and special events. The DB Contractor shall prepare and implement a formal Traffic Incident Management Plan (TIMP) to address how these incidents shall be managed.

General

The TIMP shall identify methods for incident detection and verification, response, site management, clearance, and motorist information. The TIMP shall include procedures for interaction with the TSMC. In addition, if any local agencies along the Project corridor have adopted Incident Management Guidelines, the DB Contractor shall be responsible for coordinating with local policies and procedures.

The TIMP shall reflect proposed construction phasing. The DB Contractor shall modify and implement the TIMP in conjunction with planned special events. The TIMP shall include specific time limits for the detection, verification, and classification of incidents, as well as for the dissemination of information about the incidents. The TIMP shall provide a mechanism to review and capture lessons learned from incidents.

The TIMP shall identify and provide for the incorporation of design elements to aid incident management, including turn-around for emergency vehicles, emergency access points, incident investigation sites, and signing to help motorists report the location of incidents in the Project.

Incident Response Team

Immediately upon detection, the DB Contractor shall notify the TSMC of any vehicles blocking traffic lanes. The DB Contractor shall notify the TSMC of any disabled vehicles on shoulders. The DB Contractor will not be required to provide additional Incident Response Team Equipment or personnel; however, the DB Contractor shall make Materials and Equipment available that are onsite as requested by DDOT.

22.2.2.3 Special Considerations

The DB Contractor shall include this component of the TMP when special considerations are needed. This could include portions that require participation by the District or other agency.

22.2.2.4 Attachments

The DB Contractor shall include this component of the TMP when it is necessary to provide supporting documentation relevant to the TMP. It may include existing/proposed traffic data, charts, methodology, assumptions, and parameters.

22.3 Design Requirements

22.3.1 Work Zone Traffic Engineering Manager

The Work Zone Traffic Engineering Manager (WZTEM) shall be responsible for ensuring that the design of all elements related to construction phasing, Work Zone Safety, and Work Zone Traffic Control are completed and all applicable design requirements are met. The WZTEM shall be onsite for the duration of the construction phasing and TCP development. The WZTEM shall also be available for approval of modifications to the phasing or TCPs through Project Substantial Completion. The WZTEM shall be a Professional Engineer registered in the District of Columbia.

The WZTEM must have at least three years of recent Work Zone and/or traffic engineering experience on complex, urban interstate projects in design and/or construction. The WZTEM must understand the concepts of traffic modeling and have experience designing construction phasing, Work Zone Safety, and Work Zone Traffic Control.

Design elements that the WZTEM is responsible for include, but are not limited to, the following:

1. Detours
2. Construction/Traffic Phasing and TCPs for vehicular, bicycle, and pedestrian traffic
3. Lane closures
4. Temporary plans for signals, ITS, lighting, signing, and striping

22.3.2 Traffic Control Plans

The DB Contractor shall use the procedures in the Traffic Management Plan (TMP) to develop detailed Traffic Control Plans (TCP) that provide for all construction stages and phasing, and identify opportunities to expedite construction throughout the course of the Project. The TCPs shall be prepared under the direction of the DB Contractor's WZTEM.

All construction signs, flaggers, spotters, and other traffic-control devices shall be shown on the TCPs, except for emergency situations. If flagging is to be performed during hours of darkness, the modified TCPs shall require appropriate illumination for the flagging station.

The TCPs shall show the necessary construction signs, flaggers, spotters, and other traffic-control devices required to support the Work. The DB Contractor shall be solely responsible for submitting proposed TCPs to DDOT; obtaining DDOT's comments; releasing the approved drawings for construction; and providing copies of the TCPs to the TSO.

At a minimum, the TCPs shall include the following items:

1. Complete plan sheets and details for all stages/phases of construction that show all Work areas/Work Zones and traffic lanes with buffer and transition areas for each stage/phase.
2. The appropriate details when temporary construction of traffic signals, detour roadways, bridges, retaining structures, drainage, and other miscellaneous construction is required to maintain traffic.
3. Roadway plan sheets showing all existing traffic-control devices that will be retained, relocated, or removed, and all temporary traffic-control devices that will be installed, retained, relocated, or removed.
4. TCPs, for each stage/phase or change in traffic striping, shall allow for milling and surface asphalt overlay for all areas where the striping has changed and/or the travelling roadway is not smooth.
5. Roadway plan sheets with proposed construction baselines, stationing and transverse dimensions.
6. The spacing, size, color (legend and background, if applicable) and quantity of all traffic-control devices.
7. Work areas including buffer areas, ingress and egress deceleration/acceleration and transitions distances for construction/emergency vehicles.
8. Roadway plan sheets with the location of each sign so it can be easily read in relation to the roadway and other traffic-control devices. A small scale layout of each sign shall be shown on the corresponding roadway plan sheet where the sign is to be placed.
9. Provisions for using temporary barriers and attenuators to satisfy buffer and clear-zone requirements and to protect the traveling public and the DB Contractor's personnel, including lateral displacement distance behind barrier.
10. Temporary lighting, signalization, and ITS details, as required.

11. Layouts showing the locations of ground-mounted and overhead signs, special sign details, clear zones, barriers and structural and foundation requirements.
12. Drawings showing how to fabricate any sign not detailed in the MUTCD showing dimensions, background color, and legend.
13. Methods for covering, partially covering, or modifying signs when not applicable to the current phase of construction.
14. Striping, crosswalks, intersection details, and traffic delineators.
15. Type and location of all pavement markings to be installed, removed, or renewed for each stage/phase of construction, and locations of the final pavement markings.
16. Typical cross sections covering each change in configuration including, but not limited to, reduction in lane and/or shoulder widths; reduction or increase in number of lanes; and changes of lateral barrier placement or type. Cross sections shall show lane configuration (including direction of travel) and widths, shoulder widths, lateral buffer distance behind barrier, Work areas, and pavement marking type. Cross sections shall include the station limits the section applies to. Cross sections shall be provided covering the entire length of the segment included in the TCPs.
17. Typical sections shall identify direction of travel, lane widths, lane type (through, turn, ramp or shoulder), and number of lanes.
18. Bicycle/ Pedestrian Trails
    a. The DB Contractor shall <u>provide</u> and <u>maintain</u> bicycle/pedestrian trails that connect between the following locations through each stage/phase of the TCPs. <u>Provide</u> here means to construct temporary trails where there is no existing trail, to construct roadway crosswalks and trail protection where needed, and to construct new lighting, signage, and delineation for all trail lengths. Trail protection shall be barrier protection from overhead and/or side construction operations. <u>Maintain</u> here means to keep the existing and constructed temporary trail surface clear of debris, obstacles, and in good condition and to also keep the signage, delineation and lighting in good condition throughout all construction stages/phases. Trail direction through large multi-stage/phase construction sites can be difficult to follow with angle changes and multiple turns for temporary trail diversions. Therefore, easy to follow delineation such as a wide trail identified color striping shall be used.
        i. Connecting the north corner of the intersection at South Capitol Street and Potomac Avenue (Nationals Park Baseball Stadium) to the Streetcar Stop past the South Capitol Street and Firth Sterling Avenue intersection on Firth Sterling Avenue, near Eaton Road, SE.
        ii. Connecting the north corner of the intersection at South Capitol Street and Potomac Avenue (Nationals Park Baseball Stadium) to the Anacostia Metro station on Howard Road, SE.
    b. Access and control of bicycle/pedestrian trails shall include persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA) through the traffic-control zones and shall be included on the TCPs.
19. Detail modifications to the TCPs to address wintertime conditions or periods of suspended Work.
20. A switching procedure for each control stage change identified in the TCPs. The switching procedure shall consist of the methods, actions, sequence, timing/schedule and signing necessary to complete the switch and the number and duties of traffic personnel assigned to perform the switch.

The TCPs shall be complete, including all necessary details. Typical traffic-control configurations such as those found in the MUTCD and the DDOT Work Zone Traffic Control Guidelines shall be used to assist in developing the TCPs. Only site-specific TCPs that have been Released for Construction shall be used by the DB Contractor. Typical plans are not acceptable unless incorporated as details into the TCPs.

The DB Contractor shall prepare documentation and data to justify all proposed road closures, detour routes, and reductions in lane storage at traffic signals or ramp mergers. The documentation shall be submitted to DDOT for review and comment with the proposed TCPs.

22.3.3 Design Vehicle

Design vehicles shall be as stated in Section 11, Roadway Design, of these Technical Provisions. Design vehicles shall be used for all turning movements at all intersections. Each TCP shall include notes for the design vehicle used. Provisions for oversized vehicles shall be coordinated with DDOT and included in the notes for each stage/phase for each TCP. Additional notes are required to be included in the TCPs when there is limited horizontal geometry or limited vertical clearance.

22.3.4 Traffic Flow Restrictions

All closures and TCPs require review and approval by DDOT. Any restrictions for roadway segments not listed in this Section require DDOT Approval. No lane closures shall occur outside of the hours specified within this Section, unless Approved in advance and in writing by DDOT. The DB Contractor shall notify the public in advance of closures, in accordance with Section 9, Public Information, of these Technical Provisions.

The full Roadway width for the following roadways shall be open to traffic between the hours of 5:00 AM and 9:30 AM and between the hours of 3:30 PM and 9:00 PM, Monday through Friday, except as noted otherwise in this Section:

1. South Capitol Street (Potomac Avenue to Suitland Parkway, including Frederick Douglass Memorial Bridge)
2. South Capitol Street (Suitland Parkway to Firth Sterling Avenue)
3. Suitland Parkway (South Capitol Street to I-295 Highway)
4. Suitland Parkway (I-295 to Firth Sterling Avenue)
5. I-295 Anacostia Freeway (Entire Project length, south of Firth Sterling Avenue to north of Howard Road)
6. Howard Road (Suitland Parkway to Metro Parking)
7. Howard Road (Metro Parking to Firth Sterling Avenue)

Lane closures for Potomac Avenue, SW and SE, R Street, Q Street, Half Street and any other roadway shall be at times as approved by DDOT.

No temporary lane closures or restrictions, including set-up and removal of traffic-control devices, will be allowed except during the hours permitted by this Section as Approved by DDOT. In addition, no Work that restricts or interferes with traffic will be allowed from 12 p.m. on the day proceeding, through 12 p.m. on the day following, a Holiday or Holiday weekend. Holidays that occur on Friday, Saturday, Sunday, or Monday are considered a Holiday weekend. Holidays for this Project are defined in the DDOT Standard Specifications for Highways and Structures. When any of these Holidays fall on a Sunday, the following Monday shall be considered a Holiday. When any of these Holidays fall on a Saturday, the preceding Friday shall be considered a Holiday.

Additionally, closures will not be allowed during the following time periods:

1. Nationals Baseball Home Games—Between two hours before the listed start time and two hours after the official end time of a game.
2. Redskins Football Home Games—No closures the day of without advanced Approval by DDOT.
3. DC United Home Games (if located at new stadium on Buzzards Point)-Between two hours before the listed start time and two hours after the official end time of a game.
4. Lane closures shall not be allowed on weekends (Friday afternoon, 5:00 p.m. through Sunday evening, 7:00 p.m.) without prior Approval of DDOT.

Exceptions to the allowable lane closures may be necessary to accommodate wide loads or other permit loads through the temporary traffic-control areas. In addition, the DB Contractor shall coordinate with adjacent concurrent projects to provide continuity in the lane configurations.

The DB Contractor shall coordinate their Work activities with other local events in the area so that the events will not be impacted.

The DB Contractor shall also identify any major event, such as a sporting event or any combination of events with an anticipated combined attendance over 10,000, and adjust closure times to minimize the impact to traffic (see Section 9, Public Information, of these Technical Provisions). No traffic restrictions shall be implemented between two hours before and two hours after the end of events having a significant impact on traffic volumes.

DDOT reserves the right to not approve traffic restrictions and roadway lane or trail closures.

Damage Recovery/User Costs will be assessed for the following:

1. Failure to start or complete Work and open lanes and ramps to traffic by the required times.
2. Delayed completion of major MOT milestone.
3. Failure to maintain pedestrian/bicycle traffic on the Project trails during non-closure times.

DDOT approved TCP plans that are less than the minimum required lanes for roadway sections as stated in this Technical Provision will be subject to damage recovery/user costs.

Allowable Ramp Closures

This Section lists the allowable ramp closures and the requirements to permanently close the following existing ramps:

1. I-295 SB Exit Ramp to Howard Road (Existing Ramp 10)
2. I-295 NB Entrance Ramp from Firth Sterling Avenue and Howard Road (Existing Ramp 11)
3. I-295 NB Exit Ramp to Suitland Parkway WB (Existing Ramp 12)
4. I-295 NB Exit Ramp to Firth Sterling Avenue NB & SB (Existing Ramp 14)
5. I-295 SB Entrance Ramp from Suitland Parkway EB (Existing Ramp 15)
6. I-295 SB Exit Ramp to Suitland Parkway EB (Existing Ramp 16)
7. I-295 NB Entrance Ramp from Suitland Parkway EB (Existing Ramp 17)

The DB Contractor shall maintain the existing ramp configurations at all times outside of the allowable closures described in this Section, unless otherwise permitted in this Section.

Any restrictions for ramps not listed in this Section require DDOT Approval. No ramp closures shall occur outside of the hours specified within this Section, unless Approved in advance and in writing by DDOT. The DB Contractor shall notify the public in advance of closures, in accordance with Section 9, Public Information, of these Technical Provisions.

No temporary ramp closures or restrictions, including set-up and removal of traffic-control devices, will be allowed except during the hours permitted by this Section. In addition, no Work that restricts or interferes with traffic will be allowed from 12 p.m. on the day proceeding, through 12 p.m. on the day following, a Holiday or Holiday weekend. Holidays that occur on Friday, Saturday, Sunday, or Monday are considered a Holiday weekend. When any of these Holidays fall on a Sunday, the following Monday shall be considered a Holiday. When any of these Holidays fall on a Saturday, the preceding Friday shall be considered a Holiday.

Exceptions to the allowable ramp closures may be necessary to accommodate wide loads or other permit loads through the temporary traffic-control areas. In addition, the DB Contractor shall coordinate ramp closures with adjoining projects to ensure consecutive on-ramps or off-ramps are not closed simultaneously or result in conflicting or overlapping detours.

The DB Contractor shall coordinate their Work activities with other local events in the area so that the events will not be impacted.

The DB Contractor shall also identify any major event, such as a sporting event or any combination of events with a large attendance, and adjust interchange ramp closure times to minimize the impact to traffic (see Section 9, Public Information, of these Technical Provisions). No traffic restrictions shall be implemented between two hours prior to and two hours after the official end of events having a significant impact on traffic volumes.

The DB Contractor shall complete all ramp Work within the specified closure times before opening the ramps to traffic.

DDOT reserves the right to not approve traffic restrictions and freeway closures.

Damage Recovery/User Costs will be assessed for the following:

1. Failure to start or complete Work and open lanes and ramps to traffic by the specified times.
2. TCP lanes that are less than the minimum required lanes for roadway sections and ramps as stated in this Section of the Technical Provisions.

Nighttime Closures

The DB Contractor will be allowed to close ramps between the hours of 9:00 PM and 5:00 AM, upon Approval from DDOT. At no time shall two consecutive on ramps or off ramps be closed at any one time without prior Approval from DDOT.

22.3.5 Pedestrian / Bicycle Trails – Allowable Closures

The DB Contractor will be allowed to close Pedestrian/Bicycle Trails between the hours of 9:00 PM and 5:00 AM, upon Approval from DDOT. No trail closures shall occur outside of the hours specified within this Section, unless Approved in advance and in writing by DDOT. The DB Contractor shall notify the public in advance of closures, in accordance with Section 9, Public Information, of these Technical Provisions.

No temporary trail closure or restrictions, including set-up and removal of other traffic-control devices, will be allowed except during the hours permitted by this Section. In addition, no Work that restricts or interferes with pedestrian/bicycle traffic will be allowed for Holidays or Holiday times as stated in reference to construction in the DDOT Standard Specifications for Highways and Structures.

In addition, closures will not be allowed during Nationals Baseball Home Games, between two hours before and two hours after the official end of a game.

DDOT reserves the right to not approve trail restrictions and closures. Damage Recovery/User Costs will be assessed for failure to maintain pedestrian/bicycle traffic on the Project trails during non-closure times.

22.3.6 Traffic Operations During Construction

The DB Contractor shall notify the TSMC when setting up and removing lane, ramp, and roadway closures.

The DB Contractor shall use protective vehicles with warning beacons and Truck-Mounted Attenuator (TMAs) for protection of Work Zones on roadways with a posted speed limit equal to or greater than 45 miles per hour (mph).

22.3.6.1 South Capitol Street, Suitland Parkway and I-295 During Construction

There may be existing facilities in the existing roadway shoulder which may not be adequate for sustained traffic operations. These may include, but are not limited to, drainage structures, junction boxes, cable and drainage vaults, manholes, pull boxes, and the lids for these facilities. Before using an existing shoulder as all or part of the traveled way, the DB Contractor shall inspect all existing facilities within the roadway shoulder which may be subjected to sustained traffic; and remediate any existing facilities within the roadway shoulder which are not adequate to support sustained traffic. Sustained traffic is defined as any traffic that is more than occasional traffic. Any damaged facilities shall be replaced at the DB Contractor's expense.

The DB Contractor shall design any temporary construction and/or widening to withstand the anticipated traffic volumes and loadings during the applicable stage of the Project.

TCP Lanes shall have adequate advance signage and lighting. TCPs shall include advance signing and enhanced pavement markings. The DB Contractor shall ensure adequate sight distance and traffic flow operation.

Design Criteria

The design speed for temporary conditions shall not be less than the posted speed without prior Approval from DDOT.

Temporary Lane Closures

No closures shall be scheduled until the TCPs are reviewed and Approved by DDOT and Released for Construction.

Law Enforcement

Law enforcement for the Work Zone, when shown on Released for Construction Documents, shall be included in the Contract Price. Law enforcement shall be provided during TCP stage/phase changes, rolling slowdowns, and to control intersections when traffic signals are temporarily turned off. Law enforcement for this Project shall be from the Metropolitan Police Department and/or the National Parks Service Police Department dependent on specific location of need.

Sequential Arrow Displays

Each vehicle used to place, maintain, or remove components of a traffic-control system on multi-lane highways shall be equipped with a sequential arrow display that shall be in operation when the vehicle is in use. Vehicles equipped with sequential arrow displays not involved in placing, maintaining, or removing components when operated within a stationary-type lane closure shall display only the four-corner flash caution mode. The operator of the vehicle shall control the arrow display while the vehicle is in motion. Sequential arrow displays used in moving lane closures shall be truck-mounted. This requirement applies to all vehicles placing, maintaining, and removing traffic-control devices, including concrete barrier trailers and “cherry pickers."

Advance Signing

The DB Contractor shall furnish and install eight G24-501 (modified) signs with the Project hotline phone number, (xxx) xxx-xxxx, within the Project Limits as follows:

1. South Capitol Street – Each End
2. Suitland Parkway – East End
3. I-295 Highway – Each End
4. Howard Road – East End

The signs shall be installed within 30 Calendar Days of the date the Contract is executed and before any other construction activity on the Project. The signs shall remain in place until Final Completion. Coordination with adjacent projects may be required for placement of the signs.

If it is necessary to relocate advance signing for any reason, the DB Contractor shall be responsible for relocation.

22.3.6.2 Ramps During Construction

Design Criteria

The DB Contractor shall provide acceleration and deceleration lanes to ensure vehicles are within 10 mph of the mainline speed at the point traffic must merge or diverge from mainline lanes. Exit speeds shall be posted for all ramps. For ramps where the design speed during construction is reduced from existing conditions, black-on-orange construction signs shall be used for the exit speed signs.

The number of lanes and lane configurations shall equal or exceed the existing configuration. Adequate storage for queuing and throughput volumes at traffic signals must be maintained. Lanes shall be a minimum of 12-feet

wide on entrance and exit ramps. Paved shoulders a minimum of 2-feet wide shall be provided on both sides of each ramp. Wider ramp widths than these minimums shall be required where necessary to satisfy AASHTO design widths for turning roadways and horizontal stopping sight distances and to accommodate WB-62 design vehicle tracking. Refer to the DDOT Design and Engineering Manual. All MOT ramp tapers shall use a desirable taper rate of 20:1 and a minimum taper rate of 15:1.

Turning movements at the ramp termini shall be designed to accommodate a WB-62 design vehicle.

Notice of Closures

Refer to Section 9, Public Information, of these Technical Provisions, and this Section for advance notification, public notification, and signing requirements.

Specific Ramp Requirements

Only the ramp closures described in this Section will be allowed.

22.3.6.3 Local Roads During Construction

All TCPs affecting local roads shall follow the DDOT requirements in this Section of the Technical Provisions and in accordance with the DDOT Standard Specifications for Highways and Structures. The DB Contractor shall be responsible for submitting plans and obtaining Approvals from DDOT for the TCPs. Allowable closure hours for lane closures on local roads shall be as stated in this Section of the Technical Provisions and the DDOT Standard Specifications for Highways and Structures.

Detours

All detours shall be in place, including all signing, before closure of any road. Detours using local roads shall follow traffic-control permit requirements.

The DB Contractor shall identify all bus routes, including school buses that may be affected by the detour and shall coordinate with the bus agency regarding impacts to the schedule and location of the bus stops.

22.3.6.4 Temporary Guardrail and Barrier Attenuators

Vehicle Protection

The DB Contractor shall be responsible for using temporary guardrail, barrier, and attenuators to protect the traveling public from the following:

1. Hitting fixed objects within the clear zone.
2. Driving off drop-offs as required by this Section.
3. Driving off slopes steeper than 3H:1V.

Barrier

Opposing traffic lanes of mainline I-295 shall be separated by permanent or TCB in accordance with DDOT design requirements.

TCB placed along the edge of a bridge structure shall be anchored.

To prevent traffic from hitting the end of a TCB, the end shall not be placed within the clear zone of approaching traffic unless an appropriate attenuator is used. Refer to the DDOT Standard Specifications for Highways and Structures and DDOT Standard Drawings for minimum taper rates and additional details.

The DB Contractor shall provide a lateral displacement distance behind all barriers (including TCB) equal to or greater than the longitudinal barrier deflection. The lateral displacement area shall be kept clear of fixed objects and shall not be used as a Work area.

22.3.6.5 Pedestrian and Bicycle Access During Construction

The DB Contractor shall maintain existing pedestrian access on all sidewalks and at all intersections. The DB Contractor shall also maintain safe access and passage for all pedestrian/bicycle facilities. Occupational safety

regulations that apply to the Project Limits shall also be considered the minimum standard for personal safety to pedestrians. If Work will be performed over any pedestrian and bicycle trails and sidewalks, temporary lighted and covered walkways shall be provided to protect pedestrians and bicyclists from overhead hazards.

When the DB Contractor allows Work areas to encroach upon a sidewalk, trail, or crosswalk area, and a minimum clear width of 48-inches cannot be maintained for pedestrian/bicycle use, an alternative accessible pedestrian/bicycle trail shall be provided. Separation of pedestrians/bikers from the Work area and vehicular traffic is required.

Protective barricades, fencing, and bridges, together with warning and guidance devices and signs, shall be used so that the passageway for pedestrians is safe, well defined, and accessible. Whenever pedestrian/bike walkways/trails are provided across excavations, they shall be provided with suitable handrails. Temporary foot bridges shall be safe, strong, and free of bounce and sway; have a slip-resistant coating; and be free of cracks, holes, and irregularities that could cause tripping. Ramps with a maximum slope of 8.3 percent shall be provided at the entrance and exit of all raised footbridges. The maximum cross slope shall be 2.0 percent. The DB Contractor shall provide illumination for all existing and temporary pedestrian/bicycle trails for this Project for the construction duration. Existing and temporary illumination shall be designed and shown on the TCPs. Pedestrian/bicycle trail retro-reflective delineation and illumination shall be provided during the hours of darkness.

Where a pedestrian/bicycle trail needs to be closed by the DB Contractor during construction, a temporary accessible pedestrian/bicycle trail shall be provided that complies with the MUTCD and these Technical Provisions. The alternate accessible pedestrian/bicycle trail shall not have abrupt changes in grade or terrain. Barriers and channelizing devices shall be detectable to pedestrians who have visual disabilities. Where it is necessary to divert pedestrians into the roadway, barricading or channelizing devices shall be provided to separate the pedestrian/bicycle trail from the adjacent vehicular traffic lane. Barricading or channelizing devices used to separate pedestrian/bicycle and vehicular traffic shall be crashworthy and, when struck by vehicles, present a minimum threat to pedestrians/bikers, workers, and occupants of impacting vehicles. At no time shall pedestrians or bikers be diverted into a portion of the street used concurrently by moving vehicular traffic.

The DB Contractor shall not park motor vehicles or construction Equipment on a pedestrian/biker sidewalk, trail, or path, or use a pedestrian/biker sidewalk or path for loading operations, stockpiling of Materials, or allowing demolished or spoil Materials to be deposited on the surface of a pedestrian sidewalk or path. Any surface of a pedestrian sidewalk or path affected by the Work shall be restored to its pre-construction condition, or better, before re-opening to pedestrian traffic. The trail surface shall be swept or washed free of debris including, but not limited to, mud, gravel, grease, and excavated, spoiled, or stockpiled Materials.

Pedestrian and bicycle trails may not be closed or blocked during any time for more than 15 minutes. Temporary trails and detour trails are required to be shown on the TCPs. These plans require the same submittal and Approval procedures as the roadway TCPs. In addition, they shall not be implemented with less than 14 Calendar Days advance notice provided to all pedestrians/bikers. The DB Contractor shall also notify the DC-based Bicycle Clubs. A pedestrian/bicycle TCP shall not require pedestrians to walk or bike more than ¼ mile longer than the pre-construction distance. Advance notice shall consist of signs located at the construction limits and all accesses serving the affected area; and public notification in accordance with Section 9. All temporary trails and trail relocations shall be shown in the TCPs. All detours and Work sites shall be signed in accordance with the MUTCD, the DC ADA requirements, the DDOT Work Zone Traffic Control Guidelines, and these Technical Provisions. Refer to the Pedestrian Facilities Users Guide and the DDOT Design and Engineering Manual.

22.3.7 Public Convenience and Safety

22.3.7.1 Construction Under Traffic

The DB Contractor shall conduct all operations with the least possible obstruction and inconvenience to the public. The DB Contractor shall not have under construction a greater length or amount of Work than can be prosecuted properly with due regard to the rights of the public. To the extent possible, the DB Contractor shall finish each section of Work before commencing Work on the next section. The DB Contractor shall enter

interstate highways only through legal movements from existing roads, streets, and other access points specifically permitted by the Contract.

To disrupt public traffic as little as possible, the DB Contractor shall permit traffic to pass through the Work Zone with the least possible inconvenience or delay. The DB Contractor shall maintain existing roads and streets within the Project Limits, keeping them open, and in a good, clean, safe condition at all times. All deficiencies no matter what the cause shall be repaired at the DB Contractor's expense, when directed by DDOT. The DB Contractor shall also maintain roads and streets adjacent to the Project Limits when affected by the DB Contractor's operations. Snow and ice control will be performed in accordance with Section 29, Maintenance during Construction, of these Technical Provisions.

The DB Contractor shall conduct all operations to minimize any drop-offs (abrupt changes in roadway elevation) left exposed to traffic during non-working hours. Grinding shall not be allowed after the final paving lift is completed.

Controlled Access

All ingress and egress to the Work area shall be shown on site-specific TCPs. The DB Contractor shall maximize the distance from the end of ramp tapers to the access points.

Access to the Work area from outside of the Right-of-Way requires DDOT Approval. The DB Contractor shall obtain Approval from DDOT for any necessary breaks in limited access.

At the completion of the Project, the DB Contractor shall restore the area of the access site to its original, pre-Contract, condition. Any damage to the traveled way, shoulders, auxiliary lanes, side slopes or other areas caused by the access shall be repaired. All Work to comply with this provision or to build, maintain, provide erosion control, control airborne particulates, ensure that drainage continues throughout the access site, provide traffic control when necessary, remove the temporary access, and restore the surrounding area when no longer required for use is the responsibility of the DB Contractor.

Public Notification

The DB Contractor shall furnish and install information signs that provide advance notification of ramp and road closures a minimum of seven Calendar Days before the scheduled closure. The signs shall have a black legend on a white reflective background. Sign locations, messages, letter sizes, and sign sizes shall be shown in the TCPs. For ramp and local road closures, PCMS shall be used to supplement the required signs. The DB Contractor shall notify the MPD and NPSPD, local fire departments, DDOT and the Washington Metropolitan Area Transit Authority in writing a minimum of seven Calendar Days prior to scheduled closures. The DB Contractor shall provide written copies of these notifications to DDOT. Refer to Section 9, Public Information, of these Technical Provisions for additional requirements.

Construction and Maintenance of Detours

Unless otherwise Approved, the DB Contractor shall maintain two-way traffic during construction. The DB Contractor shall build, maintain in a safe condition, keep open to traffic, and remove when no longer needed, the following:

1. Detours that will accommodate traffic diverted from the roadway or bridge during construction
2. Temporary approaches

The DB Contractor shall pay all costs to build, maintain, and remove all detours, whether built for the DB Contractor's convenience or to facilitate construction operations. All detours proposed by the DB Contractor shall conform to the requirements of the Contract. Surfacing and paving shall be consistent with traffic requirements.

22.3.7.2 Roadway TCP

Damage Recovery/User Costs will be assessed for failure to complete Work and open lanes and ramps to traffic by the specified times per the following table (Table 22-1).

TABLE 22-1
Damage Recovery/User Costs for Lane Closures During Non-Allowable Times

Elapsed Time (min)	South Capitol Street Suitland Parkway I-295 Anacostia Freeway	All Other Roads and Streets, Including: Potomac Avenue, SE & SW R Street Half Street Q Street Howard Road
1-15 minutes or any portion thereof	$0	$1,000 per hour or portion thereof
Every additional minute or portion thereof after the initial fifteen minutes stated above.	$2,000 plus $250 per each additional minute, per each closure location.	
Non-Allowable Times Lane Closure Damages for any location will not exceed $100,000 per incident.		
An **Incident** here is defined as a maximum duration of one 24-hour day.		

22.3.7.3 Pedestrian/Bicycle Trail Closures

Damage Recovery/User Costs will be assessed for Trail closures during non-allowable times per the following Table 22-2.

TABLE 22-2
Damage Recovery/User Costs for Trail Closures During Non-allowable Times

Elapsed Time (min)	PEDESTRIAN / BICYCLE TRAIL (Nationals Ball Park at the intersection of South Capitol Street and Potomac Avenue to the Anacostia Metro Station on Howard Road)	PEDESTRIAN / BICYCLE TRAIL (Nationals Ball Park at intersection of South Capitol Street and Potomac Avenue to the Streetcar Stop on Frith Sterling Avenue next to Stevens Road, SE)
1-15 Minutes or any portion thereof	$0	$0
Every additional minute or portion thereof after the initial fifteen minutes stated above.	$1,500 plus $100 per each additional minute, per each closure location.	$1,500 plus $100 per each additional minute, per each closure location.
Trail Closure Charges for any location will not exceed $20,000 per **incident**.		
An **Incident** here is defined as a maximum duration of one 24-hour day.		

22.4 Construction Requirements

22.4.1 General

The DB Contractor shall plan, manage, supervise, and perform all temporary traffic-control activities required to support the Work using labor, Equipment, and Materials provided by the DB Contractor (except when such labor, Equipment, or Materials are to be provided by DDOT as specifically identified herein).

The DB Contractor shall be responsible for all TCPs starting upon issuance of NTP1. The traffic-control devices, including temporary and permanent signal systems, must be continually and adequately monitored and maintained to ensure proper placement and working order and to ensure the safe and efficient flow of all traffic through and adjacent to the Project. Such responsibility and maintenance shall continue until Final Acceptance of the Project by DDOT. DDOT may, in writing, temporarily suspend such responsibility in conjunction with an official suspension for other reasons.

22.4.2 Materials

The DB Contractor shall not use the Advanced Dynamic Impact Extension Module (ADIEM) impact attenuators/end treatments for the Project.

22.4.3 Description

The DB Contractor shall perform all procedures necessary to support the Work.

The DB Contractor shall erect and maintain all construction signs, warning signs, detour signs, and other traffic-control devices necessary to warn and protect the public at all times from injury or damage as a result of the DB Contractor's operations which may occur on or adjacent to highways, roads, or streets. No Work shall be done on or adjacent to the roadway until all necessary signs and traffic-control devices are in place.

The traffic-control resources and activities described shall be used for the safety of the public, the DB Contractor's employees, and DDOT personnel; and to facilitate the movement of the traveling public. Traffic-control resources and activities may be used for the separation or merging of public and construction traffic when such use is in accordance with the Approved TCPs.

The DB Contractor is advised that DDOT may have entered into operating agreements with one or more law enforcement agencies for cooperative activities. Under such agreements, at the sole discretion of DDOT, law enforcement personnel may enter the Work area for enforcement purposes and may participate in the DB Contractor's traffic-control activities. Under the Contract, the DB Contractor is responsible for all traffic control, and any such participation by law enforcement personnel in traffic-control activities will be preceded by an agreement and, if appropriate, a cost adjustment. Nothing in the Contract is intended to create an entitlement, on the part of the DB Contractor, to the services or participation of the law enforcement organization.

22.4.4 Signing, Pavement Markings, and Traffic-Control Devices During Construction

The DB Contractor shall inspect all signing (existing and temporary) daily, noting damaged signs, misplaced signs, and graffiti affecting legibility of the sign. Every detour route shall be driven to ensure all detour signing is in place. Signing for detours shall be covered or removed when detours are not in use. The DB Contractor shall provide a schedule for repairing, cleaning, or replacing signs; procedures shall address rectifying incorrect or misleading signing that may present a hazard to road users. The DB Contractor shall immediately address identified safety concerns.

The DB Contractor shall ensure there are no conflicting or misleading signs because of adjacent projects. The DB Contractor shall coordinate with adjacent projects and relocate signs as required to avoid conflicting information. Should it be necessary to remove any existing signs, temporary pavement markings shall be installed in accordance with the DDOT Standard Specifications for Highways and Structures and DDOT Standard Drawings.

The DB Contractor shall mill and overlay all asphalt areas where the pavement stripping has changed and/or the travelling roadway is not smooth for each TCP stage/phase or change in traffic stripping. The milling shall be a minimum of 1.5 inches and the asphalt overlay shall match the adjacent pavement surface. Temporary pavement striping on concrete decks or concrete roadway shall be removable tape. The DB Contractor shall inspect all pavement markings regularly. The DB Contractor shall provide a schedule for replacing damaged pavement markings and establish minimum replacement time frames based on the degree of degradation. If missing or damaged pavement markings present a hazardous condition, DDOT will require the DB Contractor replace the pavement markings within 24 hours.

The DB Contractor shall clean or replace all pavement markings when they become damaged or lose reflectivity.

As each segment is completed, the DB Contractor shall install the final signing and pavement markings required to safely open the road to traffic. This Work shall be completed on or before the date of opening.

The DB Contractor shall have adequate spare sections of temporary barrier and the necessary Equipment onsite to replace and repair temporary barrier within four hours of identification by or notice given to the DB Contractor of damaged barrier. This requirement shall include replacement of impact attenuators. Temporary traffic control shall be repaired or replaced immediately upon notice of damage to ensure vehicle safety.

22.4.5 Temporary Signalization

This Section applies to new temporary signals necessary for detour routes or other construction phasing, if any. Any modifications to existing traffic signals must be shown in the TCPs and Approved by DDOT. Modifications proposed for signal timing or phasing shall be coordinated with and Approved by DDOT. A traffic signal warrant analysis is required for Approval if there is no existing traffic signal at the location.

22.4.5.1 Electrical Service

Refer to Section 16, Illumination, and Section 17, Traffic Signals/Intelligent Transportation Systems.

22.4.5.2 Material Requirements

The DB Contractor shall furnish and install all required Materials for the temporary signalization. The DB Contractor shall provide vehicle detection methods to optimize all temporary signal system installations. The DB Contractor may use Type 3 induction loops or video image detection for temporary signal installations.

22.4.5.3 DDOT inspection

The DB Contractor shall provide a minimum notice of seven Calendar Days to DDOT before implementing temporary signalization. DDOT will perform the final electrical inspection of temporary signal systems as required in accordance with the DDOT Standard Specifications for Highways and Structures.

22.4.5.4 Signal Turn-On

The DB Contractor shall secure and pay for the services of a uniformed law enforcement officer to perform traffic control while the traffic signal is being placed into service. Appropriate signing shall be installed by the DB Contractor in advance of signal turn-on.

22.4.5.5 Operation and Maintenance

The DB Contractor shall develop timing plans and phasing for the temporary signal operation. DDOT will enter the timing parameters into the signal controller. The DB Contractor may be allowed to enter the timing parameters into the signal controller with the Approval of DDOT.

Unless provided by DDOT, all temporary signal Equipment shall remain the property of the DB Contractor.

22.4.6 Temporary Illumination

Typical construction may require reduction in lane and shoulder widths, shifting of lanes, and modification to gore points at the ramps. Temporary lighting may be necessary for the safety of the traveling public and workers. For temporary (construction) lighting, see Section 16, Illumination, of these Technical Provisions.

22.4.6.1 Traffic Safety Officer

The TSO for the Project shall meet or exceed the requirements stated in Section 612.02 of the DDOT Standard Specifications for Highways and Structures. A TSO shall be present on the Project whenever flagging, spotting, or other traffic control is occurring; or less frequently, as authorized by DDOT.

Provided that the duties of the TSO are accomplished, the TSO may perform other duties described in this Section.

The TSO shall be considered a critical component of the DB Contractor's management team and shall have prior experience managing TCP operations on similarly complex projects. Registration as a licensed Professional Engineer is not required; however, the DB Contractor may elect to use his WZTEM in this position. The TSO shall attend all TCP Committee meetings. The TSO shall also coordinate activities with the public information officer.

The TSO or a designee shall be available on a 24-hour basis with a single contact phone number throughout the duration of the Project; supervise and verify all changes in the TCP setup; and perform daily Project reviews to verify that TCP devices are correctly placed and traffic is safely and efficiently moving through the Project. The TSO or a designee shall be available on the Project within 45 minutes of notification of an emergency situation and shall be prepared to positively respond to the need to repair the traffic-control system or to provide alternate traffic arrangements. The TSO shall have the resources, ability, and authority to expeditiously correct any

deficiencies in the traffic-control system or to de-mobilize any construction operation that is resulting in excessive delays to traffic or creating an unsafe condition.

The TSO shall maintain a 30 Calendar Day advance schedule of all traffic-control activities and a long-range schedule for all planned ramp and roadway closures. The TSO shall coordinate with the DB Contractor's Public Information Team to ensure the information is disseminated to DDOT and to the public.

22.4.6.2 Flaggers and Spotters

All flaggers for the Project shall meet or exceed the requirements stated in Section 612.02 of the DDOT Standard Specifications for Highways and Structures. Flaggers and Spotters shall be posted where shown on the approved TCPs.

Spotting stations shall be shown on TCPs at locations where a spotter can detect errant drivers or other hazards and provide an effective warning to other workers. Spotting stations will not be allowed at locations where the spotter will be in unnecessary danger. The DB Contractor shall provide noise-makers or other effective warning devices for spotting operations. The duties of a spotter shall not include flagging.

22.4.7 Video Record

A drive-through video of all TCP devices shall be made each week; immediately after each accident causing injuries; and after each shift in TCP setup. The videos shall be maintained in an electronic format, and a log of the videos including dates and times of the recordings shall be provided to DDOT on a monthly basis. DDOT shall have access to review the videos at any time, and the DB Contractor shall provide CD/DVD copies to DDOT upon request.

22.4.8 Traffic-Control Procedures

22.4.8.1 Patrol and Maintain Traffic-Control Measures

When temporary traffic-control measures are in place, the DB Contractor's TSO shall patrol and maintain these measures, at all times. The Work shall consist of resetting mislocated devices; assuring visibility of all devices; cleaning and repairing where necessary; providing maintenance for all Equipment, including replacing batteries and light bulbs, as well as keeping motorized and electronic items functioning; and adjusting the location of devices to respond to actual conditions, such as queue length, unanticipated traffic conflicts, and other areas where planned traffic control has proven ineffective.

This Work shall be performed by the DB Contractor, either by or under the direction of the TSO. Personnel, with vehicles if necessary, shall be dispatched so that all traffic control can be reviewed at least once per hour during working hours and at least once during each Calendar Day.

22.4.9 Traffic-Control Devices

Traffic-control devices are used to visually guide drivers through Work Zones. Signing, channelizing devices, arrow boards, and warning beacons all display a message to the driver.

22.4.9.1 Construction Signs

All construction signs required by the Approved TCPs, as well as any other appropriate signs directed by DDOT, shall be provided by the DB Contractor. The DB Contractor shall provide the posts or supports and erect and maintain the signs in a clean, neat, and presentable condition until they are no longer required. Post-mounted signs shall be installed as shown in the DDOT Standard Drawings. Sign attachment to posts shall conform to the applicable detail shown in the DDOT Standard Drawings.

All existing signs, new permanent signs installed as part of the Work, and construction signs installed as part of the Work that are inappropriate for the traffic configuration at a given time, shall be removed or completely covered with metal, plywood, or an approved product specifically manufactured for sign covering, during periods when they are not needed.

Construction signs are divided into two classes. Class A construction signs are those signs that remain in service throughout the construction or during a major phase of the Work. They are mounted on posts, existing fixed

structures, or substantial supports of a semi-permanent nature. Class A signs shall be designated as such on the Approved TCPs. Sign and support installation for Class A signs shall be in accordance with the Contract or the DDOT Standard Drawings. Class B construction signs are those signs that are placed and removed daily, or are used for short durations which may extend for one or more Days. They are mounted on portable or temporary mountings.

Class A construction signs mounted behind traffic barrels shall be mounted a minimum of 5 feet above the ground (ground to bottom of sign).

Where it is necessary to add weight to signs for stability, the DB Contractor shall follow the manufacturer's recommendations for sign ballasting.

Signs, posts, or supports that are lost, stolen, damaged, destroyed, or which DDOT deems to be unacceptable while used on the Project, shall be replaced by the DB Contractor.

22.4.9.2 Sequential Arrow Signs

Sequential arrow signs shall be shown on the TCPs as either a stand-alone unit without a TMA or as a unit with a TMA. When required, and as shown on the TCPs, the DB Contractor shall provide, operate, and maintain the sequential arrow signs.

22.4.9.3 Portable Changeable Message Signs

Where shown on the Approved TCPs or when requested by DDOT, the DB Contractor shall provide, operate, and maintain PCMS. The DB Contractor shall provide a PCMS at each entrance to the Work Zone available for use as a Public Outreach tool throughout the duration of the Project, and shall provide additional PCMS as required. These signs shall be available onsite for the entire duration of their anticipated use.

22.4.9.4 Barricades

Where shown on the Approved TCPs or when requested by DDOT, the DB Contractor shall furnish, install, and maintain barricades. Barricades shall be kept in good repair and shall be removed and/or replaced immediately when they are no longer functioning as designed.

Where it is necessary to add weight to barricades for stability, the DB Contractor shall follow the manufacturer's recommendations.

22.4.9.5 Channelizing Devices

Where shown on the Approved TCPs, or when requested by DDOT, the DB Contractor shall furnish, install, and maintain traffic channelizing devices.

The DB Contractor shall not use tubular markers or tall channelizing devices on ramps or highways.

22.4.9.6 Truck-Mounted Attenuator

Where shown on the Approved TCPs, when recommended by the MUTCD, or when requested by DDOT, the DB Contractor shall provide, operate, and maintain NCHRP Report 350 or MASH compliant Truck-Mounted Attenuators (TMA). Temporary traffic barriers and railing systems shall meet the requirements established in the NCHRP Report 350 if tested prior to the adoption of MASH. Temporary traffic barriers and railing systems manufactured after the adoption of MASH shall meet the requirements of MASH. These TMAs shall be available, on-site, for the entire duration of their anticipated use.

The TMA shall be positioned to separate and protect construction Work Zone activities from normal traffic flow.

22.4.9.7 Temporary Concrete Barrier

Impact attenuators shall be used to protect the ends of barrier within the clear zone.

22.4.10 Procedures for Obtaining Approval and Implementing Road Closures, Lane Closures and Lane Restrictions

Lane closures and traffic control for the maintenance of traffic through restricted areas shall conform to the requirements of the MUTCD and the District of Columbia supplement thereof.

The DB Contractor shall submit a written lane and shoulder closure request for Approval in accordance with the advance notification requirements for the type of the lane closure being requested. The DB Contractor shall submit the lane closure request in a written format Approved by the Engineer. Information shall consist of location, date and time, nature of Work, lanes to be closed, ramp closures, field point of contact and detours. The DB Contractor shall confirm the need for any scheduled Type 3 closure three Days in advance or Type 2 closure five Days in advance, and the need for any scheduled Type 1 closure ten Days in advance, and shall include a written reiteration of the proposed tasks and a listing of Materials, labor and Equipment to be utilized. The DB Contractor is responsible for providing adequate advance notification via variable message and required static signing for lane closures in accordance with the MUTCD. Once the closing is in place, Work shall commence immediately and shall progress on a continuous basis to completion or to a designated time, unless unforeseen events (i.e. traffic accident, traffic backups or inclement weather) transpire.

22.4.10.1 Lane Closure Types

1. Type 1 - A lane closure resulting in a significant impact on traffic, such as stopping traffic completely, closing 2 or more lanes, closing an exit or entrance ramp at freeway interchanges, or changing traffic patterns. This type of closure would require extensive media and Stakeholder's notification effort and coordination among various local and state agencies
2. Type 2 - A lane closure resulting in minor or no impact on the flow of traffic, such as closing one lane on a 4-lane freeway during off-peak traffic hours.
3. Type 3 - A lane closure that would close a shoulder (right or left) on a freeway or ramp.

ROADWAY LANE CLOSURES		
TYPE	MINIMUM ADVANCE NOTICE	MAXIMUM ADVANCE NOTICE
	Days	Days
1	10	21
2	5	14
3	3	14

The closures or Work that restricts traffic flow shall not take place on Saturdays, Sundays, and Holidays from noon the day before the Holiday until noon the day after the Holiday unless Approved by DDOT. When a Holiday falls on a Friday, lane closures shall not take place from noon on Thursday to noon on Monday. When a Holiday falls on Monday, lane closures shall not take place from noon on Friday to noon on Tuesday.

Lane closures or traffic restrictions shall not take place during special events affecting traffic flow, unless otherwise Approved by DDOT.

22.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

All submittals shall be submitted to DDOT prior to commencement of any construction activity that has the potential to impact traffic. TCPs for individual construction phases require a Preliminary Design Submittal and a Final Design Submittal before Approval for each phase of construction.

22.5.1 Traffic Management Plan

The DB Contractor shall submit the Draft TMP to DDOT for review and comment.

The DB Contractor shall prepare a Final TMP for DDOT review responding to all DDOT comments. The TMP must be reviewed and all comments addressed to the satisfaction of DDOT prior to commencement of any construction activity that has the potential to impact traffic.

22.5.2 Traffic Incident Management Plan

The DB Contractor shall submit the Draft TIMP to DDOT for review and comment within 30 Calendar Days of the date the Contract is executed.

The DB Contractor shall prepare a Final TIMP for DDOT review responding to all DDOT comments. The TIMP must be reviewed and all comments addressed to the satisfaction of DDOT prior to commencement of any construction activity that has the potential to impact traffic.

22.5.3 Traffic Control Plans

The DB Contractor shall submit TCPs to DDOT for review with the Preliminary and Final Design Submittals. The DB Contractor may submit TCPs separately for each phase of construction. The plans must be distributed and all review comments addressed to the satisfaction of DDOT prior to implementation. The DB Contractor shall consider the review times when planning for implementation of the TCP phases.

The Preliminary Design Submittal shall show lane configurations including typical cross sections, signing, and Work Zones. General notes to show the intent shall also be included; however, it is not required that stations and offsets be identified for all elements.

The Final Design Submittal shall include, at a minimum, all required details including station and offset for all elements, cross sections, temporary paving, pavement marking details, signing, traffic-control devices, temporary or modified traffic signals, and temporary lighting.

When all comments from the Final Design Submittal TCPs have been incorporated, the DB Contractor shall prepare Released for Construction TCPs.

22.5.4 Temporary Signal Plans

Temporary signal plans shall be designed in accordance with Section 17, Signals and ITS, of these Technical Provisions, and submitted to DDOT for review and comment prior to commencement of construction for temporary signals. Temporary signal plans shall be submitted as part of the TCPs packages for the phase in which they will be required.

22.5.5 Temporary Illumination Plans

See Section 16, Illumination, of these Technical Provisions for Temporary (construction) Illumination Plan requirements. Temporary Illumination Plans shall be submitted for review and comment a minimum of 45 days prior to initiation of plan activities. DB Contractor shall address all comments to DDOT's satisfaction prior to beginning temporary illumination work.

22.5.6 Other Submittal Requirements

The DB Contractor shall deliver to DDOT a list of all parties invited to take part in the TCP Committee, and the responses to all of the invitations. The DB Contractor shall take meeting minutes and distribute them to all Committee members.

A copy of the TCP diary shall be submitted to DDOT on a monthly basis. Upon completion of the Project, the TCP diaries shall be delivered to and become the property of DDOT.

TABLE 22-3
Maintenance of Traffic Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Traffic Management Plan	Review and Approve	Approval required prior to implementation of activity which impacts traffic	22.5.1
Traffic Incident Management Plan	Review and Approve	Approval required prior to implementation of activity which impacts traffic	22.5.2
Traffic Control Plans	Review and Approve	Approval required a minimum of 14 days prior to implementation of activity which impacts traffic	22.5.3
Temporary Signal Plans	Review and Approve	In accordance with the requirements of Section 17, Signal and ITS	22.5.4
Temporary Illumination Plans	Review and Comment	Comment resolution to the satisfaction of DDOT required a minimum of 45 days prior to planned implementation	22.5.5
Other Submittal Requirements	Submit	Monthly	22.5.6

SECTION 23

Bicycle and Pedestrian Facilities

23.1 General

The DB Contractor shall conduct all Work necessary to meet the requirements for permanent bicycle and pedestrian wayfinding facilities for the Project.

23.2 Performance Requirements

23.2.1 Bicyclist and Pedestrian Facilities

The DB Contractor shall, at a minimum, design and construct bicycle and pedestrian facilities, access, through connectivity and mode splits as depicted in Table 23-1 and shall consider any on-going or future infrastructure improvements in the Final Design.

Bicycle and Pedestrian Facilities shall be ADA compliant.

TABLE 23-1
Bicycle and Pedestrian Facilities Connectivity and Mode Splits

Roadway/ location	From	To	Direction/ location/ side	Pedestrian and bicycle facility type	Width	Connectivity point(s)
South Capitol Street	Project Limits	West Oval	Both	Shared Use Path	12 ft.	Nationals Stadium and Potomac Ave.
West Oval			Outside Oval	Split-Use Path	10 ft. Two-Way Cycle Track, 8 ft. Pedestrian Path	
West Oval			Inside Oval	Shared Use Path	12 ft.	Provide direct connectivity between pedestrian access points into the oval to eliminate desire lines.
West Oval	West Oval	Waterfront	Southside of Oval	Shared Use Path	12 ft.	Future Riverwalk Trail Extension to Buzzard Point and Anacostia Riverwalk Trail and the Yards Connection
Waterfront	Project Limits	Project Limits	Waterfront	Shared Use Path	12 ft.	Future Riverwalk Trail Extension
Potomac Ave.	West Oval	Project Limits	West bound side	Shared Use Path	12 ft.	South Capitol Street and Nationals Stadium
Potomac Ave.	West Oval	Proposed Soccer Stadium	To be developed in coordination with adjacent project			Proposed Soccer Stadium and Buzzard Point Trail
R Street	West Oval	Proposed Soccer Stadium	To be developed in coordination with adjacent project			Proposed Soccer Stadium and Buzzard Point Trail

TABLE 23-1
Bicycle and Pedestrian Facilities Connectivity and Mode Splits

Roadway/ location	From	To	Direction/ location/ side	Pedestrian and bicycle facility type	Width	Connectivity point(s)
Frederick Douglass Memorial Bridge (FDMB)			Each Side	Split-Use Path	10 ft. Two-Way Cycle Track, 8 ft. Pedestrian Path	
East Oval	FDMB	Anacostia Dr.	Outside Oval	Split-Use Path	10 ft. Two-Way Cycle Track, 8 ft. Pedestrian Path	
East Oval	FDMB	South Capitol Street, SE	Outside Oval	Split-Use Path	10 ft. Two-Way Cycle Track, 8 ft. Pedestrian Path	
East Oval	Anacostia Dr.	Suitland Parkway	Outside Oval	Shared Use Path	12 ft.	
East Oval			Inside Oval	Shared Use Path	12 ft.	Provide direct connectivity between pedestrian access points into the oval to eliminate desire lines.
East Oval	East Oval	Waterfront	West side of Oval	Shared Use Path	12 ft.	Anacostia Riverwalk Trail
Anacostia Drive	East Oval	Anacostia Riverwalk Trail	Both Sides	Shared Use Path	8 ft.	Anacostia Riverwalk Trail
S. Capitol St.	East Oval	Firth Sterling Ave	South Bound Side	Shared Use Path	12 ft.	Future South Capitol Street Trail Connection
Suitland Pkwy	East Oval	Firth Sterling Ave	Both Sides	Shared Use Path	12 ft.	Howard Road
Firth Sterling Ave.	Suitland Parkway	Howard Rd.	West Bound Side	Shared Use Path	12 ft.	Howard Road

23.2.2 Bicyclist and Pedestrian Crossing at Ramp B

An at-grade bicycle and pedestrian crossing at Ramp B is not acceptable.

23.2.3 Wayfinding

The specific location and placement of the wayfinding signage shall be identified by the DB Contractor and shall consider any on-going or future infrastructure improvements.

23.3 Design Requirements

23.3.1 Bicyclist and Pedestrian Tunnel Requirements

1. The minimum width of any bike/pedestrian tunnel shall be 16 feet too include a 2-foot buffer on both sides and two 6-foot one-way lanes. The centerline shall be marked along the approach and through the tunnel. The minimum height of the tunnel shall be 10 feet.

2. The two-way tunnel shall be designed utilizing appropriate design speeds and minimum standards for turning radius and stopping sight distance as identified in the Mandatory Standards.
3. The maximum grade of trail through the tunnel shall not be steeper than 5 percent.
4. Lighting shall be provided throughout the tunnel.

23.3.2 Wayfinding

1. Wayfinding signs shall be provided at the intersection of bike/pedestrian trails and roadways and at the project limits.
2. Mile markers shall be provided for those portions of the South Capitol Street Trail and Suitland Parkway trail within the project limits. Mile markers will be coordinated with the DDOT bike/pedestrian team.
3. Proposed bicycle wayfinding sign panels shall be located so they are visible by a bicyclist in their expected location a minimum of 80 feet in advance.
4. Proposed signs at new locations shall be installed so they do not block the visibility of any existing signs or signals.

23.4 Construction Requirements

23.4.1 Wayfinding

1. Proposed signs shall be installed so that no portion of the sign panel overhangs adjacent roadway pavement, i.e. shall not hang in front of a face of curb.
2. Proposed signs and posts shall be clear of existing fire hydrants, surface utility, and overhead utility equipment by a minimum of 10 feet.

23.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 23-2
Bicycle and Pedestrian Facilities Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Bicycle and Pedestrian Facilities Plan Packages	Review and Comment	21 Calendar Days	23.5.1
Wayfinding Sign and Mile Marker Plan	Review and Comment	21 Calendar Days	23.5.2
Shop Drawings	Review and Comment	21 Calendar Days	23.5.3

23.5.1 Bicyclist and Pedestrian Facilities

The DB Contractor shall develop a design-criteria summary including all the necessary elements utilized to develop the bicycle and pedestrian facilities plan and submit to DDOT for Review and Comment. All comments shall be addressed to the satisfaction of DDOT prior to issuance of Released for Construction Plans.

23.5.2 Wayfinding

The DB Contractor will submit a wayfinding and mile marker plan for review and comment before ordering materials. All comments shall be addressed to the satisfaction of DDOT prior to issuance of Released for Construction Plans.

23.5.3 Shop Drawings

The DB Contractor shall submit shop drawings of each proposed sign to the DDOT for review and comment prior to fabrication and installation. All comments shall be addressed to the satisfaction of DDOT prior to issuance of Released for Construction Plans.

SECTION 24

Right-of-Way (ROW)

24.1 General

24.1.1 Available Right-of-Way

DDOT will acquire all Right-of-Way (ROW), Fee Simple Interests, Permanent and anticipated Temporary Construction Easements for the Work. Access to the Parcels listed in Table 24-1 will be available at a date to be determined (TBD).

TABLE 24-1
Parcels and Acquisition Dates

Parcel Number	Parcel Location	Acquisition Date
SCS-037	1509 – 1515 South Capitol Street, SW	TBD
SCS-041	1625 South Capitol Street, SW	TBD
SCS-042	1601 South Capitol Street, SW	TBD
SCS-072	25 Potomac Avenue, SE	TBD
SCS-074	1620 South Capitol Street, SE	TBD
SCS-075	1721 South Capitol Street, SW	TBD
SCS-078	1381 First Street, SE	TBD
SCS-080	United States of America, Square 5860, Lot 937	TBD
SCS-081	Howard Road, SE, Square 5861, Lot 0085	TBD
SCS-082	715 – 729 Howard Road, SE	TBD
SCS-083	731 – 745 Howard Road, SE	TBD
SCS-084	701 Howard Road, SE	TBD
SCS-085	821 Howard Road, SE	TBD
SCS-086	Firth Sterling Avenue, SE, Parcel 234/39 (District of Columbia)	TBD

If the ROW is not available upon Notice to Proceed2 (NTP2), DDOT will consider an extension of time in accordance with the Contract Documents if DB Contractor can demonstrate delay.

Roadway improvements at the I-295 bridge over the Shepherds Branch right of way shall be within the limits of the existing dedication of land for highway purposes.

DDOT has prepared mapping, monumentation, and survey control for the Project as described in Section 5, Surveys and Mapping, of these Technical Provisions. Prior to entering or using any areas located outside of the existing ROW, the DB Contractor shall verify and confirm the location and accuracy of the ROW boundaries in accordance with their proposed limits of construction.

24.1.2 Property Management

Prior to NTP2, DDOT shall properly secure and post each parcel in accordance with the DDOT ROW Manual. Except for buildings, each parcel shall be cleared of all personal property in accordance with Right-of-Way release schedule, referenced herein. The DB Contractor shall be responsible for the maintenance of improvements and for providing reasonable safety and security measures relative to the preservation of the ROW parcels acquired for the Project.

The DB Contractor shall assume responsibility for all ROW parcels beginning on the issuance of NTP2 and ending upon DDOT Final Acceptance of the Project. The DB Contractor shall establish a Property Management Plan and shall submit the Plan to DDOT for review and comment within thirty (30) Calendar Days after NTP1. The Plan shall assure that all acquired ROW buildings are posted, secure and maintained in a manner that will prevent, minimize, or correct problems such as vandalism, trespassing, rodent infestation, and illegal dumping or disposal of rubble and debris within the ROW.

Submission of the Property Management Plan for review is a condition for issuance of NTP2.

24.1.3 Acquisition Subject to Existing Easements

Several property parcels were acquired subject to existing public Utility easements. The DB Contractor shall protect the Utilities so their function is not impaired during construction. This requirement shall remain until the Utility is relocated and becomes serviceable, if applicable. If the Utility will not be relocated, then it shall remain serviceable after construction.

24.1.4 Public Right of Way

Access to Public Right of Way will be available following NTP1, subject to the conditions contained in Volume II, Book I, Section 6.2 and any existing easements or agreements.

The existing Right of Way for South Capitol Street, SE south of the proposed West Oval is available to the DB Contractor for temporary or permanent Project uses, except that access to businesses must maintained at all times.

24.2 Performance Requirements

The DB Contractor may acquire temporary rights or interests in real property in the DB Contractor's discretion that are deemed necessary or advisable to lease for the purpose of area to facilitate construction staging (e.g. lay-down areas and material storage areas). DDOT will not be obligated to exercise its power of eminent domain; will not come into title to the property; and will not take any responsibility for the acquisition, utilize its rights of condemnation/eminent domain, liabilities, maintenance, or disposition of staging or any temporary rights of interest therein.

The DB Contractor must submit to DDOT a signed and notarized copy of any lease or rental agreement or other property right described herein that the DB Contractor has temporarily leased for the Project staging areas. Once the lease for a staging area is terminated, the DB Contractor shall procure a letter from the landowner and/or legal lessor which states that the parcel was properly restored and vacated by the DB Contractor. The letter shall be delivered to DDOT.

24.2.1 Requirements Prior to Initiation of Construction Activities

1. Parcel 084 - 701 Howard Road, SE – Howard Academy Public Charter School, Inc. – DB Contractor shall perform the following activities prior to the initiation of any construction activities in the vicinity of this property;
    a. Relocate the existing chain-link perimeter fence from its current location to the edge of the permanent retaining wall easement. Any sections of fencing damaged by the DB Contractor's relocation shall be replaced in kind.
    b. Install a lockable three foot wide chain-link pedestrian gate within the relocated section of fencing. Provide a lock on the gate to remain in place for duration of Project.
    c. Relocate existing metal 8' x 10' metal shed from its current location off of the permanent retaining wall easement to a location mutually agreed upon with the school. DB Contractor shall install a four inch thick concrete slab large enough to accommodate the metal shed at the mutually agreed upon relocation spot and anchor the metal shed to the slab. If shed becomes damaged, DB Contractor shall replace it in kind.

2. Parcel 085 – 821 Howard Road, SE – outpatient healthcare facility – DB Contractor shall perform the following activities prior to the initiation of any construction activities in the vicinity of this property;
   a. Maintain a minimum of fifteen (15) parking spaces in the existing parking lot at all times, of which at least four (4) shall be ADA accessible.
   b. Provide a minimum of an additional thirty-five (35) offsite parking spaces dedicated to the facility within one-half mile of the facility during construction impacts to the existing parking lot.
   c. Maintain at least one (1) driveway at all times, of sufficient width to allow for un-impeded, two-way vehicular traffic.
   d. If required by construction, relocate existing shed to a location mutually agreed upon with the facility. Following construction, relocate existing shed to its original location. If shed becomes damaged, DB Contractor shall replace it in kind.
   e. Following completion of construction, restore parking lot surface and provide a minimum of fifty (50) striped parking spaces as approved by DDOT.

24.3 Design Requirements

24.3.1 Right of Entry (Not for Purposes of Construction Activities)

DDOT has not obtained permission for right of entry from property owners.

If the DB Contractor determines that there is a need to enter property not owned by DDOT, it shall be the DB Contractor's responsibility to obtain Right of Entry to enter that property from the legal property owner for purposes of preliminary engineering activities only.

The DB Contractor shall submit a letter to the property owner that includes the following:

1. Request for permission to enter the owner's property;
2. Provide Right of Entry document with Hold Harmless language protecting the landowner and tenant, if applicable;
3. An explanation of the type of Work that will take place and the type of equipment that will be used;
4. A statement that any damage to the property will be repaired to the property owner's satisfaction at the DB Contractor's expense;
5. Date, time, and duration the DB Contractor will be on the property;
6. A statement that the permission for right of entry is between the DB Contractor and the property owner and that DDOT is not liable in any way; and
7. A signature and date block for the property owner's signature.

24.3.2 Temporary Construction Easements

Temporary Construction Easements for use during construction have been provided by DDOT for the areas shown in the ROW Plans. The DB Contractor shall provide 90 days notice before the date upon which access to the Temporary Construction Easements is required, following which the Temporary Construction Easements will be available for a period of 36 months. Copies of the easement documents or declaration of taking will be provided.

Any damage caused by the DB Contractor to the property outside of the effective dates of the Temporary Construction Easements shall be repaired by the DB Contractor, at the DB Contractor's expense.

If the DB Contractor requires a time extension of any Temporary Construction Easement, the DB Contractor shall submit a request to DDOT to obtain a time extension. All costs associated with obtaining any time extension and compensation thereof shall be paid by the DB Contractor.

24.3.3 Right of Way Drawings

DDOT has provided Right of Way Drawings (Plans) in Volume II, Book III that show the Fee Simple Interests, Permanent and anticipated Temporary Construction Easements for the Work for each Parcel listed in Table 24-1.

The ROW Drawings show a Proposed Right of Way Line for each Parcel that is based upon the geometry of the Conceptual Design Plans. DB Contractor shall submit final ROW Plans in accordance with Section 2.11 of the DDOT Right of Way Policies and Procedures Manual.

Parcel Residue Areas are available for temporary Project use and are to be landscaped prior to Substantial Completion in accordance with Section 15, Visual Quality Requirements, of these Technical Provisions, except as otherwise noted.

The existing Frederick Douglass Memorial Bridge is located within a perpetual Right of Way for the construction and maintenance of said bridge as described in the Quit Claim Deed dated October 1, 1945. This perpetual Right of Way is available for temporary and Permanent Project use, subject to the continued use of the existing Frederick Douglass Memorial Bridge prior to its demolition in accordance with Section 3, Demolition, of these Technical Provisions. The Residue Area is to be landscaped prior to Substantial Completion in accordance with Section 15, Visual Quality Requirements, of these Technical Provisions.

24.4 Construction Requirements

24.4.1 Hazardous Material Abatement

Prior to the commencement of any demolition, the DB Contractor shall have met the requirements of Section 8, Environmental, of these Technical Provisions and the Approved Hazardous Materials Management Plan. If it is determined that properties slated for demolition do contain hazardous materials, the DB Contractor shall submit a Hazardous Material Abatement Plan to DDOT for review and Comment. All comments shall be resolved to the satisfaction of DDOT a minimum of 30 Days prior to the planned commencement of demolition activities. At a minimum, the Plan shall address the following:

1. The name and location of the disposal site of the hazardous material; and
2. How the hazardous material will be abated to prevent release into the atmosphere, onto the earth, and into underground and surface water.

24.4.2 Demolition

The DB Contractor's proposal shall include demolition and legal disposal of all buildings, structures, and other improvements located in the ROW and easement areas. Additionally, the Contract Price shall include costs for demolishing and legally disposing of all other existing buildings, structures, and other improvements located within the existing or newly acquired right-of-way, permanent and temporary easements, and areas of acquired properties where improvements may be outside of the right-of-way/easement limits, but which are part of the overall property acquisition. The Contract Price shall also include the inspection, sampling, and testing of any lead-based paint, asbestos, or other hazardous materials, in accordance with applicable District of Columbia regulations and the DDOT ROW Manual. The DB Contractor shall provide DDOT with a Hazardous Materials Abatement Plan for review and comment. In the event that the District of Columbia Department of the Environment or DDOT specifications require additional investigations, the DB Contractor shall be responsible for all related costs. All Utilities installed on or connected to buildings, structures, or other improvements in the ROW shall be abandoned or removed in accordance with the requirements of the applicable Utility Owner as part of the demolition, unless otherwise specified.

24.4.3 Notification

The DB Contractor shall notify DDOT as Work is completed on the individual parcels. DB Contractor will notify the DDOT ROW Unit Manager of the completion of Work for parcel clearing purposes. The DB Contractor's notification shall include, but is not limited to, the following:

When Utilities are relocated:

1. When individual sewer service lines are connected and become operational;
2. When individual stormwater service lines are connected and become operational;
3. The date Work in a Temporary Construction Easement area commences; and
4. The date Work in a Temporary Construction Easement area is completed.

24.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 24-2
Right of Way Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Property Management Plan	Review and Comment	Within 30 Days of issuance of NTP1 and as a condition for issuance of NTP 2	24.1.2
Right of Entry	Submit	Once fully executed	24.3.1
Temporary Construction Easements	Review and Comment	As need is determined by DB Contractor	24.3.2
Final ROW Drawings	Approval	In accordance with Section 2.11 of the DDOT Right of Way Policies and Procedures Manual	24.3.3
Hazardous Materials Abatement Plan	Review and Comment	Comment resolution to the satisfaction of DDOT required a minimum of 30 Days prior to commencement of demolition activities	24.4.1

SECTION 25

Control of Materials

25.1 General

The Design-Build (DB) Contractor shall be responsible for the quality of Materials, methods of construction, and Quality Control (QC) and Quality Assurance (QA) Inspection and Testing of Work and Materials incorporated into the Project and shall comply with Federal Highway Administration (FHWA) and District Department of Transportation (DDOT) requirements for Approval of Materials, sampling, and Testing used in the Project. The DB Contractor's QC and QA procedures shall ensure that operational techniques and activities comply with the Contract and that all Materials used in the Work are of acceptable quality and are documented accordingly.

Refer to Section 28, Quality Management Plan, of these Technical Provisions for additional information regarding the Quality Management Plan (QMP).

25.1.1 Buy America

The provisions established by Moving Ahead for Progress in the 21st Century Act (MAP-21) and Fixing America's Surface Transportation Act (FAST Act) shall be applicable to this Project.

25.1.2 Materials Approval

Proprietary Items – Proprietary Items are those items that the Designer of Record has identified on the plans and specifications as a single source by manufacturer's make and model number. These items are considered approved if they are shown on the plans and specifications stamped by the Designer of Record and Quality Documentation, as required, are provided.

DDOT Oversight – The DB Contractor shall distribute copies of all documents which list Materials which have been approved to DDOT for review within three Calendar Days of receipt of Approval. DDOT will use these documents to verify the Materials being used. DDOT retains the right to review and Test any and all Materials on this Project.

25.2 Performance Requirements

25.2.1 Handling and Storing Materials

The DB Contractor shall protect Materials against damage from careless handling, storage, exposure to weather, mixture with foreign matter, and all other causes. The Construction QC Manager shall ensure that all Materials incorporated into the Project have been properly maintained. The Construction QA Manager shall reject Materials found to have been improperly handled or stored.

25.2.2 Quality Assurance Personnel

DB Contractor shall provide an independent Quality Assurance Manager (QAM) and Quality Assurance staff who shall be from an independent firm which has no involvement in construction operations for the Project and shall be responsible for the QA Inspection and Testing required of all Materials used and Work performed on the Project, to include monitoring of the contractor's Quality Control (QC) program. The QAM will ensure that all Work and Materials, Testing and sampling are performed in conformance with the Contract, specifications, and the Released for Construction plans. The QAM shall verify that all design-related Work Packages submitted for payment have been certified by the Design Manager as being in conformance with the Contract Documents and the Design QA/QC Plan.

25.3 Design Requirements

Intentionally left blank.

25.4 Construction Requirements

The DB Contractor shall add the following to *Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Partnerships for Transportation Act Project January, 2012*:

The DB Contractor's QAM will perform Independent Assurance Testing and Verification sampling and Testing at a frequency as specified in this Section. For items not found in this Section or in the DDOT Standard Specifications for Highways and Structures, the QAM will perform Testing and sampling at a rate of a minimum of 10 percent of the Quality Control Testing/sampling frequency.

DDOT will perform random Owner's Independent Assurance (OIA) and Owner's Verification Sampling and Testing (OVST) at DDOT's discretion.

All specifications, sampling and Testing requirements should be referenced to DDOT, and meet AASHTO/American Society for Testing and Materials (ASTM) requirements.

25.4.1 Materials Testing Frequencies and Random Sampling

The DB Contractor shall perform field and laboratory sampling and Testing as specified in the DDOT Standard Specifications for Highways and Structures and this Section to control these processes. Sampling and Testing shall be performed by qualified testing personnel described in this Section. Representative samples shall be randomly obtained by the DB Contractor at specified frequencies in accordance with this Section. The DB Contractor shall furnish copies of all Test results to DDOT within 24 hours of completion of the Test or the next Business Day. For concrete cylinders, the Test results shall be furnished within 24 hours after cylinder break.

DDOT or its agent will perform independent materials OIA sampling and Testing to validate the DB Contractor's sampling and Testing Independent Assurance (IA) program at DDOT's discretion.

The DB Contractor may elect to take additional samples at their discretion.

25.4.2 Testing Plan

All Quality Assurance and Verification sampling and Testing shall be randomly obtained, at the location and frequency stated in the Contract. The DB Contractor shall provide a Testing Plan for each Material to DDOT. The Testing Plan shall identify the frequency, location for Testing, Test procedures, attributes to Test, Material acceptance requirements, sampling plan developed using the DDOT Test method of random sampling or other random number generator, and the estimated Project quantity. The Testing Plan shall be submitted prior to the beginning of production or placement of the Material. The QMP shall include a method for notifying the QA organization of the quantity of Material produced, placed, or delivered to the Project, so that the Testing effort can be current.

25.4.3 Materials Test Results Analysis

The DB Contractor's IA sampling and Testing results may be used for acceptance at the sole discretion of DDOT.

The Construction QAM shall be responsible for performing the evaluation. Any Test data that are found to be outside the normal distribution shall be reviewed by the QA Team and a determination shall be made as to why the Test data are outside the normal distribution.

The QA Team shall identify the cause of discrepancies in the Test results and generate a report defining the problems, the cause of the problems, and the solutions to prevent a recurrence. At a minimum, the review shall include the following actions:

1. A check of Test data, calculations, and results.
2. An observation of the sampling and Testing by the QA Inspector.
3. A check of Test Equipment by the QA Inspector.

If the QA Team fails to identify the cause of discrepancies in the Test results, then DDOT's OIA Test results will be used for acceptance.

25.4.4 Materials Documentation Review

The DB Contractor shall schedule regular documentation reviews to ensure that all Materials documentation and certifications are complete prior to the Material being installed on the Project.

DDOT will perform periodic formal Materials documentation reviews at approximately 25, 50, and 75 percent completion of construction. Items to be reviewed will be randomly selected by DDOT. The reviews are intended to ensure the DB Contractor is maintaining all necessary Materials documentation and records.

In addition to the formal reviews, DDOT onsite personnel will perform periodic Materials documentation checks. Examples of the checks include Materials Approval, Materials acceptance, and field Verification that the Approved Material was placed.

25.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated within Section 1, General Information, of these Technical Provisions.

TABLE 25-1
Control of Materials Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Owner's Manuals, Operating Instructions, and Product Data	Submit	Within 14 Calendar Days of installation	25.5.1
Inspection and Testing Reports	Submit	Next Business Day or within 24 hours of when test results are known	25.5.1
Materials Certification Package	Submit	As a component of Final Acceptance deliverables	25.5.2

25.5.1 Owner's Manuals, Operating Instructions, and Product Data

For Equipment and Materials that are permanently incorporated in the Work, the DB Contractor shall provide DDOT all owner manuals and operating instructions furnished by the Equipment or Material manufacturer. The DB Contractor shall also submit two hard copies and one electronic copy of all manufacturer's warranties, guarantees, instruction sheets, parts lists, and other product data to DDOT for acceptance within 14 Calendar Days of installation of the items to which they relate. DDOT will advise the DB Contractor of the status of this product data within 21 Calendar Days of receipt. Refer to additional warranty requirements in Volume II, Book I, Design-Build Agreement, Section 23, Warranties.

The DB Contractor shall submit two hard copies and one electronic copy of all Inspection reports to DDOT daily and copies of Testing reports the next Business Day or within 24 hours of when Test results are known. The DB Contractor shall ensure that the product data cited in this Section is organized and indexed in a manner to allow easy retrieval of information.

25.5.2 Materials Certification Package

The DB Contractor shall submit a final Materials Certification Package to DDOT as a component of Final Acceptance. The Materials Certification shall be signed by the DB Contractor's QAM and the DB Contractor's Project Manager. The Materials Certification Package shall include all required supporting documentation. This documentation shall consist of all documentation practices used for Material acceptance and an explanation and remedy of any deficiencies noted in the checklist.

25.6 DB Contractor's Minimum Testing Requirements for Control of Materials

Unless otherwise noted, the DB Contractor Quality Assurance Manager (QAM) IA/VST Testing frequency is relative to QC frequency. QC will be performed in accordance with the requirements of Contract Documents. If any conflicts in requirements exist between the Technical Provisions or other Contract Documents, the more stringent requirements shall apply.

25.6.1 Definitions:

QC - Quality Control

IA - Independent Assurance

VST - Verification Sampling and Testing

TABLE 25-2
Minimum Testing Requirements

No.	Material Type	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
1.	**BACKFILL**	Standard Specifications for Highways and Structures			
1.	**Moisture Density Relations – Standard Proctor, Atterberg Limits, Grain Size Analysis & CBR** (All Backfill Types and Borrow Sources)	Standard Specifications for Highways and Structures	One (1) test weekly during production and with change in material. Change in material would be a change in the visual USCS soil classification (e.g. CL to CH). The Contractor shall provide borrow source test results as per DDOT Standard Specifications for Highways and Structures.	One (1) test every five (5) weeks for each QC personnel during production (20% of QC frequency). (Because IA is used to monitor equipment and personnel, there shall be one (1) test for each different QC personnel performing tests.). Samples are split from QC.	One (1) test every five (5) weeks during production (20% of QC frequency). Samples are random and independent from QC samples. Results compared against Specification.
1.	**In-Place Density Tests – Box Culverts and Pipes, Drop Inlets, Manholes, Abutments. Retaining Walls (including MSE Walls)**	Standard Specifications for Highways and Structures	One (1) per 100LF length, each lift, alternating sides (alternating side applies to box culverts and pipes only); minimum one (1) test per 150CY; minimum one (1) test per work shift at each location and whenever there is a change in material or compaction equipment/method. For drop inlets, minimum one (1) test every other lift around perimeter after first 4” (100 mm) bedding layer. For manholes, minimum one (1) test every fourth layer around perimeter, after first 4” (100 mm) bedding layer, to within 5 feet (1.5 m), then minimum one (1) test every other lift.	One (1) test per 1500CY for each QC personnel, minimally one (1) test every ten (10) days of any backfill work (10% of QC frequency). (Because IA is used to monitor equipment and personnel, there shall be one (1) test for each different QC personnel performing tests.). Sample locations are split of QC sample locations. Minimum one (1) test per drop inlet. Minimum one (1) test per manhole.	One (1) test per 1500CY, minimally one (1) test every ten (10) days of any backfill work (10% of QC frequency). Sample locations are random and independent from QC sample locations. Results compared against Specification. Minimum one (1) test per drop inlet. Minimum one (1) test per manhole.

TABLE 25-2
Minimum Testing Requirements

No.	Material Type	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
2.	**PORTLAND CEMENT CONCRETE (PCC)**	Standard Specifications for Highways and Structures			
	PCC Entrained **1. Air Content** **a) Pressure Meter b) Volumetric Meter** **2. PCC Slump** **3. PCC Unit Weight** **4. PCC Temperature**	Standard Specifications for Highways and Structures	Test every load	One (1) test per 100 yds^3 performed on the Subcontractor's QC; minimum one test per project.	One (1) test per 500 yds^3; minimum one test per project.
	PCC Compressive Strength	Standard Specifications for Highways and Structures	One (1) set of three (3) cylinders per every 100 yds^3; minimum one (1) set of three (3) cylinders per day.	One (1) set of three (3) cylinders per every 1,000 yds^3 performed on the Subcontractor's QC: minimum one (1) set of three (3) cylinders per project.	One (1) set of three (3) cylinders per every 5,000 yds^3: minimum one (1) set of three (3) cylinders per project.
2.	**PCC Chloride Permeability**	Standard Specifications for Highways and Structures	One (1) set of four (4) cylinders per every 100 yds^3; minimum one (1) set of four (4) cylinders per day.	One (1) set of four (4) cylinders per every 1,000 yds^3 performed on the Subcontractor's QC; minimum one (1) set of four (4) cylinders per project.	One (1) set of four (4) cylinders per every 5,000 yds^3; minimum one (1) set of four (4) cylinders per project.
	Concrete Reinforcing Steel	Standard Specifications for Highways and Structures	Verify manufacturer's certificates for every shipment for acceptability prior to placement.	Verify 10% of the mill certs of the Contractor's QC.	One (1) sample per manufacturer per most common size per project. Test for tensile, yield, elongation and weight per unit length.

TABLE 25-2
Minimum Testing Requirements

No.	Material Type	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
2.	**Concrete Reinforcing Steel (Corrosion Resistant Bar)** **1 - Stainless** **2 - Stainless Steel Clad** **3 - Low Carbon/ Chromium**	ASTM A 955, ASTM A 1035, and AASHTO MP 13004	Verify manufacturer's certificates for every shipment for acceptability prior to placement.	Verify 10% of the mill certs of the Contractor's QC.	One (1) sample per manufacturer per alloy type per most common size per structure. In addition to testing tensile, yield, elongation, and weight per unit length, verify the alloy using X-ray Fluorescence (XRF) Spectroscopy.
3.	**SOILS / SUBGRADE / EMBANKMENT** **(This is not redundant with Backfill requirements.)**	Standard Specifications for Highways and Structures			
3.	**Moisture Density** **Relations Of Soils** **– Standard Proctor, Atterberg Limits, Grain Size Analysis & CBR** **(Soils/Subgrade/ Embankment – this is not redundant with backfill requirements.)**	Standard Specifications for Highways and Structures	Prior to use as a source, any change in material, and/or change in source. Change in material would be a change in the visual USCS soil classification (e.g. CL to CH). The Contractor shall provide borrow source test results as per Standard Specifications for Highways and Structures.	Once every five (5) weeks during production for each QC personnel (20% of QC frequency). (Because IA is used to monitor equipment and personnel, there shall be one (1) test for each different QC personnel performing tests.) Samples are split from QC	Once every five (5) weeks during production. Samples are random and independent from QC samples. Results compared against specification.
3.	**In-Place Density** **(Soils/Subgrade/ Embankment)**	Standard Specifications for Highways and Structures	One (1) per 500LF interval each lift; minimum one (1) test per 500CY; minimum one (1) test per lift, per work shift at each location and whenever there is a change in material or compaction equipment/method.	(10% of VST frequency) One (1) test per 50,000 CY for each QC personnel; minimally perform one (1) in first five (5) tests taken for VST (Because IA is used to monitor equipment and personnel, there shall be one (1) test for each different QC personnel performing tests.) Sample locations are split of QC sample locations.	One (1) test per 5,000CY (10% of QC frequency); minimally one (1) test every ten (10) days of production. Sample locations are random and independent from QC sample. Results compared against specification.

TABLE 25-2
Minimum Testing Requirements

No.	Material Type	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
4.	**TREATED SUBGRADE / SUBBASE, AGGREGATE BASE MATERIAL, AND CEMENT TREATED AGGREGATE BASE MATERIAL**	Standard Specifications for Highways and Structures			
4.	**Depth Checks**	Standard Specifications for Highways and Structures	One (1) test per every half mile per lane width. [Two (2) per mile per paver (mixer) width from 0 to 1 miles; Three (3) from 1 mile to 1 ½ miles; Four (4) from 1 ½ miles to 2 miles; project divided into lots, each lot stratified and locations determined randomly.]	One (1) test for every five (5) miles per lane width (10% of QC frequency); at least one (1) test per roadway in first five (5) QC tests. Sample locations are random and independent from QC sample. Results compared against specification. (Because IA is used to monitor equipment and personnel, there shall be one (1) test for each different QC personnel performing tests.) Sample locations are split of QC sample locations.	10% of frequency, at least one (1) test for every fifty (50) miles per lane width for each QC personnel; minimally perform one (1) test per roadway in first five (5) tests taken for VST.
4.	**In-Place Density**	Standard Specifications for Highways and Structures	One (1) test per ½ mile per lane width; average of five (5) nuclear gauge readings comprises one (1) nuclear density test.	Minimally perform one (1) per roadway in first five (5) tests taken for VST. After first three (3) tests performed, test frequency will be 2% of QC frequency, with one (1) test for each QC personnel. (Because IA is used to monitor equipment and personnel, there shall be one (1) test for each different QC personnel performing tests.)Sample locations are split of QC sample locations.	One (1) test for every five (5) miles per lane (10% of QC frequency), minimum of one (1) test per roadway. Sample locations are random and independent from QC sample. Results compared against specification.

TABLE 25-2
Minimum Testing Requirements

No.	Material Type	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
5.	**ASPHALT CONCRETE PLACEMENT**	Standard Specifications for Highways and Structures			
	Pavement Density by Nuclear Method with In-Place Pavement Density by Cores (Asphalt Pavement)	Standard Specifications for Highways and Structures	Establish roller pattern, control strips and test sections. Ten (10) stratified random density test sites per test section (5,000 ft.).	Obtain and reweigh one (1) core per ten (10) controls strips. Observe one (1) control strip per ten (10) control strips established by the QC technician. Minimum of one (1) control strip core and establishment per project.	Two (2) stratified random cores per 25,000 ft. of paver width. Both cores obtained from the same test section. Minimum two (2) cores per project.
	Pavement Density by Core/Plug Method with In- Place Pavement Density (Asphalt Pavement)	Standard Specifications for Highways and Structures	Establish roller pattern, control strips and test sections. Five (5) stratified random density test sites per test section (5,000 ft.).	Obtain and reweigh one (1) core per ten (10) controls strips. Observe one (1) control strip per ten (10) control strips established by the QC technician. Minimum of one (1) control strip core and establishment per project.	Two (2) stratified random cores per 25,000 ft. of paver width. Both cores obtained from the same test section. Minimum two (2) cores per project.
5.	**In-Place Pavement Density – Distances too short for Control Strip Establishment (Asphalt Pavement)**	Standard Specifications for Highways and Structures	Minimum of one (1) core per location not long enough to establish roller patter/control strip.	Obtain and reweigh one (1) core per ten (10) locations. Observe one (1) density determination per ten (10) locations established by the QC technician.	Obtain one (1) random core per ten (10) QC locations.
	Depth Checks by Cores (Asphalt Pavement)	Standard Specifications for Highways and Structures	Obtain cores at the following frequency per 24-foot pavement width - from 0 to ½ miles, two (2) cores; from ½ to ¾ miles, three (3) cores; from ¾ to 1 mile, four (4) cores.	Select one (1) QC core per five (5) lots and remeasure thickness. A minimum of one (1) core per project.	Obtain one (1) core per two (2) miles per 24 ft. width.

TABLE 25-2
Minimum Testing Requirements

No.	Material Type	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
6.	**STONE MATRIX ASPHALT PLACEMENT**	Standard Specifications for Highways and Structures			
	In-Place Pavement Density	Standard Specifications for Highways and Structures	Establish trial section and test sections. Three (3) stratified random cores/plugs per test strip. Five (5) stratified random density tests per test section (5,000 ft.).	Obtain and reweigh one (1) core per ten (10) trial sections. Observe one (1) trial section per ten (10) trials sections established by the QC technician. Minimum of one (1) trial section core and establishment per project.	Two (2) stratified random cores per 25,000 ft. of paver width. Both cores obtained from the same test section. Minimum two (2) cores per project.
7.	**HYDRAULIC CEMENT CONCRETE (PCC) - PAVEMENT**	Standard Specifications for Highways and Structures			
	PCC Entrained 1. Air Content a) Pressure Meter b) Volumetric Meter **2. PCC Slump** **3. PPCC Unit Weight** **4. PCC Temperature**	Standard Specifications for Highways and Structures	First three (3) loads and if passing results obtained then one (1) test per hour.	One (1) test per ten (10) hours; minimum one (1) test per day.	One (1) test per day.
	Compressive Strength of Concrete Cylinders **(PCC Pavement)**	Standard Specifications for Highways and Structures	One (1) set of three (3) cylinders for every 500 yds^3; minimum one (1) set of three (3) cylinders for each days concreting operation.	One (1) set of three (3) cylinders for every 5000 yds^3 performed on the Subcontractor's QC; minimum one (1) set of three (3) cylinders per project.	One (1) set of three (3) cylinders for every 10,000 yds^3; minimum one (1) set of three (3) cylinders per project.

TABLE 25-2
Minimum Testing Requirements

No.	Material Type	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
8.	**HYDRAULIC CEMENT CONCRETE (PCC) – Miscellaneous Items**	Standard Specifications for Highways and Structures			
	PCC Entrained **1. Air Content a) Pressure Meter b) Volumetric Meter** **2. PCC Slump** **3. PCC Unit Weight** **4. PCC Temperature**	Standard Specifications for Highways and Structures	One (1) test per load.	One (1) test per 250 yds^3 performed on the Subcontractor's QC; minimum one (1) test per project.	One (1) test per 1,250 yds^3; minimum one (1) test per project.
	Compressive Strength of Concrete Cylinders (Miscellaneous Items)	Standard Specifications for Highways and Structures	One (1) set of three (3) cylinders per ever 250 yds^3; minimum one (1) set of three (3) cylinders per day.	One (1) set of three (3) cylinders per every 2,500 yds^3 (cumulative) performed on Subcontractor's QC; minimum one (1) set of three (3) cylinders per project.	One (1) set of three (3) cylinders per every 12,500 yds^3 (cumulative); minimum one (1) set of three (3) cylinders per project.
9.	**PAVEMENT MARKINGS**	Standard Specifications for Highways and Structures			
	Marking and Bead Application Rate	Standard Specifications for Highways and Structures	With periodic checks every three (3) hours of operation.	Review start-up calibrations. Ensure One (1) plate sample is taken and tested for thickness, width, bead distribution and embedment. Retain sample for further testing if needed. Review all of the reports daily to verify calculated quantities match the application rates. Performed by QAM inspection staff.	Randomly select three (3) ten-foot areas at the beginning, middle and end of in-place sections of markings per day. Skip lines and edge lines are considered separately: 1) Inspect PM for correct placement, straightness, edges, thickness, bead distribution and embedment, day and night color and brightness. Inspect structure of tape to insure patterned waffles have not been damaged by roller.

TABLE 25-3
Contractor Product Installation, Practices and Procedures Compliance Monitoring and Verification

No.	Material Type/ Action	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
1.	**Clearing and Grubbing**	Standard Specifications for Highways and Structures			
	Ensure activities are confined to limits and seeded within 30 days of disturbance.	Standard Specifications for Highways and Structures	Daily	Weekly	Review documentation monthly.
2.	**Pre-cast Structures**	Standard Specifications for Highways and Structures			
	Verify bedding Material is installed properly and that pre-cast Materials are not chipped or cracked.	Standard Specifications for Highways and Structures	Daily	Once per structure or run of pipe.	Verify test (density) reports and documentation monthly.
3.	**Erosion and Siltation Control**	Standard Specifications for Highways and Structures			
	Monitor for correct installation and maintenance.	Standard Specifications for Highways and Structures	Daily	Weekly	Inspection after ¼" or greater rain event.
4.	**Geosynthetics**	Standard Specifications for Highways and Structures			
	Each type	Standard Specifications for Highways and Structures	One (1) set of required tests for each lot of each different type and manufacturer; visually inspect 100% of installed material.	10% of QC.	Review documentation monthly.
5.	**Undercut**	Standard Specifications for Highways and Structures			
	Review area to determine need for undercut.	Standard Specifications for Highways and Structures	Prior to start of work at each location.	Weekly during production.	All reports reviewed by QAM; QAM to verify qualified inspector and correct equipment.

TABLE 25-3
Contractor Product Installation, Practices and Procedures Compliance Monitoring and Verification

No.	Material Type/ Action	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
5.	**Measure undercut area.**	Standard Specifications for Highways and Structures	Prior to backfill at each location.	Weekly during production.	All calculations / reports checked / reviewed by QAM to verify qualified inspector and correct equipment.
6.	**Load Bearing Piles**	Standard Specifications for Highways and Structures			
	Monitor operation and document blow counts.	Standard Specifications for Highways and Structures	Continuously	Daily	Review documentation weekly.
	Perform Center of Gravity calculations.	Standard Specifications for Highways and Structures	For each foundation.	One (1) for every ten (1) Foundations (10% of QC frequency).	One (1) for every twenty (20) foundations.
7.	**Structural Steel**	Standard Specifications for Highways and Structures			
	Receive bolts, sample, verify the documentation is complete and perform laboratory Skidmore, tension and galvanized coating testing.	Standard Specifications for Highways and Structures	Each nut-bolt-washer (NBW) assembly lot shall be sampled at a minimum rate of two (2) assemblies per NBW lot. The documentation shall be collected from the bolt supplier and the galvanizer for each lot and supplied along with the samples to the QAM. QC personnel shall monitor the storage and conditions of the bolts to insure they remain in good well-lubricated condition.	The documentation shall be reviewed to insure all parts are present and that the required tests have been performed by the producers and that the markings match the suppliers. The results of the VST shall be reviewed to insure the material passed the tests.	Each NBW assembly lot shall be tested, one (1) bolt in direct tension, one (1) assembly for galvanized coating and one (1) nut and bolt for rotational capacity testing (Rot- Cap).

TABLE 25-3
Contractor Product Installation, Practices and Procedures Compliance Monitoring and Verification

No.	Material Type/ Action	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
7.	Verify daily Skidmore testing is performed IAW (in accordance with) proper procedures for each lot. Note: NBW assembly may be reused after Skidmore testing in a connection if no defects are noted in visual inspection and the nut runs freely up the bolt for the full thread length - Only new NBW assemblies may be tested each day.	Standard Specifications for Highways and Structures	Each day and each NBW lot (three (3) bolts per lot) used shall be Rot-Cap tested in the Skidmore device IAW proper procedures.	Minimum three (3) NBW assemblies for each lot being installed shall be observed by the IA inspector.	Three (3) NBW assemblies from each lot shall be Rot-Cap tested at the QAMs lab independently each week during erection
	Verify the installation crews are using proper installation procedures IAW specifications to tension the bolts.	Standard Specifications for Highways and Structures	Monitor each crew (2-3 workers) during erection to insure proper technique (TOTN – turn-of-the-nut or DTI – direct-tension-indicating washers) is followed.	Monitor each crew (2-3 workers) for a half dozen NBW assemblies once at the beginning of each four-hour work period.	No test
7.	Verify the bolted connections have been tensioned properly using a calibrated torque wrench.	Standard Specifications for Highways and Structures	For each connection, test 10% or a minimum of two (2) NBW assemblies verifying the required torque. Complete testing before the deck is formed.	Monitor all the torque testing for each main member connection (slip-critical connections) and at the beginning of each period where secondary members are being checked.	Test two (2) NBW assemblies in 25% of the slip-critical connections (minimum of two (2) connections per transverse line of splices) and two (2) NBW assemblies in 10% of the secondary member connections.

TABLE 25-3
Contractor Product Installation, Practices and Procedures Compliance Monitoring and Verification

No.	Material Type/ Action	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
8.	**Protective Coating of Metal** Structures	Standard Specifications for Highways and Structures			
	Monitor surface preparation and check coating thickness.	Standard Specifications for Highways and Structures	Take three (3) surface profile measurements per day of blasting. Five (5) Spot measurements (15 individual readings) per day.	(10% of QC frequency) Take two (2) surface profile measurements per week of blasting. One (1) Spot measurement (3 individual readings) per day.	One (1) surface profile measurement per month of blasting. One (1) Spot measurement (3 individual readings) per month.
9.	**Underdrains**	Standard Specifications for Highways and Structures			
	Inspect to ensure no deficiencies.	Standard Specifications for Highways and Structures	All accessible outlet locations; additionally a minimum of 10% of longitudinal sections.	Observe 10% of outlet locations; additionally a minimum of 1% of longitudinal sections.	One (1) every twenty-five (25) outlet locations. A minimum of one (1) per project independent from IA.
10.	**Storm Sewer and Culvert** Post-Installation Inspection	Standard Specifications for Highways and Structures			
	Various			Take place of DDOT Representative in VTM 123 who must be present for 100% of QC.	Review each post- installation report.
11.	**Guardrail**	Standard Specifications for Highways and Structures			
	Verify that guardrail is installed per specifications and at proper height.	Standard Specifications for Highways and Structures	Daily	Spot-check every fifty (50) linear feet for proper height.	Spot-check every five hundred (500) feet.
12.	**Fencing**	Standard Specifications for Highways and Structures			
	Verify fencing type, height and location.		Daily	Weekly	Review documentation monthly.

TABLE 25-3
Contractor Product Installation, Practices and Procedures Compliance Monitoring and Verification

No.	Material Type/ Action	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
13.	**ROW Monuments**	Standard Specifications for Highways and Structures			
	Verify monument type and location.	Standard Specifications for Highways and Structures	10% of ROW monuments.	1% of ROW monuments (10% of QC frequency).	Review paperwork monthly during installation.
14.	**Maintenance of Traffic**	Standard Specifications for Highways and Structures			
	Monitor installation and maintenance and use Work Zone Safety Checklist.	Standard Specifications for Highways and Structures	Daily	Weekly	Review documentation every two (2) weeks.
15.	**Sound Barrier Walls**	Standard Specifications for Highways and Structures			
	Verify location and installation with shop drawings.	Standard Specifications for Highways and Structures	Daily	Weekly	Review documentation every two (2) weeks.
16.	**Topsoil and Seeding**	Standard Specifications for Highways and Structures			
	Verify proper material is utilized at application rates from plans.	Standard Specifications for Highways and Structures	Daily	Weekly	Review documentation monthly.
17.	**Planting**	Standard Specifications for Highways and Structures			
	Verify that proper plants are installed at correct locations per plans.		Daily	Weekly	Review documentation monthly.
	Monitor that plants are cared for during establishment period.		Daily	Weekly	Review documentation monthly.
18.	**Traffic Signs**	Standard Specifications for Highways and Structures			

TABLE 25-3
Contractor Product Installation, Practices and Procedures Compliance Monitoring and Verification

No.	Material Type/ Action	Reference Document	DB Contractor		
			Contractor	Quality Assurance Manager	
			QC Frequency	IA Frequency*	VST Frequency
	Verify that signs meeting current standards are utilized in locations per plans.		Daily	Weekly	Review documentation monthly.
19.	**Traffic Signals**	Standard Specifications for Highways and Structures			
	Monitor installation for conformance with plans and specifications.		Daily	Weekly	Review documentation monthly.
20.	**Water and Sewer Facilities**	Standard Specifications for Highways and Structures			
	Monitor installation for conformance with plans and specifications.		Daily	Weekly	Review documentation monthly.
21.	**Specialty Contract Items**				
	Various	Various	Monitor at rates set forth in QA/QC plan.	Monitor at rates set forth in QA/QC plan.	Monitor at rates set forth in QA/QC plan.

* Unless otherwise noted the DB Contractor's IA and VST testing frequency is relative to QC frequency and the Owner's IA and IVST frequencies are relative to the DB Contractor's QAM required test frequencies. IA will be split samples and VST will be independent samples. QC will be performed in accordance with Contract Provisions.

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
1.	**Clearing and Grubbing**	DB Contractor's QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Monitor that the QAM is confining effort to C and G activities and to areas so designated for C and G within the plans and scheduled within the next 30 days. Areas not worked within 30-day period should be temporarily seeded.
		Verify approval of design documents for locations of work to be performed.	For testing and inspection of Clearing and Grubbing refer to frequencies specified in Standard Specifications for Highways and Structures
		The Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the DB Contractor's QA/QC Plan.	
2.	**Excavation and Backfill of Structures**	DB Contractor's QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify by observation or review of the QAM's records that each foundation has been probed or tested and has been accepted by the QAM. Frequency - On key structures identified by the DDOT Project Manager.
		QAM to verify work-related design documents have been approved.	Verify that proper lift depths and density tests are being performed as required. Verify that the appropriate frequency of testing was performed. Frequency - Weekly
		Verify the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the DB Contractor's QA/QC Plan.	QC one (1) per 100 lf or 150 cy QAM IA one (1) per 1,500 cy QAM VST one (1) per 1,500 cy For QC and QAM IA & VST testing requirements and frequencies.
		Verify backfill material has been approved and density requirements established. Changes in backfill material shall be similarly reviewed/approved.	Provide written notice of non-compliant materials to the DB Contractor's QA Manager. Frequency - 1% of proctors (no less than 1).
3.	**Pipe Culverts, Storm Drains and Pre-cast Structures**	DB Contractor's QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify QAM and QC personnel's inspection of pipe culverts, storm drains and pre-cast structures to ensure that bedding material is properly placed and shaped. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	Verify that pipe is not damaged, joints are properly sealed and bell/spigot ends are at the proper orientation. Frequency - Weekly
		Verify the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Verify proper installation (pipe joints, cover height limits, backfill density and thickness) per QC. Verify that proper lift depths and density tests are being performed as required by QC. Verify that the appropriate frequency of testing was performed. Insure inspection and testing personnel have a

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
			Soils and Aggregate Field certification. Verify nuclear gauges have been calibrated in the last year.
			Contractor QC – Daily as noted above. QAM IA – Once per structure or run of pipe. QAM VST – verify density test reports and documentation monthly.
		Verify material to be used has been approved.	
		Verify by observation or review of the QAM's records, that each foundation has been probed or tested in another manner and accepted by the QAM.	
4.	**Cast-In-Place Structures**	DB Contractor's QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify formwork and rebar conforms to the plans and specifications and is free of debris. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	Verify that two (2) Certified Concrete Field QC Inspectors are present during placement and that proper testing methods are being implemented. Frequency - Weekly
		Verify the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Verify that the proper frequency of testing and material samplings is performed by the QAM and QC personnel. QC- fresh concrete properties – each load. QAM IA fresh concrete – 10th load. QAM VST – fresh concrete – 50th load.
		Verify by observation or review of QAM's records, that each foundation has been probed or tested in another manner and accepted by the QA Manager.	Provide written notice of non-compliant materials to the DB Contractor's QA Manager. Frequency – As required
		Verify hydraulic cement mix design has been approved for applications. Review any special design requirements.	

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
4.	**Cast-In-Place Structures** (Continued)	Review concrete strength requirements prior to the placement of superimposed concrete or backfill.	
5.	**Erosion and Siltation Control**	DB Contractor's QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work. Prior to start of any land disturbing activities, verify that all applicable permits are on file, as required, per contract documents and proper plan approval has been obtained. Insure inspection personnel certified.	Conduct weekly inspections of all Erosion and Sedimentation control, and within 24 hours after every rain event.
		Ensure silt fence has test results from GRI certified laboratory.	Monitor the DB Contractor's Erosion and Siltation Control devices for proper installation and maintenance. Frequency – Weekly or within 24 hours of every rain event.
		Ensure all required Erosion and Sediment Control devices have been properly installed prior to land disturbing activities commencing.	Verify that proper incremental seeding is performed. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	Monitor DB Contractor's completion of appropriate forms for proper completion and signatures of both the DB Contractor's QAM and Construction Manager. Frequency - Monthly
6.	**Embankments**	DB Contractor's QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify by observation or review of the QAM's records that density testing was performed as required. Frequency – Weekly during fill operations
		Verify design documents that relate to the work to be performed have been approved.	Visually observe the placement of embankment material and monitor that proper nuclear density testing and depth of placement of the material is being performed by the QAM and QC personnel. Frequency – Weekly during fill operations Provide written notice of discrepancies to DB Contractor's QA Manager.
		Verify the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Review the completed Report of Nuclear Embankment Densities, to verify that the appropriate frequency of testing was performed during the operation. Frequency - Weekly during fill operations QC – one (1) per 500 lf or 500 cy QAM IA – one (1) per QC person per 50,000 cy QAM VST – one (1) per 5,000cy

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
		Verify embankment fill material has been approved and density requirements have been established.	Monitor that the QAM and QC Inspectors utilize a nuclear density gauge, which had been calibrated within the previous 12 months by an approved calibration service. Frequency – Bi-Monthly
6.	**Embankments (Continued)**	Verify approval and density requirements for any backfill material changes during the operations.	
7.	**Undercut Excavation**	DB Contractor's QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	If undercut excavation is part of a claim or differing site conditions, continuously monitor and document the location, conditions, equipment used, personnel used and hours worked for undercut operation. Upon completion of the excavation, verify the quantity of material removed. Frequency - Continuously
		If the undercut excavation is claimed as a differing site condition, review the area and document the condition prior to start of work.	Intermittently monitor the operation. Review the QAM's daily records for any undercut operations to ensure that they adequately document the location, conditions, equipment used, personnel used and hours worked for the undercut excavation and backfill. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	Monitor that nuclear density tests are performed by the DB Contractor's QAM and QC personnel in accordance with the Embankment Fill procedures. Frequency - Weekly
8.	**Aggregate Base Material**	DB Contractor's QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify that subgrade has been accepted by the QAM. Monitor that the subgrade material has been graded to proper tolerances and properly scarified. Frequency - Prior to first placement (per location). Weekly (for tolerances and scarification)
		Verify design documents that relate to the work to be performed have been approved.	Verify that each lift has been accepted by the QAM. Frequency - Weekly
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Intermittently observe the placement of aggregate base material and monitor that proper nuclear density testing of the material is being performed by the QAM and QC personnel. Insure inspection and testing personnel have a Soils and Aggregate Field certification. Verify nuclear gauges have been calibrated in the last year. Frequency - Weekly QC – one (1) test per 0.5 mile/lane width

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
			QAM IA – one (1) per roadway in first five (5) VST tests (2% of QC) QAM VST – one (1) per 5 miles per lane (10% of QC)
8.	**Aggregate Base Material** **(Continued)**	Verify the material to be used has been approved.	Review 10% of the completed nuclear density test reports to verify appropriate frequency of testing was performed during the operation. Frequency - Weekly
9.	**Cement Treated Aggregate Base Material**	DB Contractor's QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify that subgrade has been accepted by the QAM. Monitor that the subgrade material has been graded to proper tolerances and properly scarified. Frequency - Prior to first placement (per location). Weekly (for tolerances and scarification)
		Verify design documents that relate to the work to be performed have been approved.	Verify that each lift has been accepted by the QAM. Frequency - Weekly
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Intermittently observe the placement of cement treated aggregate base material to monitor that compacting and finishing operations are within specified time limits and allowable moisture content range as well as monitoring that the curing procedures are being followed. Also monitor that proper nuclear density testing of the material is being performed by the QAM and QC personnel. Insure inspection and testing personnel have a Soils and Aggregate Field certification. Verify nuclear gauges have been calibrated in the last year. Frequency - Weekly
			Monitor each Control Strip and Test Section for compliance with approved procedures. Frequency - Observe the first control strip and test section that each QA/QC personnel member on the project performs. Spot-check thereafter.
		Verify the material to be used has been approved.	Review 10% of the completed nuclear density test reports to verify appropriate frequency of testing was performed during the operation. Frequency - Weekly

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
10.	**Soil Stabilization – Lime and Cement**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Monitor that roadbed has been graded to proper tolerances and properly scarified. Verify acceptability by the QAM after application of soil stabilization material. Frequency - Prior to the first placement of material in an area.
		Verify design documents that relate to the work to be performed have been approved.	Perform check of tolerances, scarification and installed to the specified depth. Frequency - Weekly
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Review the completed nuclear density test reports. Frequency - Weekly
		Review application rate calculations.	Monitor that the QAM and QC Inspectors are certified and utilize a nuclear density gauge, which has been calibrated within the previous 12 months by an approved calibration service. Ensure proper and uniform rate of application of cement or lime. Frequency – Bi-Monthly
11.	**Stabilized Open-Graded Material**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify through direct observation or review of QAM documents that the material has been accepted by the QA Manager after placement. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	During placement of hydraulic cement concrete, verify that two (2) Certified Concrete Field Inspectors are present. Frequency - Weekly
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design-Builder's QA/QC Plan.	
		Verify material proposed for use has been approved.	
11a.	**Asphalt Stabilized Open-Graded Drainage Layer**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify through direct observation or review of QAM documents that the material has been accepted by the QA Manager after placement. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	During placement of asphalt stabilized open graded drainage layer verify that an Asphalt Field Technician is present. Frequency - Weekly
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design-Builder's QA/QC Plan.	

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
	Asphalt Stabilized Open-Graded Drainage Layer (continued)	Review the items of work and the required frequency of IA and VST inspections at the plant.	
		Verify material proposed for use has been approved.	
12.	**Asphalt Surface Treatment**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Monitor and verify that one (1) Certified Field Slurry Seal or Surface Treatment Technician is present during the entire operation. Monitor and verify that one (1) Certified Field Slurry Seal or Surface Treatment inspector is present during the entire operation. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	Verify that the each section of asphalt surface treatment has been accepted by the QAM. The QAM records should indicate the proper rate of application of liquid asphalt and cover material. Frequency - Weekly
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	
		Verify materials proposed for use has been approved.	
13.	**Asphalt Concrete Pavement**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Review the subbase for conformity with the requirements of the contract and proper surface grading of the material. Frequency - Per each mobilization of paving crew. If the subbase is an existing surface which required pavement planning, visually verify proper depth of planning.
		Verify design documents that relate to the work to be performed have been approved.	Verify that two (2) Certified Asphalt Field Technician QC Inspectors are present during the entire placement and that proper testing methods are being implemented. Frequency - Weekly
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Verify, either through direct observation or through review of the QAM's records that each lift is being accepted by the Quality Assurance Manager. Frequency - Weekly
		Verify the asphalt concrete mix design to be used has been approved.	Monitor the creation of each control strip and test section for compliance with approved procedures. Frequency - Observe the first control strip and test section that each QAM/QC personnel member on the project performs.

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
13.	**Asphalt Concrete Pavement** (Continued)		Review 10% of inspection forms. Frequency - Monthly
		Review the subbase for conformity with the requirements of the contract and proper surface grading of the material. If the subbase is an existing surface which required pavement planning, visually verify proper depth of planning.	Review 10% of the completed density test section reports to verify that the appropriate frequency of testing was performed during the operation. Frequency - Weekly
			Monitor that the QAM and QC Inspectors utilize a calibrated nuclear density gauge (within last 12 months) or working scales. Frequency – Bi-Monthly
14.	**Portland Cement Concrete Pavement**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Visually review the subbase for general conformity with the requirements of the contract and proper surface grading of the material. Frequency - Per each section of concrete pavement If the subbase is an existing surface which required pavement planning, visually check for proper depth of planning.
		Verify design documents that relate to the work to be performed have been approved.	Monitor the QA/QC operations and verify that two (2) Certified Concrete Field QC Inspectors are present during the entire placement and that proper testing methods are being implemented. Frequency - Weekly
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Verify that the proper frequency of testing and material sampling is performed by the QAM/QC personnel. Monitor the installation of joint-reinforcement material. Frequency - Weekly
			Monitor that the in-place concrete is properly cured based on the current and forecasted weather conditions. Control cylinders and flexural beams cast should be cured in the same manner as the in-place concrete. Frequency - Weekly
			Intermittently monitor the sealing of joints and any required repairs of cracks and honeycombs. Frequency - Per each section of concrete pavement

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
15.	**Load Bearing Piles**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify by observation or review of the QAM's records, that each pile foundation has been accepted by the QA Manager. Frequency - 10% of the foundations on the project.
		Verify design documents that relate to the work to be performed have been approved.	Monitor the pile driving operation and verify that one (1) QC Inspector is present while piles are driven and results are documented for each pile. Frequency - Weekly
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Perform Center of Gravity Calculations on one (1) out of 50 piles corresponding to a QAM IA.
		Verify the material to be used has been approved.	
		Verify the equipment to be used has been approved.	
16.	Bridge Portland Cement Concrete Operations	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify formwork and rebar conforms to the plans and specifications and is free of debris. Frequency - 10% of concrete placements Observe the screed dry run for bridge decks and bring deficiencies to the attention of the QA Manager.
		Verify design documents that relate to the work to be performed have been approved.	Monitor the QA/QC operations and verify that two (2) Concrete Field Certified QC Inspectors are present during the entire placement and that proper testing methods are being implemented. Verify that the proper frequency of testing and material samplings is performed by appropriate QA and QC personnel. Frequency - Weekly or continuously for bridge decks
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Monitor that the in-place concrete is properly cured based on the current and forecasted weather conditions. Control cylinders cast should be cured in the same manner as the in-place concrete. Frequency - Weekly
		Verify the material to be used has been approved.	
		Verify the equipment to be used has been approved and calibrated.	

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
17.	**Portland Cement Concrete Items**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Greater than 25 cubic yards - monitor the QAM VST and QC operations and verify that two (2) Certified Concrete Field QC Inspectors are present during the entire placement and that proper testing methods are being implemented. Incidental concrete placements less than 25 cubic yards - monitor the QAM VST and QC operations and verify that one (1) Certified Concrete Field QC Inspector is present during placement activity placement and that proper testing methods are being implemented. Frequency - Weekly Verify that the proper frequency of testing and material samplings is performed by the QA/QC personnel.
		Verify design documents that relate to the work to be performed have been approved.	Monitor that the in-place concrete is properly cured based on the current and forecasted weather conditions. Control cylinders cast should be cured in the same manner as the in-place concrete. Frequency - Weekly.
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	
		The Portland cement concrete mix design to be used has been approved	
18.	**Structural Steel**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify by observation or review of the QAM's records that the structure has been accepted by the Quality Assurance Manager. Frequency - 10% of the structures on the project.
		Verify design documents that relate to the work to be performed have been approved.	Monitor structural steel erection operations and observe the QC inspections of weld quality and bolt torque. Frequency - Weekly; but no less than once per span Directly observe the QC inspections of weld quality and bolt torque – each 4 hour shift.
		Review the shop drawings and/or erection drawings and verify they have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	QC – Obtain samples of bolts for lab (ROT- CAP) testing. Ensure wrenches are calibrate and Turn-of-the-Nut test is performed on 10% each connection. Frequency - Daily QAM IA – Observe daily calibration of wrench and observe/monitor crew during each 4-hour shift. Frequency - Daily QAM VST sample of bolt for (ROT –CAP) each lot of bolts and verify Turn-of-the-Nut test on 25% of each slip-critical connection. Frequency - Daily

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
18.	**Structural Steel**	Verify the material to be used has been approved.	QC – review bolt documentation.
19.	**Protective Coating of Metal in Structures**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Monitor the surface preparation of the structure prior to application of protective coatings and during the coating operation to verify that proper QAM and QC inspection procedures are followed. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved. Verify contractor certifications (SSPC, CIH, PE) and reference documents/specifications such as SSPC, NACE, etc. are available. Environmental plan where needed.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	QC – three (3) surface profiles and five (5) spot thickness measurements – daily. QAM IA – two (2) profiles – weekly. QAM IA – one (1) spot thickness measurement – daily. QAM VST – one (1) surface profile and one (1) spot thickness measurements – monthly.
		Verify the coating system to be used has been approved.	
20.	**Underdrains**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Check cut areas for springs and seepage after heavy rains. If problems are found, an investigation by the designer is required. Frequency - Per each heavy rainfall event
		Verify design documents that relate to the work to be performed have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design-Builder's QA/QC Plan.	QC – inspect all outlet locations and 10% of longitudinal sections. QAM IA – Observe 10% of outlet locations and 1% of longitudinal sections. QAM VST – inspect 4% outlet locations independent of QAM IA. Frequency - Weekly
		Verify the material to be used has been approved.	

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
21.	**Guardrail**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify that the operation is monitored by a QC Inspector with at current GRIT certification. Frequency - Daily
		Verify design documents that relate to the work to be performed have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Verify that the operation is monitored by a QC Inspector with at current GRIT certification. QC performed daily: QAM IA – check height every 50 feet. QAM VST – check height every 500 feet.
		Verify the material to be used has been approved.	Verify end treatments and material documentation.
22.	**Fencing**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	N/A
		Verify design documents that relate to the work to be performed have been approved.	N/A
23.	**Right-of-Way Monuments**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	N/A
		Verify design documents that relate to the work to be performed have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	QC - verify 10% - type and location. QAM IA – observe 1% - type and location. QAM VST – Review documentation – monthly.
		Review the material to be used has been approved.	
24.	**Maintenance of Traffic**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Monitor that Flaggers are certified and properly attired. Frequency - Daily
		Verify design documents that relate to the work to be performed have been approved.	Review the weekly Work Zone Safety Checklists completed by the QAM and QC personnel for completeness and accuracy. Frequency - Monthly

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
25.	**Pavement Marking**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of Work.	During Operations, verify that one (1) Certified Pavement Marking Technician is present and observing application thickness and bead rate testing. Frequency - Daily
		Verify design documents that relate to the work to be performed have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design-Builder's QA/QC Plan.	QC – perform at start and every three (3) hours – Daily. QAM IA – observe start-up calibrations, take one (1) plate sample and review C85 – Daily. QAM VST – Randomly select three (3) areas (10 ft) for visual inspection (day and night).
		Verify the material to be used has been approved.	
26.	**Sound Barrier Walls**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	N/A
		Verify design documents that relate to the work to be performed have been approved.	Ensure foundation types correct and to proper depth.
		Review shop drawings and verify they have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	
		Ensure Geotechnical investigation for sound wall foundation has been completed.	
		Verify the material to be used has been approved.	
27.	**Topsoil and Seeding**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	N/A
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	Ensure seeding and mulching of slopes performed in time frames.
		Verify the material to be used has been approved.	Verify that proper material is utilized at application rates specified in plans. Frequency – As Required

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
28.	**Planting**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Monitor that plants are properly cared for during the establishment period. Frequency - Monthly
		Verify design documents that relate to the work to be performed have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	
		Verify the material to be used has been approved.	
29.	**Traffic Signs**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Verify that all messages and symbols are correct and conform to the requirements of the MUTCD and sign stands are properly rated and stamped as such according to the contract (i.e. NCHRP 350). Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	
		Review shop drawings and verify they have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	
		Verify the material to be used has been approved.	
30.	**Traffic Signals**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Monitor the installation of traffic loop detectors for proper installation procedures. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved including foundation design parameters.	
		Review shop drawings and verify they have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	
		Verify the material to be used has been approved.	

TABLE 25-4
Minimum Requirements for Inspection, Sampling and Testing of Definable Features of Work

No.	Description of Work	Preparatory Inspection	Intermediate Inspections
31.	**Water and Sewer Facilities**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Monitor pipe installation including bedding material and joint connections. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	
		Review shop drawings and verify they have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design- Builder's QA/QC Plan.	
		Verify the material to be used has been approved.	
32.	**Specialty Contract Items**	DB Contractor QA Manager to schedule and conduct preparatory inspection meeting (hold point) to review work prior to beginning construction activity on feature of work.	Monitor installation of work, as agreed. Frequency - Weekly
		Verify design documents that relate to the work to be performed have been approved.	
		Review the Quality Assurance (QAM IA and VST) and Quality Control (QC) requirements as specified in the Design-Builder's QA/QC Plan.	

SECTION 26

Project Schedules

26.1 General

Project Schedule shall mean any of the following schedules identified in this Section.

26.2 Performance Requirements

Sections 26.3.1 through 26.3.7 herein describe the Project Schedule and related requirements to ensure that completion of the Work will be accomplished within the Completion Deadlines.

DDOT's opinions concerning the various scheduling documents and reports are not controlling over the DB Contractor's independent judgment concerning the means, methods, and sequences of Work that the Design-Builder employs.

The DB Contractor's schedule shall accommodate the commitments included in the Memorandum of Understanding between the District of Columbia Water and Sewer Authority and the District Department of Transportation for the use of Certain Land Area at the South Capitol Street Site (C-10_02).All Work and Activities of the DB Contractor shall be scheduled and monitored by use of a Critical Path Method (CPM) Project Schedule using scheduling software compatible with the scheduling software used on the Project. The Project will use Primavera P6 v8. Compatible shall mean that the DB Contractor-provided electronic file version of the Project Schedule may be loaded or imported by DDOT with no modifications, preparation, or adjustments. All scheduling software settings within the scheduling/leveling dialog box shall remain "default" unless otherwise approved by DDOT. In addition, any changes to the scheduling software settings that alter the scheduling calculations shall be clearly identified and provided as part of the schedule submittals. The DB Contractor shall provide a CPM Project Schedule and a Schedule of Values (SOV) for the Work in accordance with Sections 26.3.6 and 26.3.7, of this Technical Provision respectively.

26.2.1 Initial Baseline Schedule

The Initial Baseline Schedule shall be based upon the Proposal Schedule and shall include the Completion Deadlines and Key Milestones on the dates set by the Proposal Schedule and incorporated into the Contract, the dates for which shall not be changed except by DDOT Approval. "Key Milestones" shall mean First Notice to Proceed (NTP1), Second Notice to Proceed (NTP2), substantial completion, final completion and submittals identified in this RFP. The initial baseline schedule shall be the basis for monitoring the Design-builder performance of the Work until such time as the baseline schedule has been approved. The Initial Baseline Schedule shall be the DB Contractor's original plan for the Project from NTP1 through Final Acceptance. Activities representing NTP1-authorized Work shall be sufficiently detailed to plan, monitor, and evaluate the progress of the Work. The Initial Baseline Schedule must be approved by DDOT. The Initial Baseline Schedule shall represent conditions of the Project at NTP1, and, once approved, shall not be modified for any reason. Once Approved, all progress for Work authorized by NTP1 shall be measured against the Initial Baseline Schedule until replaced by the Approved Baseline Schedule.

26.2.2 Baseline Schedule

The Baseline Schedule shall be derived from the Initial Baseline Schedule and shall include the Completion Deadlines and Key Milestones and shall be submitted for review and approval within 60 Calendar Days from the First Notice to proceed (NTP1).The Baseline Schedule shall represent the then-current plan for performing the Work and shall show all Activities authorized by NTP1 and NTP2 in sufficient detail to plan, monitor, and evaluate the progress of the Work. The Baseline Schedule shall be cost loaded and shall represent conditions of the Project at NTP2, including the status of NTP1 Activities as of the issuance of NTP2, but shall not be modified to reflect progress of Activities authorized by NTP2.

Once Approved, the Baseline Schedule shall become the schedule against which all progress of the Work shall be measured. The Baseline Schedule shall not change after Approval except as provided by this Section. The Baseline Schedule shall be the basis for the monthly Progress Schedules.

DDOT reserves the right to withhold approval for all or part of the Design-Builder applications for payment until such time the Design-Builder furnishes an approved Baseline Schedule. Review and approval of the Baseline Schedule is a condition for issuance of NTP2.

26.2.3 Revised Baseline Schedule

The DB Contractor may propose to submit a schedule revision to address substantial changes to the Baseline Schedule. Any such proposal shall include a detailed explanation, including changes in logic, as to why the revision is warranted. A revised Baseline Schedule shall be submitted within 30 Calendar Days of the issuance of a Change Order. Any Revised Baseline Schedule is subject to DDOT Approval before implementation. Each Revised Baseline Schedule shall have a unique name that includes a sequential revision number. This schedule will show all then-current progress of Work, including the status of all Activities, sequencing, and logic changes, and shall represent the DB Contractor's best knowledge and planning at that time. The DB Contractor acknowledges that the costs required to provide any Revised Baseline Schedules are included in the Contract Price. Once Approved, a Revised Baseline Schedule shall be the basis for all subsequent Progress Schedules.

26.2.4 Recovery Schedule

If the Work is delayed such that the projected finish date of any Completion Deadline or Key Milestone in the current Progress Schedule is behind (negative float) by the lesser of (i) 14 Days, or (ii) a number of Days greater than 10 percent of the Days remaining until the applicable Completion Deadline or Key Milestone; then the DB Contractor shall provide a Recovery Schedule. It shall include a Recovery Plan detailing how the delay will be recovered and the Completion Deadline(s) achieved, before submittal of the next monthly Progress Schedule. The Recovery Schedule shall demonstrate the DB Contractor's plan to regain lost progress and achieve all Completion Deadlines and include a revised, detailed Resource Plan, modified to capture and facilitate the Recovery Plan.

The Recovery Schedule shall be based on the latest submitted Project Schedule and shall, at a minimum, include equivalent detail. The proposed Recovery Schedule shall show the changes to the Project Schedule in sufficient detail to substantiate the Recovery Plan and shall reflect all proposed changes to the Activities in the lowest level of the DB Contractor's Work Breakdown Structure (WBS) through the last construction Activity. DDOT will notify the DB Contractor, within 21 Calendar Days after receipt of each proposed Recovery Schedule, of Approval or, if not Approved, of changes that DDOT believes should be made. The DB Contractor shall address such comments to DDOT's satisfaction. Once Approved, such Recovery Schedule shall become the current Revised Baseline Schedule. DDOT's Approval of any Recovery Schedule shall not relieve the DB Contractor from its exclusive responsibility for scheduling, managing, and performing the Work within the Completion Deadlines.

The DB Contractor shall provide additional labor, Equipment, and/or Materials, work additional shifts, and/or expedite procurement to complete the Work within the Completion Deadlines at no additional cost to DDOT, all of which shall be described in the revised Resource Plan. The Recovery Schedule shall be cost-loaded. DDOT may, in its sole discretion and at no additional cost to DDOT, require the Recovery Schedule be resource-loaded in order to be Approved.

The DB Contractor's refusal, failure, or neglect to take appropriate action to submit a Recovery Schedule, including a Recovery Plan and Resource Plan, shall constitute sufficient evidence that the DB Contractor is not performing the Work, or separable part of the Work, with the diligence that will ensure its completion within the applicable Completion Deadline(s). Such lack of action shall constitute sufficient basis for DDOT to withhold some or all payment otherwise due and shall constitute grounds for default under Volume II, Book I, Section 18, Default and Force Majeure Events.

26.2.5 Progress Schedules

Progress Schedules shall be submitted with the Progress Report unless otherwise required by DDOT. At a minimum, the monthly Progress Schedule(s) shall include the following current Work data:

1. Detailed cost-loaded schedule of Activities that clearly identify the Critical Path (XER file).
2. Progress for the current request for progress payment period for all Activities, if applicable.
3. Actual start and finish dates of Activities, physical percent complete, and Days remaining for Activities in progress.

The data date for use in calculating the Progress Schedule shall be the first Day of the following month. The Progress Schedule shall accurately reflect updated progress as of the effective date of the current Baseline Schedule, forecast finish for in-progress Activities, and reforecast early and late dates for remaining Activities. The Progress Schedule shall indicate the overall physical percent complete of the Project. If any actual dates are changed or corrected in any following month, a narrative must be included providing explanation of the change.

The monthly Progress Schedule(s) shall include additional, separate, filtered lists of Activities and Work elements included in the Progress Schedule to illustrate the following:

1. Coordination and accomplishment of Work associated with Utilities.
2. Status of all Completion Deadlines and Key Milestones as compared to the current Approved Baseline Schedule planned dates.
3. Physical status of all Activities as of the date of the update.
4. Actual progress relative to planned progress, organized by major payment item/WBS.
5. Design Document submittals for the upcoming period.
6. All Activities with a negative float of 14 days or more.
7. 60-Day look ahead on all required DDOT Approvals and other applicable third-party approvals.
8. 90-Day look ahead sorted by WBS and Activity early start dates.
9. Monthly expenditure projections by WBS.
10. Critical items for each Critical Path sorted by Activity early start date.
11. Time-scaled critical path network plot indicating the status of all Activities as of the date of the update.

The DB Contractor may modify a Progress Schedule without DDOT Approval, except the DB Contractor shall receive prior Approval from DDOT for any changes to the Completion Deadlines, Key Milestones, logic, or any Activities that require action or include commitments by DDOT, including changes to the dates such Activities fall upon. If DDOT provides comments to any Progress Schedule, the DB Contractor shall address such comments to DDOT's satisfaction before submittal of the subsequent Progress Schedule. The Progress Schedule shall include all information current as of the data date.

26.2.5.1 Record Schedule (As-Built schedule)

As part of its submission for final application of payment the design builder shall submit the final Progress Schedule (as-built schedule). The final Progress Schedule submitted shall include all Work completed through the last Completion Deadline and be identified by the DB Contractor as the Record Schedule (as-built schedule). The Record Schedule shall reflect the exact manner in which the DB Contractor executed the Work (including start and finish dates, Activities, actual durations, sequences, and logic) and shall show the actual start and actual finish dates for all the activities in the schedule. The Record Schedule shall be signed and certified by the DB Contractor's Project Manager and the DB Contractor's Lead Scheduler as being a true reflection of how the Work was executed through the time of the last Completion Deadline.

26.2.6 Schedule Requirements

The critical path method (CPM) of network calculations shall be used to generate the project schedule. The Precednece Diagram Method (PDM) should be used to establish relationships and interdependencies between the individual activities required to complete the project. All Float shall be shown on the Project Schedule on each schedule path. "Float" is defined as the amount of time between the early start date and the late start date, or

the early finish date and the late finish date, for each and every Activity in the schedule. Suppression or consumption of Float shall not be allowed, including by use of extended Activity durations, dummy Activities, unspecified or unnecessary milestones, unnecessary logic ties, or preferential sequencing. The Float belongs to the Project and may be used by the DB Contractor or DDOT, except when delays to an Activity are due to weather, then Float may not be consumed. Changes or delays to Activities in the network with Float that do not cause delays to any Completion Deadline shall not be justification for an extension of any Completion Deadline.

The Project Schedule shall divide the Work into Activities with appropriate logic ties to show the DB Contractor's overall approach to planning, scheduling, and executing the Work. The duration and the logical relationships of the Activities and summaries at Work phase level shall be based on the actual durations and relationships anticipated. The DB Contractor shall not use calendar dates to "logically" begin or complete any Activity unless those specified calendar dates are identified in the Contract Documents. The DB Contractor is encouraged to meet with DDOT during the development of all schedules to reduce review time and comments. For all Progress Schedules, the DB Contractor shall meet with DDOT at least once per month and as otherwise requested by DDOT.

The Project Schedule shall accommodate the right-of-way (ROW) Schedule in accordance with the Contract Documents.

The Project Schedule shall accommodate Utility coordination in accordance with the Contract Documents.

The Project Schedule shall accommodate regulatory approvals and the dates by which such approvals are necessary.

The Project Schedule shall accommodate public involvement activities.

The project Schedule shall accommodate coordination with other adjacent projects or projects within the footprint of the Project.

26.2.6.1 Schedule Development

All Project and Progress Schedules shall comply with the following:

1. Include the following data for each Activity:
    a. Activity identification (ID)
    b. Activity description
    c. Original duration
    d. Start date (actual start date for started Activities)
    e. Finish date (actual finish date for completed Activities)
    f. Remaining duration (for those Activities started but not completed)
    g. Budgeted total cost
    h. Actual total cost
    i. Remaining total cost
    j. Variance from Baseline Schedule start dates
    k. Variance from Baseline Schedule finish dates
    l. Total Float
    m. Activity codes (design, construction, work package, type of work, phase, area, stage, responsibility, DBE, source of funding, subcontractor…)
    n. Critical Path Activities highlighted in red

2. Provide sufficient number of Activities in the schedule to assure adequate planning and control of Work, and to permit monitoring and evaluation of progress, and analysis of time impacts. Activity durations should not exceed 30 calendar days, longer durations may be allowed as approved by DDOT.
3. Use Critical Path Method to determine controlling items of Work. The DB Contractor shall use retained logic for calculating all Project Schedules. Out-of-sequence Work shall be itemized and described in monthly schedule narrative reports and discussed at monthly review meetings.
4. Show the order in which the DB Contractor plans to perform the Work, with logical ties sufficient to demonstrate the DB Contractor's overall approach to planning, scheduling, and executing the Work.
5. Open ended activities are not allowed except for start and finish activities. Activities, with the exception of the first and last Activities, shall have a minimum of one predecessor and a minimum of one successor Activity.
6. Do not use unnecessary logic ties unless justified and Approved by DDOT.
7. Do not contain Float greater than 90 Calendar Days for any Activity, unless otherwise Approved by DDOT.
8. Use durations and logical relationships based on the actual durations and relationships anticipated.
9. Depict the sequence and interdependence of all Activities required for the complete performance of the Work, beginning at NTP1 and concluding at Final Acceptance.
10. Use all and only Activities which are consistent with the DB Contractor's WBS.
11. Identify all design packages intended to be Released for Construction, which, at a minimum, shall have logic ties to the review submittals and construction Work anticipated in that design package.
12. Show the phasing of the Work, including Released for Construction Documents, submittal dates, Subcontractor Work, procurement, fabrication, preparation of mock-ups, delivery, installation, Quality Control (QC), Quality Assurance (QA), Testing of Materials and Equipment, and any long-lead-time (over 60 Calendar Days) orders for Materials or Equipment.
13. Assign "finish no later than" constraint to Key Milestones and Completion Deadlines. Depict the required coordination with, and work to be performed by, other contractors, including any contractors performing work within the limits of or adjacent to the Project, and work from adjacent projects which may affect the Work, Utility Owners, third parties, Subcontractors, and Suppliers.
14. Depict and account for the acquiring of permits.
15. Show all Activities, of either DDOT or third parties, which affect progress of the Work. Include Activities identifying DDOT Approval periods and other actions.
16. Contain no Activity duration shorter than one Day, or longer than 30 Days, except for continuing Activities as described in Section 26.2.7.3 herein or long-lead-time material procurements, as long as each phase of the procurement is identified as a specific Activity.
17. Show Maintenance of Traffic (MOT) Activities.
18. Include cost-loaded Activities for all Activities in the Project Schedule(s) for which payment is requested.
19. Show that cost-loaded Activities are loaded at the Activity level and roll/add up to the totals shown on the Design-Build Price Breakdown (Form M-1.1).
20. Contain no unspecified milestones, Float suppression techniques, or use of Activity durations, logic ties, and/or sequences deemed unreasonable by DDOT.
21. Use Activities or calendars instead of duration lags, and contain no negative lags unless Approved by DDOT.
22. Use a unique Activity ID and activity name for each individual Activity.
23. Include, in electronic and hardcopy format, a graphic representation in the form of a Gantt chart with an Activity table of all Activities.

24. Show compliance with all requirements in Section 22, Maintenance of Traffic, of these Technical Provisions for all closures by indicating the planned or actual start and completion of a closure using a level-of-effort Activity.
25. Appropriately account for weather.

26.2.6.2 Schedule Management

1. Activities and their durations that represent DDOT actions or commitments shall be subject to the Approval of DDOT. Once Approved, no changes to such Activities, nor their start and finish dates, shall be made without DDOT Approval.
2. Activity descriptions shall not be changed without DDOT Approval. Any proposed change to a description shall be clearly identified and discussed at monthly meetings. New Activity (ies) shall be used to show change(s) in scope.
3. All Project Schedules and time impact analyses (see Section 26.2.6.4 herein) shall include a certification by the Lead Scheduler and Project Manager, in a form acceptable to DDOT, that the information presented is true and accurate and meets the requirements of the Contract Documents.

26.2.6.3 Schedule Narrative Report

The DB Contractor shall prepare and include with its Initial Baseline Schedule, a schedule narrative report describing, at a minimum, the DB Contractor's plan and schedule for achieving the Contract requirements and objectives for all Work authorized by NTP1. The narrative shall describe the methods of operation, the resources to be employed, and time frames for the design and pre-construction Activities required to achieve specified milestones, Key Milestones, and Completion Deadlines. A Resource Plan shall be included which shall document in detail the types and quantities of resources needed to prosecute all aspects of the Work.

The DB Contractor shall prepare and include with its Baseline Schedule, a schedule narrative report describing the DB Contractor's plan and schedule for achieving the Contract requirements and objectives for all Work, which shall include and incorporate the schedule narrative for the Initial Baseline Schedule. The narrative shall describe the methods of operation, resources to be employed, time frames for the design and construction, and time frames for accomplishment of specified milestones, Key Milestones, and Completion Deadlines. A Resource Plan shall be included which shall document in detail the types and quantities of resources needed to prosecute all aspects of the Work, including work crews, Equipment, specialized personnel, Materials, Testing, QC, and QA efforts. The narrative shall also include description of the critical path, scheduling and planning assumptions, activity constraints and the reason for using them, description of calendars, description of activity codes (only project level activity codes are allowed), DBE participation, description of permits and regulatory approvals, MOT and night work, ROW works, utilities works, conflicts with other projects, and any other related items as necessary.

The DB Contractor shall prepare and include with any Revised Baseline Schedule, a schedule narrative report describing the DB Contractor's plan and schedule for achieving the remaining Contract requirements and objectives for the Work. The narrative shall describe the methods of operation, resources to be employed, time frames for the design and construction, and time frames for accomplishment of specified milestones, Key Milestones, and Completion Deadlines. A Resource Plan shall be included which shall document in detail the types and quantities of resources needed to prosecute all aspects of the Work, including work crews, Equipment, specialized personnel, Materials, Testing, QC, and QA efforts.

The DB Contractor shall prepare and include with its Progress Schedule, a schedule narrative report describing the status of the Work in detail. The report shall include progress and work performed since the previous schedule update, work planned for the next update period,, all potential delays and problems, their estimated effect on the Project Schedule and overall completion, and whether the Project is on, ahead of, or behind schedule. the narrative shall also include descriptions of the current status of the project (key milestones), project critical path, schedule performance index (SPI), cost performance index (CPI), any changes made since the previous schedule update submittal (Claim Digger report), status of pending or potential issues, MOT, ROW, Utilities, permits,

conflicts with other projects, status of change orders, any deviations from the scheduled performance, any changes in the design-builder work plan, and the current work plan for accomplishing the remaining work as of the data date.

The Progress Schedule narrative shall not be considered notification of delays, Requests for Changes Orders, or other issues.

26.2.6.4 Schedule Submittal Format

Design-Builder shall submit for each Initial Baseline Schedule, Baseline Schedule, Revised Baseline Schedule, Recovery Schedule, Progress Schedules, Time Impact Analysis (TIA) the following submittal items and reports, in the formats specified below. Each electronic file submittal shall have a unique file name prefixed by the Contract ID, type, number, item, and data date of the submission (e.g. [contract ID]_B01_01-JAN-2016.xer, [Contract ID]_B01_Narrative_01-JAN-2016.pdf, [contract ID]_U01_ 01-FEB-2016 etc…) The submittals shall include:

1. A transmittal letter to the DDOT Project Manager, identifying the date of submittal and which Schedule is being submitted for review.
2. Two (2) sets of data compact disks ("CD") containing a backup copy of the working schedule in the Primavera proprietary exchange format ("XER") file format. Each CD shall be labeled to indicate the Contract ID, type of submission, filename, and data date.
3. Two (2) sets of paper copies of the following schedule reports:
    a. Schedule narrative
    b. Schedule calculation log.
    c. A legible time-scaled bar-chart plot of the Schedule, organized by WBS, to show for each activity the Activity ID, Activity Name, Original Duration, Remaining Duration, Start and Finish dates, Activity Percent Complete, Budgeted Total Cost, Actual Total Cost, Remaining Total Cost, and Total Float. The bar-chart plot shall identify the project critical path (longest path).
4. Electronic copies of all of the above shall be submitted through e-Builder according to Technical Provision 12 Project Documentation.

26.2.6.5 Time Impact Analysis for Change Orders, Delays, and Time Extensions

When a Request for Change Proposal (RCP) is issued by DDOT that may impact the Project Schedule or Progress Schedule, or if a Request for Change Order (RCO) is submitted by the DB Contractor, the DB Contractor shall submit a Time Impact Analysis (TIA) illustrating the influence each event of delay has on the then-most-current Progress Schedule as a whole and on the Completion Deadline. . The TIA shall include a Fragmentary Network (fragnet) demonstrating how the DB proposes to incorporate the impact into the schedule. A fragnet is defined as the sequence of new activities and/or activity revisions, logic relationships, and resource changes that are proposed to be added or deleted from the most current approved schedule to demonstrate the influence of impacts to the schedule. The fragnet shall identify the predecessors to the new activities and demonstrate the impacts to successor activities. The DB shall insert the fragnet into the most current approved Schedule, run the schedule calculations, and submit the impacted schedule in accordance with this section. The DB shall include a narrative report describing the effects of new activities and relationships to contractual milestones and the guaranteed completion date of key milestones with each TIA.
The TIA shall include all logic changes and additions required as a result of the matter described in the RCP or RCO.

26.2.7 Schedule of Values

26.2.7.1 General

The Schedule of Values (SOV) is a detailed, itemized list of payment Activities for which the DB Contractor desires to be paid and that establishes the value or cost of each detailed part of the Work. An initial SOV shall be derived from the cost-loaded, Approved Initial Baseline Schedule, and a complete SOV shall be derived from the cost-

loaded, Approved Baseline Schedule. The DB Contractor shall allocate the Contract Amount in the SOV consistent with the Proposal Price Allocation Form.

The DB Contractor shall submit an initial SOV for Approval with the Initial Baseline Schedule and a SOV with the Baseline Schedule, according to the following:

1. For the Initial Baseline Schedule, provide costs for those detailed Activities authorized by NTP1.
2. For the Baseline Schedule, provide costs for those detailed Activities authorized by NTP1 and NTP2.

The purpose of cost-loading the Project Schedule is to tie Activities with payment Activities in order to monitor progress for making payment. The SOV may be revised to correspond to a Revised Baseline Schedule or a Recovery Schedule, upon Approval by DDOT.

26.2.7.2 Payment Activities

The DB Contractor shall attach costs to those Activities in the Baseline Schedule for which the DB Contractor desires to be paid. Payment Activities shall have identical IDs and Activity descriptions as their corresponding Activities in the Baseline Schedule.

The SOV shall include payment Activities for the items identified on the Proposal Price Allocation Form. The SOV shall show the purchase and delivery costs for Materials and Equipment that the DB Contractor anticipates it shall request payment for prior to their installation.

Before NTP2, the DB Contractor shall meet with DDOT to demonstrate their conversion of the Proposal Price Allocation Form to the SOV structure.

Except for mobilization and the continuing Activities, the SOV shall be prepared to a level of detail so that the average value of the payment Activities is greater than $50,000, and no payment Activity value shall be less than $10,000 or greater than $1,000,000 without prior Approval from DDOT.

Each payment Activity shall include a directly proportional amount of DB Contractor overhead and profit. The Contract Amount shall be allocated to accurately reflect the DB Contractor's cost for such Activity and shall not artificially inflate, imbalance, or front-load payment Activities.

When requested by DDOT, the DB Contractor shall substantiate payment Activity values with data that will validate their accuracy. The sum of the individual values shown on the SOV shall equal the total Contract Amount.

26.2.7.3 Continuing Activities

The SOV shall include payment Activities sufficient to cover all efforts necessary to fulfill all Contract requirements and successfully complete the Work for the following continuing Activities:

1. Project Management and staffing
2. Production of As-Built Documents
3. Scheduling
4. Meetings
5. Environmental Compliance
6. Quality Control
7. Quality Assurance
8. Project office and associated Equipment
9. Public Information
10. Insurance
11. Maintenance during construction
12. Design support during construction

The total value for the sum of all continuing Activities shall be no less than 3 percent of the total Contract Amount or other amount Approved by DDOT and shall be distributed to capture actual expenditures in monthly increments within each continuing Activity from NTP1 until Final Acceptance.

26.2.8 Progress, Invoicing, and Payment

26.2.8.1 Measurement of Progress

Payment shall be made for completed payment Activities, as described in Section 26.3.7.2 herein only, except as allowed in the Activity payment breakdown. Payment for Activities included in the Activity payment breakdown shall be made at the corresponding percentage of physical completion of each payment Activity as defined in the Activity payment breakdown.

For any payment Activity for which the DB Contractor will request partial payment for partial completion, the payment breakdown must be included in the Activity payment breakdown. The DB Contractor shall develop a payment breakdown for each payment Activity, or payment Activity type, and submit the Activity payment breakdown for DDOT's Approval. The Activity payment breakdown shall consist of a narrative description of the minimum Work elements, or defined portion of Work elements, that are to be complete prior to being considered for each increment of partial payment. The increments of partial payment shall be in the following percentages of physical completion: 30 percent, 60 percent, 90 percent, and 100 percent. The DB Contractor may use fewer increments but shall not vary from the above percentages.

For continuing Activities, payment shall be made for the amount apportioned for the month payment is being requested.

The amount payable to the DB Contractor for bond premiums is a dollar-for-dollar pass-through of the DB Contractor's costs (not to exceed the amount shown in the payment Activities for such premiums).

Payment may be made for stockpiled Materials in accordance with Volume II, Book 1, Section13.3, Limitations on Payment. The amount payable to the DB Contractor for stockpiled Materials is a dollar-for-dollar pass-through of the DB Contractor's paid invoiced costs (not to exceed the amount shown in the payment Activities). The DB Contractor shall submit to DDOT copies of invoices and proof of payment for unincorporated Materials prior to payment being made.

26.2.8.2 Power for In-place Equipment

The DB Contractor shall be responsible and make payment to power providers for arranging, notifying, and coordinating with DDOT and the provider for power necessary for Project illumination, Intelligent Transportation Systems (ITS), and signals. The DB Contractor shall also be responsible and make payment to providers through the applicable Notice of Completion for power necessary to operate the facilities for which the DB Contractor arranged for service. Upon DDOT's issuance of the applicable Notice of Completion, billing of new service shall be transferred to DDOT.

26.2.8.3 Progress Reports

Each month, beginning with the first full month after NTP1, the DB Contractor shall submit to DDOT the Progress Report. The DB Contractor shall provide Progress Reports every month along with the request for progress payment. No request for progress payment will be processed unless accompanied by the Progress Report.

The DB Contractor shall include the following in the monthly Progress Reports:

1. Progress Schedule.
2. The following quantities of Materials incorporated into the Project from NTP1 through the reporting period:
    a. Fill incorporated into the Project, in cubic yards
    b. Pavement placed, in square yards
    c. Lane miles completed
    d. Length of pipe installed (of any size diameter)

   e. Number of new and restored bridges currently worked on and completed to date
   f. Length of Utilities completed
3. Milestones achieved during the period.
4. Summary of Project accidents (frequency and severity) and corrective actions taken.
5. Progress photographs to show activity, improvements, and milestones.
6. Number of craft and total workers employed to Work directly on the Project (including construction and professional services Subcontractors).
7. The total monthly labor hours for craft labor and non-construction personnel by classification of management, engineering, and other technical personnel used on the Project. Identify percentage of local labor hours and DBE hours.
8. With each monthly Progress Report, provide a certificate signed by the Quality Assurance Manager certifying the following:
   a. All Work, including that of Subcontractors, Suppliers, and fabricators, has been checked and/or inspected by the QA staff; and all Work, except as specifically noted in the certification, conforms to the requirements of the Contract.
   b. Records that provide evidence of compliance with Contract requirements are available.
   c. Nonconformance issues are being documented and resolved.
   d. Significant and/or systemic problems are being investigated and actions taken to prevent their recurrence.
   e. Submittals are confirmed to meet all requirements prior to delivery and request for progress payment.
   f. The Quality Management Plan and all of the measures and procedures provided therein are functioning properly and are being followed.

26.2.8.4 Request for Progress Payment

The DB Contractor shall submit a request for progress payment by the fifth Day of each month, or other agreed-upon date, containing the amount claimed to be payable for each completed payment Activity and amounts due under Approved Change Orders. A listing of completed and partially completed Activities with supporting documentation shall be provided as support for the amount claimed payable.

Upon receipt of a request for progress payment, DDOT will review the submitted request for progress payment and within seven Days provide a comment log to the DB Contractor that lists any discrepancies and other amounts intended to be deducted.

DDOT and the DB Contractor shall meet to review requests for progress payment and the comment log and attempt to resolve any outstanding issues regarding payment Activities.

The DB Contractor shall submit a revised request for progress payment to address any outstanding issues identified by DDOT. If the DB Contractor includes items for payment that remain unresolved, DDOT will either (i) notify the DB Contractor that unresolved items in the request for progress payment remain, and request a resubmittal of the request for progress payment, or (ii) deduct those amounts DDOT asserts are not eligible for payment, and process the request for progress payment. In such case, DDOT shall notify the DB Contractor of any such deductions.

26.2.8.5 Certification for Progress Payment

Requests for progress payment shall be certified by the DB Contractor's senior management that all amounts being requested are true and correct and the Work has been completed in accordance with the Contract requirements. No request for progress payment will be processed without such certification.

26.2.8.6 Documents Required to be Provided with the Request for Progress Payment

The following documents shall be submitted with each request for progress payment application. No request for progress payment will be processed without such documents:

1. Conditional lien releases from each first-tier Subcontractor
2. Conditional lien releases from Subcontractors of any tier with a Contract value greater than $5 million
3. The monthly progress report as defined in Section 26.3.8.3, Progress Reports, herein
4. All required insurance certificates
5. All required certified payrolls
6. DDOT Form 231 completed weekly to serve as weekly trainee report
7. Certification of Work performed which is included in progress payment request

26.2.8.7 Payment Limitations and Partial Suspension of Payment

DDOT will not pay for Work unless the following conditions are met with respect to such Work:

1. Released for Construction Documents are on-Site for the Work being performed and design documentation has been maintained, in accordance with the Contract Documents.
2. Construction Work has been inspected, and sampling and Testing conducted, in accordance with Contract Documents.
3. All incorporated material certifications have been submitted in accordance with the Contract Documents.
4. Nonconforming Work items are corrected and/or resolved to the satisfaction of DDOT.
5. On any request for progress payment, DDOT may withhold or deduct amounts otherwise due to DB Contractor for that period's apportionment of any payment or continuing Activity for any of the following:
    a. Failure to meet Contract provisions regarding Key Personnel or to staff the Project adequately and with sufficiently skilled personnel.
    b. Failure to maintain construction documentation so that it is complete, or failure to submit or retain records and reports in accordance with Contract Documents.
    c. Failure to maintain and update As-Built Documents monthly.
    d. Failure to provide or to meet Contract requirements regarding Project Schedules, including timely submittal of Progress Schedules.
    e. Failure to conduct or attend Project meetings with appropriate personnel, including Key Personnel.
    f. Failure to meet Contract requirements regarding the Quality Management Plan, including management, design, construction, or other related functions.
    g. Failure to provide timely or adequate facilities as required by the Contract.
    h. Failure to meet Contract, DDOT, and federal requirements regarding safety, including holding safety meetings and submitting reports.
    i. Failure to adequately support DDOT's Public Information efforts as required by the Contract.
    j. Failure to provide required types and levels of insurance.
    k. Serious disruptions to necessary traffic control and access through the Site.
    l. Noncompliance with environmental requirements.
    m. Continued reports of blocked vehicular or pedestrian access to properties.
    n. Liquidated Damages.

o. Reimbursement for Remedial Work.

p. Costs for breach of Contract.

q. Final cleanup Work expenses.

No payment will be made for design or construction Work necessary to correct Nonconforming Work.

At any time, DDOT may correct or modify any previous certified or paid amount related to any past request for progress payment and make the associated adjustments on any future request for progress payment.

Payment Activities for Work arising from Change Orders are subject to DDOT Approval.

26.2.8.8 Processing and Payment

Processing of Requests for Progress Payment

Once DDOT Approves the request for progress payment, DDOT will sign and date and return a copy of the request for progress payment cover sheet with any corrections noted, and proceed with processing the request for progress payment. DDOT will make payment on Approved amounts within 14 Calendar Days of the date signed.

Prompt Payment to Subcontractors

In accordance with Volume II, Book1, Section 13.6, Prompt Payment to Subcontractors, the DB Contractor shall pay all of its first-tier Subcontractors and Suppliers the amounts due in accordance with the Subcontract within seven Calendar Days of receipt of payment from DDOT for such Work. Within 15 Calendar Days after receiving payment from DDOT, the DB Contractor shall submit DDOT Form No. 1010, certifying that payment was made to the applicable Subcontractors and Suppliers.

26.3 Design Requirements

Intentionally left blank.

26.4 Construction Requirements

Intentionally left blank.

26.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated within Section 1, General Information, of these Technical Provisions.

TABLE 26-1
Project Schedules Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Initial Baseline Schedule	Review and Approve	Due at issuance of NTP1	26.2.1
Baseline Schedule	Review and Approve	Prior to issuance of NTP2	26.2.2
Revised Baseline Schedule	Review and Approve	As required	26.2.3
Recovery Schedule	Review and Approve	As required	26.2.4
Progress Schedule	Review and Approve	Monthly	26.2.5
Record Schedule	Review and Approve	Due at Final Acceptance	26.2.5.1

TABLE 26-1
Project Schedules Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Narrative Report	Review and Approve	As required	26.2.6.3
Time Impact Analysis	Review and Approve	As required	26.2.6.5
Schedule of Values	Review and Approve	As required	26.2.7
Activity Payment Breakdown	Review and Approve	Prior to submitting any Request for Progress Payment containing partial payment for partial completion of a payment Activity	26.2.8.1
Monthly Progress Reports	Submit	With request for progress payment	26.2.8.3
Request for Progress Payment	Review and Approve	Fifth Day of each month (If this is a Holiday, Saturday, or Sunday, submit on the next Day.)	26.2.8.4

SECTION 27

Project Management Plan

27.1 General

The DB Contractor shall establish and maintain an organization which effectively manages all Elements of the Work. This project management effort shall be defined by and follow the Project Management Plan (PMP), which is a collection of several management plan Elements (PMP Elements) describing discrete Elements of the Work as described in Table 27-1. The Project Management Plan is an umbrella document that describes the DB Contractor's managerial approach, strategy, and quality procedures to design and build the Project and achieve all requirements of the DBA Documents. Within the timelines for implementing each Element of the PMP, the plan shall include details of external auditing procedures.

TABLE 27-1
Elements of the Project Management Plan

Chapter Title	Section of Volume II, Book II, Technical Provisions that Define the Chapter Requirements
Project Administration • Schedule • Document Control Work Plan	 Section 26 Section 12
Quality Management Plan (QMP) • Design QMP • Construction QMP • Materials QA/QC	Section 28
Environmental Management Plan • Erosion and Sediment Control Plan • Spill Prevention, Control, and Countermeasures Plan • Fugitive Dust Control Plan • Contaminated Water Management Plan • Concrete Containment, Collection, and Disposal Plan • Hazardous Materials Management Plan • Munitions and Explosives of Concern Support Work Plan	Section 8
Demolition Plan	Section 3
Communications Plan • Construction Communications Public Information Plan • Crisis Communications Plan • Project Communications	 Section 9 Section 9 Section 27
Safety Plan	Section 27
Risk Management Plan	Section 27
Right-of-Way Plans • Property Management Plan • Hazardous Material Abatement Plan	Section 24
Maintenance of Traffic • Traffic Management Plan • Traffic Incident Management Plan	Section 22
Maintenance During Construction • Maintenance Management Plan	Section 29

27.2 Performance Requirements

These Sections 27.2.1 through 27.2.4 herein describe various management activities of the Project with details referenced to other sections of these Technical Provisions.

27.2.1 Schedule Work Plan

The DB Contractor shall provide a Schedule Work Plan that addresses all aspects of scheduling the Work and assigns responsibilities to positions within the DB Contractor's organization. The Schedule Work Plan should be

based on the description of the overall approach of scheduling the Work provided with the Proposal. The Schedule Work Plan shall be submitted prior to or with the initial Baseline schedule as required in Section 26, Project Schedules, of these Technical Provisions, for review and Approval and as a condition for issuance of NTP2 and shall provide a description of the overall approach for scheduling the Work, including the following:

1. How the DB Contractor will develop, review, coordinate with DDOT for Approvals and maintain the Project schedules.
2. Which positions within the DB Contractor's organization (including field personnel) will be responsible for developing and progressing the schedules and for QC and QA of the schedules, and what will each individual be responsible to perform and how will these efforts be coordinated with each other and with DDOT's oversight team.
3. How the most current schedule will be updated/maintained to reflect the actual anticipated Work in the field and how it will be utilized in the field to progress the Work.
4. How the DB Contractor will track the information necessary to update each monthly progress schedule to reflect the exact manner in which the DB Contractor executed the Work.

The DB Contractor may propose or DDOT may require updates to the Schedule Work Plan. Changes to the Schedule Work Plan shall be submitted for review and Approval.

Project Schedules shall mean any of the schedules identified in Section 26, Project Schedules, of these Technical Provisions. See Section 26, Project Schedules, of these Technical Provisions for detailed schedule requirements.

27.2.2 Project Communications

27.2.2.1 Project Directory

DB Contractor shall provide a directory showing all Key Personnel and other appropriate discipline leadership personnel identified by function within 21 Calendar Days of NTP1. The directory shall be updated throughout the course of the Project to remain current. At a minimum, submit a revised directory within seven Calendar Days of NTP2 and in conjunction with any changes to the Project organization chart. The directory shall be submitted in electronic format and shall include the following information for each person listed:

1. Project title
2. Area of responsibility
3. E-mail address
4. Mobile telephone number
5. Office information
    a. Location/address
    b. Main office telephone number
    c. Fax number

27.2.2.2 Project Organization

DB Contractor shall provide an organization chart within 21 Calendar Days of NTP1. The organization chart shall be updated throughout the course of the Project to remain current. At a minimum, submit a revised organization chart within seven Calendar Days of NTP2 and in conjunction with any changes to the Project directory. The organization chart shall be submitted in electronic format and, at minimum, identify the following personnel responsible for the following positions and/or functions:

1. All Key Personnel
2. All QA positions
3. All QC positions

4. Environmental compliance
5. Subcontracts and procurement
6. Design for each discipline
7. Coordination for each Third Party, including Utilities, adjacent property owners, and other Agencies
8. Safety
9. Project controls
10. Public Information

27.2.2.3 Project Management Meetings

The DB Contractor shall plan for weekly and monthly Project management meetings with DDOT. A separate meeting shall be held for each of the following topics on a weekly basis: Quality, Project progress (status), Safety, Utilities, and MOT. A separate meeting shall be held for each of the following topics on a monthly basis: Schedule and Request for Progress Payment. A separate meeting shall be held for Partnering on a quarterly basis. Key Personnel or their designees shall attend meetings such that each management function is represented in every meeting. The types of meetings, their topics, and required attendees shall be mutually developed and agreed upon by the DB Contractor and DDOT. The DB Contractor shall prepare and distribute an agenda and meeting minutes for all regular meetings. All meeting minutes shall not become final until DDOT reviews and provides comments to the minutes and all such comments shall be included in the meeting minutes. The DB Contractor shall provide all meeting facilities unless otherwise agreed.

27.2.3 Photographs

27.2.3.1 Progress Photographs

The DB Contractor shall take quarterly aerial Project photographs of the Work and Site. Aerial photographs shall include all areas under construction, whether temporary or permanent, and all other areas impacted, each time photos are taken.

Aerial photographs shall be at least 16-by-24-inches at a resolution of 200 dots-per-inch taken with a digital single lens reflex (DSLR) camera having a minimum image sensor size of 15.4 megapixels. All photographs shall be provided in high-quality .jpeg format.

27.2.4 Safety Plan

27.2.4.1 General

The DB Contractor will update the Preliminary Safety Plan and shall submit a Project-specific Final Safety Plan (Safety Plan) for review and Approval which documents the DB Contractor's safety policy and identifies and addresses specific health and safety concerns which may be encountered on the Project as a condition for issuance of NTP2 and prior to the commence of any construction activities.

The DB Contractor shall implement, review and update the Safety Plan and create a program for assuring compliance with the Safety Plan at all times. It shall be the DB Contractor's responsibility to coordinate with DDOT, other agencies, and all relevant entities to ensure compliance with the Safety Plan.

The Safety Plan shall provide for the following:

1. Dedicated safety staff;
2. Dedication to the protection of the workers and the public;
3. Participation by all persons involved with the Contract;
4. Planning, management, and design to avoid hazards;
5. Detection of potential hazards;
6. Safety training, safety meetings, and safety audits; and

7. Timely correction of hazards.

The DB Contractor shall ensure that all its employees and those of all Subcontractors are obligated to fully conform to the provisions of the Safety Plan at all times. Should the DB Contractor's employees or its Subcontractors fail to conform to the provisions of the Safety Plan, the DB Contractor shall take appropriate disciplinary measures. Such measures shall include suspension, removal of the offending employees from the site, and dismissal. The requirement to conform to the provisions of the Safety Plan shall be included in the terms and conditions of employment of all employees of the DB Contractor and all Subcontractors of any tier.

27.2.4.2 Safety Plan Contents

The DB Contractor shall prepare and submit its Safety Plan to DDOT for Review and Comment. All comments shall be addressed to the satisfaction of DDOT prior to the commencement of any construction activities. The Safety Plan shall be a comprehensive document and shall include all required actions, activities, rules, and mitigation relative to the safety of the Work. An appropriate notice shall be posted on the Project site that the Project Safety Plan is available for examination by any worker employed on the Project. The Safety Plan shall include the following items:

1. A policy statement of the DB Contractor's commitment to safety;
2. Identification of DB Contractor's Safety Officer(s) including roles and responsibilities for safety, an organization chart, reporting procedures, safety inspection procedures, and audit programs;
3. Reference to all applicable governmental rules;
4. Required resources and Project schedule for safety activities;
5. An employee safety education and training plan for required training for all workers, including required toolbox meetings, and specific training details for hazardous materials communication and unexploded ordinance training and communication;
6. Procedures and programs to ensure safety integration into design, construction, testing and acceptance, and start-up activities;
7. Procedures to address Project health and safety concerns, including personal protective equipment, material handling and storage, scaffolds, ladders, heavy equipment, motor vehicles, small tools, forms, steel erection, cranes and hoisting, work platforms, fall protection, working over water, water safety, working over roadways, hazardous materials, unexploded ordinance, blasting, drilling, electrical safety, lock-out/tag-out, welding, cutting, sanitation/housekeeping, confined space entry, identification of restricted areas and measures to prevent access to such areas, and other items;
8. Industrial hygiene, including respiratory protection, noise, dust, hazardous materials, MSDS, and lists of hazardous chemicals present;
9. Fire protection and prevention;
10. Detailed emergency and rescue procedures to include, at a minimum, detailed procedures for: medical, fire, water, chemical spill, hazardous materials, unexploded ordinance, property damage, bomb threat, severe weather, aviation, utility, explosion, natural disaster, and terrorist attack;
11. The process for the identification and effective communication of safety hazards associated with the operational phase of Project;
12. Policy for substance abuse;
13. Security provisions;
14. Safety requirements and procedures for surveyors, engineering personnel, inspectors, and testing personnel performing site investigations, inspections, and sampling/testing;
15. Incident investigation, reporting, and record keeping;

16. Procedures for achieving worker compliance with health and safety requirements; and
17. The process for sound decision-making that integrates the results of system safety activities into the requirements and specifications for the Project.

The Safety Plan shall contain a list of the detailed safety procedures to be followed. Safety procedures shall be prepared separately for individual activities, and these detailed procedures shall be appendices to the Safety Plan.

27.2.5 Risk Management Plan

27.2.5.1 General

The DB Contractor shall submit a Project-specific Risk Management Plan (Risk Plan) for review and comment prior to and as a condition for issuance of NTP2. All comments shall be addressed to the satisfaction of DDOT prior to the commencement of any construction activities.

The Risk Plan shall contain the elements contained in the following section herein.

The Risk Plan is intended be a strategic document to focus the Project team to anticipate circumstances and activities that could change the Project course, delay Work, impact the community, or add additional costs or provide significant savings to parties involved in the Project. The goal is to use this document at management levels between the DB Contractor and DDOT to collectively manage the course of the Project. Details, frequency of discussions, and staff involved are to be proposed by the DB Contractor and addressed mutually between the parties within the framework presented herein.

27.2.5.2 Risk Plan Contents

1. Approach to identification, management, mitigation, and allocation of Project-specific risks. The approach should present a plan for dialogue with DDOT. Dialogue options are anticipated to range from weekly agenda items at the project-manager level to quarterly discussions at executive-level Partnering sessions.
2. Development of a risk matrix. The matrix shall include, at a minimum, identification and description of potential Project risks, consequences of identified risks, allocation of risks to parties of the Contract, and appropriate risk mitigation strategies.

27.3 Design Requirements

Not Used.

27.4 Construction Requirements

Not Used.

27.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated within Section 1, General Information, of these Technical Provisions.

TABLE 27-2
Project Management Plan Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Schedule Work Plan	Review and Approve	With or prior to Initial Baseline Schedule and as a condition for issuance of NTP2	27.2.1
Project Directory	Submit	Within 21 Calendar Days of issuance of NTP1	27.2.2.1

TABLE 27-2
Project Management Plan Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Project Organization Chart	Submit	Within 21 Calendar Days of issuance of NTP1	27.2.2.2
Meeting Agenda	Submit	At least three Business Days prior to meeting	27.2.2.3
Meeting Minutes	Review and Comment	Within five Calendar Days of meeting	27.2.2.3
Progress Photographs	Submit	With monthly Progress Report	27.2.3.1
Pre-construction Photography	Submit	As a condition of issuance of NTP2	27.2.3.2
Safety Plan	Review and Approve	As a condition for issuance of NTP2. Comment resolution to the satisfaction of DDOT required prior to commencement of any construction activities	27.2.4
Risk Plan	Review and Comment	As a condition for issuance of NTP2. Comment resolution to the satisfaction of DDOT required prior to commencement of any construction activities Updated Monthly	27.2.5

SECTION 28

Design-Build Quality Management Plan (QMP) Requirements

28.1 General

The Quality Management Plan (QMP) shall include the Design QMP, Construction QMP and Materials QA/QC Plan. It shall be consistent with the preliminary QMP submitted with the DB Contractor's proposal. DDOT will not accept any Final Design Submittals until the DB Contractor's final Design QMP has been Approved in writing by DDOT. No construction Work activities that require Quality Assurance (QA)/Quality Control (QC) Inspection and Testing shall commence until the DB Contractor's final Construction QMP and Materials QA/QC Plan has been Approved by DDOT. The QMP shall remain in effect until all requirements of the Contract have been fulfilled, all required Project documentation has been submitted to DDOT, and Final Acceptance of the Project is provided by DDOT.

The QMP shall detail how the DB Contractor shall provide QA and QC for design and construction of the Project and shall verify that all environmental and permit commitments are met to ensure the Work conforms to the Contract requirements. The DB Contractor shall comply with the applicable requirements including, but not limited to, environmental, DDOT, and American Association of State Highway and Transportation Officials (AASHTO) publications listed in these Technical Provisions for preparing the QMP. The DB Contractor shall revise the QMP and its implementation when repetitive or recurring quality issues arise.

The DB Contractor's QMP shall include an organizational chart of the QA and QC personnel, listing the number of full-time equivalent employees, specific responsibilities for each employee, and the lines of authority and reporting responsibilities. The QA and QC organizations and personnel shall be completely independent of each other, with separate reporting authorities. The personnel and organization(s) performing QA functions shall have authority and organizational autonomy to identify quality issues and to be able to initiate, recommend, and verify implementation of Corrective Action Plans. Personnel performing QA functions shall be at an organizational level that ensures they will not be influenced by the impact of the QA measures on the Project schedule, performance, or cost. The QMP shall list by discipline the name, qualifications, applicable certifications, duties, responsibilities, and authority for all personnel proposed to be responsible for QA and QC. All personnel performing QA functions shall not be assigned to perform conflicting duties.

If DDOT determines that QA functions are not properly being performed by the Design-Build's QA firm, then DDOT, in its sole discretion, reserves the right to direct the DB Contractor to replace the QA firm with a new QA firm Approved by DDOT.

Final acceptance of all Work is DDOT's responsibility. A determination of Final Acceptance of all Work or portions thereof shall be made by DDOT through owner-independent assurance testing, owner verification sampling and testing, and auditing of DB Contractor quality control and quality assurance Inspection and Testing reports.

28.1.1 Project Quality Meetings

The Construction Quality Assurance Manager shall schedule Project QA meetings to involve representatives from the DB Contractor, the QC team, the QA team and representatives from DDOT. The meetings will at a minimum include discussions on safety, schedule of Work, Hold Point requirements, addressing issues relating to Inspection, substandard material quality, inadequate QA and QC processes that need to be adjusted, Test results that are out of tolerance, disparities between QA and Verification Test data, future quality concerns, and any issues that DDOT and the DB Contractor may have regarding the quality of the Project.

The DB Contractor shall assign the superintendents, foremen, and other key team members associated with upcoming Work, personnel in charge of QA and QC activities, and any other personnel the DB Contractor acknowledges as having quality-related concerns from the Design-Build team to participate in the Project Quality Meetings. DDOT may assign similar personnel related to the Project or others having quality concerns on the

Project to attend these meetings.

The Construction QA Manager shall be responsible for setting the meeting schedule and agenda, documenting the meeting minutes and distributing the minutes to attendees. At the start of the design and construction phases, meetings shall be held at a minimum on a bi-weekly basis to discuss quality. In the event that Contract performance becomes substandard, DDOT will require that Project Quality Meetings occur more frequently. No additional compensation will be paid to the DB Contractor for additional meetings, if required.

The DB Contractor shall review all of the current and unresolved Nonconformance Reports (NCRs) and NCW during the QA team meetings. For each NCR and NCW, the DB Contractor shall address the following items at the QA team meetings:

1. Action taken by QC—how will QC or production ensure the NCR/NCW will not be repeated? How has this action been addressed in accordance with the QMP?
2. Action taken by QA—how will QA ensure the NCR/NCW will not be repeated? How has this action been addressed in accordance with the QMP?
3. Resolution of the initial issue that caused the NCR/NCW—how was it corrected?
4. How can the issue be prevented from becoming a recurring error?

Example topics for a weekly QA team meeting include the following:

1. Safety
2. Environmental compliance
3. Schedule
4. Review of action items from prior weeks
5. Current and upcoming activities
6. QA/QC Inspections, Testing, and documentation
7. Review of Materials evaluation results
8. Open NCRs/NCW
9. New issues

For each item, the DB Contractor shall record clear action items, due dates, and responsibilities in the meeting minutes.

28.1.2 Quality System

The DB Contractor shall prepare a QMP that includes a quality system that meets the Contract requirements.

The hierarchy of the documents describing the quality system shall be as follows:

1. Quality policy (for the entire system)
2. Quality objectives
3. Resources (for each section of the QMP)
4. Procedures
5. Work instructions

The QMP shall include a flowchart or other graphical representation showing the processes and their relationships to each other, the Inspection and Test controls, and a narrative for each process.

The QMP shall include written procedures that describe the purpose, overview, responsibilities, and steps of the quality system process, and records resulting from the process.

The QMP shall include an Inspection and Test plan describing all of the proposed QA Inspections and Tests to be performed throughout the construction process. The Construction QA Manager shall review and approve all Inspection and Test plans.

The QMP shall describe how it is applied to all design and construction submittals required by the Contract.

In addition, the QMP shall meet the following criteria:

1. Describe all of the Material receiving, in-process, and final Inspections and Tests to be undertaken;
2. Show which products or services are to be subcontracted;

3. Describe process to verify compliance by suppliers and Subcontractors with requirements; and
4. Identify who within the construction QA organization has “stop-work” authority.

28.1.3 Executive Management Review

The DB Contractor’s Executive Management shall approve the QMP and conduct a review or an internal audit of the QMP at least quarterly, and more frequently if repetitive QA issues and Corrective Action Reports have been issued. Reviews shall be documented and submitted to DDOT. The review or internal audit shall ensure the QMP’s ongoing suitability and effectiveness in satisfying the requirements of the Contract and the DB Contractor’s stated quality policy and objectives.

The DB Contractor shall invite DDOT to participate in the Executive Management reviews.

At a minimum, the Executive Management review or internal audit shall evaluate the results of the review, DDOT audit results, Corrective Action Reports, and plans implemented as a result of the NCRs and NCW. The DB Contractor shall respond within 21 Calendar Days to requests for the implementation of Corrective Action Plans that result from Executive Management reviews. The DB Contractor shall incorporate the updated Corrective Action Plan into the QMP in a timely manner. Any changes to the QMP shall be Approved by DDOT.

28.2 Performance Requirements

At a minimum, the DB Contractor’s QA and QC staff shall include the personnel described in the following subsections.

28.2.1 Project Quality Manager

The DB Contractor shall designate a Project Quality Manager who shall be responsible for developing and updating the QMP and scheduling and facilitating the Executive Management reviews. The Project Quality Manager shall report directly to the person or group with overall Project management responsibilities, such as the DB Project Manager, an offsite principal or Project sponsor, or an executive oversight committee established for the Project. The Project Quality Manager may be the Design QA Manager or the Construction QA Manager, but the Project Quality Manager cannot be both the Design and Construction QA Managers.

Minimum Qualifications

The Project Quality Manager must be a licensed Professional Engineer in the District of Columbia and have at least ten years of recent experience in the management of a quality management program for a major urban freeway project.

28.2.2 Design QA Manager

The Design QA Manager shall have overall responsibility for the design portion of the QMP. Through audits, the Design QA Manager shall be responsible for verifying and validating that the QA and QC procedures required by the QMP are administered and being followed. The Design QA Manager shall report to the Project Quality Manager or to the person or group with overall Project management responsibilities. The Design QA Manager could also be the Project Quality Manager but cannot also be the Construction QA Manager.

In accordance with this Section and the QMP, the Design QA Manager shall certify that (1) all Design Documents have been subjected to all required QC checking procedures, (2) all documentation has been completed and filed in an acceptable manner, and (3) all design packages have been subjected to a QA audit prior to submittal to DDOT or prior to release.

Minimum Qualifications

The Design QA Manager must be a licensed Professional Engineer in the District of Columbia and have at least ten years of recent experience in the design or quality management of major urban freeway projects.

28.2.3 Construction QA Manager

The Construction QA Manager (QAM) shall have overall responsibility for implementation of the construction portion of the QMP.

This individual will be from an independent firm that has no involvement in construction operations for the Project and shall be responsible for the quality assurance Inspection and Testing of all Materials used and Work performed on the Project, including monitoring the DB Contractor's quality control program. The Construction Quality Assurance Manager shall certify that all Work and Materials, Testing, and sampling are performed in conformance with the Contract requirements, the Released for Construction plans, and the specifications.

This person will be assigned to the Project full time and is required to be onsite for the duration of the Project once construction activities begin.

This individual will report directly to the DB Project Manager.

It is the responsibility of the Construction QA Manager to plan and oversee the QA Testing, sampling, and Inspection operations and coordinate Testing, sampling, and Inspection operations with DDOT's Owner's Independent Assurance (OIA) and Owner's Verification Sampling and Testing (OVST) personnel. The Construction QA Manager shall not be assigned to perform conflicting duties on the Project.

The Construction QA Manager shall have the authority to stop any Work that does not meet the standards, specifications, or criteria established for the Project.

The QAM shall have the authority to report nonconformance issues directly to DDOT if issues are not addressed by the DB Project Manager.

If DDOT determines that QA Manager's functions are not properly being performed by the DB Contractor's QA firm's QA Manager, then DDOT, in its sole discretion, reserves the right to direct the DB Contractor to replace the QA Manager with a new QA Manager Approved by DDOT.

Minimum Qualifications

This individual will be a registered Professional Engineer licensed in the District of Columbia, or will be a registered, licensed, Professional Engineer in the United States and will obtain his or her Professional Engineer's license in the District of Columbia within six months of Project award, and be able to demonstrate experience in providing oversight to Project QA/QC programs on projects of similar nature and magnitude.

28.2.4 Construction QC Manager

This individual will actively manage the Construction Quality Control Program for the Project.

This individual shall be responsible for the construction quality control Inspection and Testing of all Materials used and Work performed on the Project. The Construction Quality Control Manager will ensure that all Work and Materials, Testing, and sampling are performed in accordance with the Contract requirements, the Released for Construction plans, and the specifications.

This person will be assigned to the Project full time and is required to be onsite for the duration of the Project once construction activities begin.

This individual will report directly to the Construction Manager and shall have the authority to stop any Work that does not meet the standards, specifications, or criteria established for the Project.

Minimum Qualifications

Must have performed a comparable function within the past ten years and demonstrates the appropriate supervisory experience in Inspection, documentation, and Materials Testing on relevant projects.

28.2.5 Environmental Compliance Manager (ECM)

The ECM shall be responsible for the overall environmental compliance of the Project and shall function as the principal technical advisor and coordinator for Project environmental issues. This individual will be responsible for ensuring that all environmental commitments are met and environmental compliance is maintained throughout the course of Project delivery. This individual will review all designs, design modifications, and work plans before Work is performed to ensure environmental compliance requirements are met. Refer to Section 8, Environmental, for additional requirements.

Minimum Qualifications

The ECM shall have a minimum of five years of experience managing environmental design and construction issues with at least three years specific to transportation. The ECM shall be knowledgeable of environmental regulations and permits relative to the Project.

28.2.6 Quality Testing Supervisor (QTS)

The Quality Testing Supervisor (QTS) may be an employee of the DB Contractor's QA testing laboratory or of the independent testing laboratory hired to perform the QA Testing. The QTS or his or her representative shall be at the site where the Testing is being performed. The QTS shall schedule, review, and verify for compliance all Test reports performed by the QA testing laboratory. The QTS shall report to the Construction QA Manager.

Minimum Qualifications

Must be a licensed Professional Engineer in the District of Columbia and hold a Bachelor of Science degree in Civil Engineering, Civil Engineering Technology, Construction, or related field, and have a minimum of four years of highway and structural materials testing experience.

28.2.7 Electrical/Intelligent Transportation Systems (ITS) Inspector

The DB Contractor's electrical and ITS Inspector shall have the following minimum qualifications:

1. Master electrician certificate issued by the District of Columbia, and four years of experience supervising the installation of highway electrical and/or ITS systems.
2. Eight years of experience in engineering highway electrical systems including illumination, traffic signals, and/or ITS systems, and four years of full-time experience as an Electrical Inspector on highway construction projects.

The DB Contractor's electrical and ITS Inspector shall notify DDOT when electrical and ITS components are ready to be inspected for code compliance, functionality, and acceptance as required by law.

28.2.8 QA Testing Technicians and QA Inspection Technicians

The QA Testing Technicians and QA Inspection Technicians shall perform the required QA Inspections and Tests. The QA Testing Technicians and QA Inspection Technicians shall have the following qualifications:

QA Testing Technicians

Quality Assurance Testing shall be performed by qualified QA Testing Technicians, who shall be qualified in accordance with AASHTO R-18. The qualifications of the laboratory technicians employed by an AASHTO-accredited laboratory will be accepted for performing AASHTO test methods only when confirmed by the laboratory's training and evaluation records. The competency of each QA Testing Technician shall be re-evaluated annually in all Tests they perform, in accordance with the laboratory's approved Laboratory Quality Systems Manual.

A Testing Technician currently qualified in concrete testing (field and strength) by the American Concrete Institute (Level I) will be considered qualified to perform concrete Tests.

The QA Testing Technicians performing the field and laboratory QA sampling and Testing shall be employed by the DB Contractor or an agent's laboratory and supervised by the QTS or the Construction QA Manager. The QA Testing Technicians shall not be affiliated with or employed by any Materials supplier or the QC organization. The QA Testing Technicians shall not perform QC Testing.

QA Inspection Technicians

The QA Inspection Technicians shall inspect, verify Materials, and document all construction activities for compliance to the Contract. The QA Inspection Technicians shall report to the Construction QA Manager. The QA Inspection Technicians shall not be affiliated with or employed by any Materials suppliers or subsidiaries. The QA Inspection Technicians shall not perform QC Inspection. The QA Inspection Technicians shall have a minimum of four years of qualifying experience in roadway construction Inspection.

QA Staff Training

The QAM shall ensure the QA staff hold current and appropriate certifications, appropriate knowledge of requirements, and are knowledgeable in the applicable procedures for Inspection of Work, geotechnical and environmental monitoring, and Material sampling and Testing. The professional training and experience of the QA staff (including biologists, hydrologists, and geotechnical engineers) shall be commensurate with the scope, complexity, and nature of the activity to be inspected, monitored, or Tested.

QA Staffing Levels

QA staffing levels shall be identified in the QMP and updated as necessary during the course of the Project to reflect the actual construction schedule. The size of the QA staff shall reflect the complexity, needs, shifts, and composition of the construction activities consistent with the construction schedule, relative locations of the Work to be covered, geotechnical considerations, environmentally sensitive areas, and specific nature of the Work. DDOT will review and comment on proposed staffing levels to ensure the Project requirements are adequately met. Construction shall not take place when QA staffing levels are inadequate to provide the Inspection and Testing required by the Contract. At a minimum, there shall be at least one QA inspector on the Project site when permanent Work is being incorporated into the Project. The DB Contractor shall identify and provide adequate QA staff to fulfill all Inspection and Testing requirements, particularly during concurrent Work activities.

Restrictions on QA Staff

Staff shall be from an independent firm that has no involvement in construction operations.

Minimum Qualifications

Staff shall hold current testing/inspection certifications from the Mid-Atlantic Region Certification Program (MARTCP), the American Concrete Institute (ACI), the National Institute for Certification in Engineering Technologies (NICET), or other certification organizations deemed acceptable by DDOT.

Certifications shall remain current throughout the course of the Project.

Rights to Remove QA Staff

By written notice, DDOT reserves the right to permanently remove any of the following personnel from the Project:

1. A QA Testing Technician who does not perform the QA Tests in accordance with the Test methods.
2. A QA Testing Technician who does not report Test results accurately.
3. A QA Inspection Technician or geotechnical or environmental monitor who, in the opinion of DDOT, does not exercise good judgment in the performance of their duty.
4. A QA Testing Technician who is not certified in accordance with the Contract requirements.

Replacement staff shall be Approved by DDOT.

28.2.9 QC Testing Technicians and Inspection Technicians

The DB Contractor shall perform, control, and ensure that operational techniques and activities provide acceptable quality and are in compliance with the Contract. The QC personnel may be a separate organization within the DB Contractor's organization; the DB Contractor's front line supervisors; the supplier, producer, or

manufacturer; but in no case shall be associated with the QA organization. The QC personnel shall be trained and provided the necessary tools, Testing procedures, and Inspection checklists to ensure the Work product meets the Contract requirements. The QC testers and inspectors shall report to the Construction Quality Control Manager

QC Testing Technicians

The DB Contractor shall have quality control Testing performed by qualified QC Testing Technicians, who shall be qualified in accordance with AASHTO R-18. The qualifications of the laboratory technicians employed by an AASHTO-accredited laboratory will be accepted for performing AASHTO test methods only when confirmed by the laboratory's training and evaluation records. The competency of each QC Testing Technician shall be re-evaluated annually in all Tests they perform, in accordance with the laboratory's approved Laboratory Quality Systems Manual.

A Testing Technician currently qualified in concrete testing by the American Concrete Institute (Level I) will be considered qualified to perform concrete Tests.

The QC Testing Technicians performing the field and laboratory QC sampling and Testing shall be employed by the DB Contractor or an agent's laboratory and supervised by the Construction QC Manager.

QC Inspection Technicians

The QC Inspection Technicians shall inspect, verify Materials, and document all construction activities for compliance to the Contract. The QC Inspection Technicians shall report to the Construction QC Manager. The QC Inspection Technicians shall have a minimum of four years of qualifying experience in roadway construction Inspection.

QC Staff Training

The QC Manager shall ensure the QC staff hold current and appropriate certifications, appropriate knowledge of requirements, and are knowledgeable in the applicable procedures for Inspection of Work, geotechnical and environmental monitoring, and Material sampling and Testing. The professional training and experience of the QC staff (including biologists, hydrologists, and geotechnical engineers) shall be commensurate with the scope, complexity, and nature of the activity to be inspected, monitored, or tested.

QC Staffing Levels

QC staffing levels shall be identified in the QMP and updated as necessary during the course of the Project to reflect the actual construction schedule. The size of the QC staff shall reflect the complexity, needs, shifts, and composition of the construction activities consistent with the construction schedule, relative locations of the Work to be covered, geotechnical considerations, environmentally sensitive areas, and specific nature of the Work. DDOT will review and comment on proposed staffing levels to ensure the Project requirements are adequately met. Construction shall not take place when QC staffing levels are inadequate to provide the Inspection and Testing required by the Contract.

Minimum Qualifications

Staff shall hold current testing/inspection certifications from the Mid-Atlantic Region Testing Certification Program (MARTCP), the American Concrete Institute (ACI), the National Institute for Certification in Engineering Technologies (NICET), or other certification organizations deemed acceptable by DDOT.

Certifications shall remain current throughout the course of the Project.

28.3 Quality Management Plan Requirements

28.3.1 Design Quality Management

In addition to the use of e-builder, the DB Contractor shall submit two hard copies and one electronic copy on CD of each QMP submittal.

Modifications to the final QMP shall be submitted to DDOT for review and Approval. When the modifications are

Approved, the DB Contractor shall correct the two hard copies of the final QMP and submit one electronic copy of the revised QMP on CD. Each hard copy or CD shall be clearly marked with the revision that has been included in that copy.

The QMP shall specify all aspects of the QA and QC for design. The QA and QC procedures for each type of Design Document and Released for Construction (RFC) document shall be organized by engineering discipline. The DB Contractor shall include measures and objective evidence to ensure that appropriate quality standards are specified and included in the Design Documents and RFC Document and to control deviations from the standards. The DB Contractor shall not deviate from the standards unless the deviation has been approved by DDOT.

The Design QMP shall include the following:

1. QA and QC procedures for preparing, submitting, checking, back-checking, correcting, and verifying all plans, and calculations, special provisions, drawings, and other items to ensure that they are independently checked and back-checked by experienced architects and engineers in accordance with generally accepted architectural and engineering practices. The DB Contractor originator, checker, back checker, corrector and verifier shall be clearly identified on the face of all submittals;
2. Specific procedures for validating computer programs used on the Project;
3. QA and QC procedures for verifying that all submittals meet the requirements of the Contract;
4. Assurance that all Materials, equipment, and elements of Work have been provided for and designed to perform satisfactorily for the purpose intended;
5. A defined process for stamping, signing, and dating plans, reports, and other documents by the responsible Professional Engineer licensed under applicable District of Columbia law, where required by the Contract;
6. The level, frequency, and methods of review for the adequacy of the design of the Project;
7. The method by which drawing changes are incorporated into a plan sheet that shall include specific definitions of minor change and significant revision, the threshold between them, and how such changes will be reflected in a Design Document or RFC document. The QMP Plan shall also identify the specific process by which significant revisions will be reviewed and stamped by the original Engineer of Record.
8. The procedures for coordinating Work performed by different personnel in the same area, in adjacent areas, or on related tasks to ensure that conflicts, omissions, or misalignments do not occur between the drawings or between the drawings and the specifications; and to coordinate the review, approval, release, distribution, and revision of documents involving such personnel.
9. Identification of those elements of the Contract, Design Documents, or RFC Documents requiring special QA and/or QC attention or emphasis, including applicable standards of quality or practice to be met, and level of completeness and/or extent of detailing required.
10. Identification by discipline of the name, qualifications, duties, responsibilities, and authorities for all persons responsible for QA and QC.
11. Description of the name, qualifications, duties, responsibilities, and authorities of external technical experts necessary to ensure the quality of the design of the Project. Information regarding the anticipated timing, use, anticipated availability, and any coordination required with respect to any experts.
12. Procedures for assuring that the documents fully provide for constructability and compatibility of Materials.
13. Identification of the Inspection guidelines for each item of Work to determine what significant characteristics of each item needs to be monitored during the construction phase to ensure that the completed Project will function in accordance with the design intent over its expected lifetime. The Inspection guidelines shall include the appropriate criteria, Tests, and Inspection requirements described in this Section.
14. Descriptions of the required design QA and QC functions, including scheduled activities for design QA and QC identifying the Design Documents and RFC Documents to be delivered to DDOT for its review at each stage of

the design or construction phase of the Project. The QMP shall specify written certifications by the Design QA Manager for each submittal document showing that all QMP requirements have been completed satisfactorily.

15. Development and maintenance of an accessible Document Control System (DCS) by the DB Contractor to provide all relevant design inputs, including a list of references to design inputs that should be used by design personnel in the design.
16. Verification by the DB Contractor that the design inputs are communicated to, and accessible by, the relevant designers responsible for incorporating design inputs into the design.
17. Specification of QA procedures to verify the construction surveying, property surveying, establishment of right-of-way markers, As-Built plans, re-established city, county and subdivision monuments, and Record of Survey map.
18. A defined process for tracking the design drawings through the final Design Documents including the RFC Documents.

The QMP shall describe procedures to require that a written certification is signed by the Design QA Manager verifying that all quality procedures have been completed in accordance with the QMP prior to being sent to DDOT for design review.

28.3.1.1 DDOT Design Review

The QMP shall define the timing, content, and format of all design reviews. The DB Contractor shall provide a 21 or 28-Calendar-Day review period as noted in Section 1, of these Technical Provisions, for DDOT review and comment on all design submittals or Review and Approve as may be required. DDOT reserves the right to extend the review time by up to seven Calendar Days for submittals that are received between November 15 and January 1 and for submittals with overlapping review periods that are being reviewed by the same discipline team. However, failure to provide review comments within the 21 or 28-Calendar Day time period does not constitute acceptance.

The DB Contractor shall address all comments made by DDOT in each submittal and shall include a comment resolution matrix in subsequent submittals. All comments shall be addressed to the satisfaction of DDOT prior to Released for Construction Plans being issued.

The DB Contractor shall schedule and maintain minutes of all resolution meetings with the appropriate DDOT staff to document and resolve the DB Contractor's responses to the comments. It is intended that all comments will be resolved at the meetings. If agreement is not reached on any specific comment, it shall be resolved as described in the QMP.

28.3.1.2 Design Task Forces and Over-the-Shoulder Reviews

The QMP shall also include processes and procedures for how regular (weekly) scheduled coordination meetings between DDOT and the DB Contractor will be used to support quality goals. The meetings, combined with over-the-shoulder reviews, shall be an integral part of the process to discuss and resolve design issues outside of the formal review process.

The QMP shall define how over-the-shoulder reviews with DDOT during the course of the development of each design package will be included. The over-the-shoulder reviews are not Hold Points that restrict the progress of design. They are reviews of the design as it progresses and opportunities for DDOT to provide comments and feedback on the design.

28.3.1.3 Design Review

In addition to the use of e-builder, the DB Contractor shall provide DDOT with two hard copies and a complete set of electronic files on CD of each design submittal to be reviewed, unless specified or agreed to by DDOT.

1. At a minimum, the DB Contractor shall provide preliminary and final design documentation submittal packages to include at a minimum; design calculations and documentation, all design reports and technical

documentation, deviations, updated electronic MicroStation and MicroStation data files, including all RFC sheets, reference files, and base mapping (topography, including survey updates), plans, Technical Specifications, and Shop Drawings. All DDOT comments shall be resolved to DDOT's satisfaction prior to DB Contractor submitting RFC submittals. Special provisions shall not be included by reference but shall have their full text included in the Final Design Submittal and RFC Documents. Any deviation from the Mandatory Standards and Technical Provisions shall be Approved by DDOT prior to submitting RFC documents. In addition, the DB Contractor shall provide design submittals as required by Section 106 MOA.

Technical Specifications

The DDOT Standard Specifications for Highways and Structures (2013) may be supplemented or modified by special provisions drafted by the Design-Build Contractor's team and submitted to DDOT for review and Approval. The DB Contractor shall develop any additional Technical Specifications required to address Work not covered by the DDOT Standard Specifications or these Technical Provisions.

Preliminary Design Submittals

The intent of the preliminary design submittal is to provide a formal opportunity for DDOT, the DB Contractor, various design team disciplines, and other Approved Project Stakeholders to review the construction documents in order to ensure the following: the design is progressing appropriately and proceeding in the right direction; the plans reflect the DB Contractor requirements for construction; design features are coordinated; and there are no fatal flaws within a given discipline or between disciplines. The contents of the preliminary design submittal for each discipline shall be as specified in the Technical Provisions and as mutually agreed upon by members of the applicable task force or by agreement between DDOT and the DB Contractor if no specific task force applies. At a minimum, the DB Contractor will submit preliminary design packages at the 30%, 60%, and 90% stage of design for DDOT review and comment.

Final Design Submittal

The Final Design Submittal shall be prepared when the design for a given element or area is 100%complete and all review comments have been appropriately addressed to the satisfaction of DDOT. The Final Design Submittal shall include plan sheets, specifications, technical memos, reports, calculations, and other pertinent data, as applicable. As a result of the ongoing discussion and resolution of design and construction issues through the regularly scheduled task force meetings and over-the-shoulder reviews, it is anticipated that there will be very few revisions or changes at this stage.

The Final Design Submittal shall include all specifications necessary to construct the Work represented in the submittal, all amendments to the DDOT Standard Specifications, special provisions, Technical Provisions, and Technical Specifications. Following resolution of all comments, the Final Design Submittal may proceed through the written certification process described in the following section in preparation for RFC submittal.

RFC Documents

The QMP shall describe how the DB Contractor will ensure that the RFC Documents reflect all QA, QC, and design reviews required by the QMP and the Contract. The QMP shall also describe the written certification process to be used to verify to DDOT that all QA procedures have been completed to ensure that all review comments have been incorporated as agreed to during the comment resolution process among DDOT and the DB Contractor and that the documents are ready to be Released for Construction.

Each sheet of the plan set and the cover of each set of Technical Specifications in the RFC Documents shall carry the Professional Engineer's stamp and signature and shall be stamped "Released for Construction" by the Design QA Manager. The cover of the DDOT amendments to the DDOT Standard Specifications does not need to carry a Professional Engineer's stamp.

Once plans and Technical Specifications have been Released for Construction, the DB Contractor shall provide DDOT with six hard copies and electronic files in PDF format on CD of all RFC Documents. The electronic drawing files shall include copies of all sheet and reference files used in the RFC Documents.

Prior to submittal, electronic files for all RFC Documents, except the MOT plans, shall be checked by the DB Contractor to ensure that they conform to the DDOT file naming and drawing symbology (for instance, level contents and line and text symbology) requirements. The drawing symbology and file naming for each electronic drawing file shall meet or exceed a minimum conformance level of 90 percent, and the average conformance level for all drawing files shall be 95 percent or greater. MOT plans are not required to meet the conformance-level criteria. The DB Contractor shall provide DDOT with a Microsoft Excel (version 2007 or newer) spreadsheet for each RFC Submittal containing the file name and the corresponding conformance level for every file that is part of the submittal. Certain files provided to the DB Contractor by DDOT, such as base mapping or vicinity maps, may be excluded from the conformance-level requirement. The DB Contractor shall obtain written confirmation from DDOT as to which files are exempt from compliance with DDOT requirements.

Construction shall not proceed on any element of Work until the relevant submittal is stamped "Released for Construction" by the Design QA Manager and all required government and private concurrences and/or approvals have been obtained by the DB Contractor.

28.3.1.4 QA/QC of Design Changes

The QMP shall describe the process for implementing design changes, including field changes, shown on the Design Documents and RFC Documents. The design changes shall be subject to QA and QC measures and procedures, commensurate with those applied to the original design or that portion of the Project under consideration for change.

The QMP shall explain how changes will be identified as a minor change or significant revision and then identify how significant revisions to Design Documents and RFC Documents will be incorporated, stamped and reviewed before being re-released.

The QMP shall also address and clearly define the number of changes to a drawing that will result in a drawing revision and the time frame for the release of the updated drawing. Each drawing revision shall be assigned a number. The revision number shall be assigned sequentially, with each change in a document or plan sheet identified by the revision number. The assigned number shall be located both at the location of the change on the sheet and in the revision block of the document, together with an explanation of the change.

28.3.1.5 Shop and False Work Drawings

The QMP shall describe the personnel assigned to Shop Drawing review and approval, including false Work Drawings, forms, temporary structures, construction processes, and other critical structure Shop Drawings; the procedures for documenting reviews and obtaining approvals; the process for implementing corrective actions; the procedures for auditing and checking compliance to shop and false Work Drawings; and the distribution to DDOT for review and comment.

The DB Contractor shall submit all Shop Drawings to DDOT, prior to implementation. The submittal shall include one hard copy and one electronic copy of Shop Drawings. The DB Contractor shall submit Shop Drawings for all steel elements, pre-cast concrete elements, and post-tensioning reinforcement to DDOT prior to implementation. The submittal shall include one hard copy and one electronic copy. If the DDOT engineer offers any comments, they will be submitted to the DB Contractor in accordance with this Section.

Prior to submittal to DDOT, the DB Contractor shall mark the Shop Drawings in the lower right corner with one of the two following indicators:

1. APPROVED (approved, no corrections required).
2. APPROVED AS NOTED (approved-as-noted, minor corrections only). The DB Contractor shall not place written questions on approved-as-noted sheets but shall clearly note the corrections.

28.3.1.6 As-Built Documentation

The QMP shall describe how the DB Contractor will ensure that the As-Built Documents meet the requirements of the Contract and accurately represent the as-constructed conditions in the field; and how the As-Built Documents are updated continuously and made available upon request for periodic reviews conducted by DDOT or their

designees.

As a condition of Final Acceptance, the DB Contractor shall submit a record set of As-Built drawings to DDOT for the Chief Engineer's signature. The Design Quality Assurance Manager and the Construction Quality Assurance Manager shall each provide certifications which will accompany the As-Built plan submittal certifying that the As-Built plans accurately depict what has been constructed and that the Work meets the requirements of the Contract.

28.3.1.7 Document and Data Control

The QMP shall describe the procedures to be used in managing and documenting all Project files. The DB Contractor shall establish and maintain its own DCS to store and record hard copies and electronic records including, but not limited to, all correspondence, meeting minutes, design inputs, drawings, progress reports, technical reports, specifications, Contract documents, submittals, calculations, Test results, Inspection reports, NCRs, administrative documents, and other documents generated under the Contract. The DB Contractor shall ensure that its DCS is compatible with the DCS used by DDOT.

The QMP shall describe the methods by which all documents issued and received by the DB Contractor will contain a unique serialization, date issued or received, Project name, Contract name, Contract number, specific subject or content of the correspondence, name of the sender or recipient, and reference information to which the correspondence relates to, such as prior correspondence. The DB Contractor shall maintain separate incoming and outgoing correspondence logs.

All documents shall be maintained by the DB Contractor for the duration of the Contract and shall be organized, indexed, and delivered to DDOT upon Final Acceptance unless required to be delivered earlier pursuant to the Contract; or within seven Calendar Days of receipt of request from DDOT, even if the documents are incomplete. The documents shall include all Test documentation including those prepared by DDOT.

Document and Data Approval and Issuance

The QMP shall include a requirement that all deliverables include a signed and dated certification by the originator of the deliverable and that the deliverable is complete and meets the Contract requirements.

Document and Data Changes

The QMP shall include a requirement that any changes to documents provided to DDOT are in a format that shows the changes clearly and in a method that is easily traceable (for instance, the redline/strikeout feature).

Design Validation

The QMP shall describe all verification, validation, monitoring, Inspection, and activities to be carried out for the purposes of demonstrating that the Work is acceptable.

28.3.2 Construction Quality Management

The QMP shall include a program for construction Inspections, examinations, measurements, and Tests of Materials or elements for each Work operation, where appropriate, to verify quality. The requirement for the Inspections is not limited to those required for quality testing purposes.

The QMP shall specify all aspects of QA and QC for construction. At a minimum, the QMP shall include the following items to verify that all construction activities conform to the Contract requirements:

1. Project progress schedule
2. Submittal schedule
3. Design schedule, acknowledging documents, and/or packages that will be submitted for review
4. Inspection requirements
5. Instrumentation and survey monitoring for verification of the performance of the Project geotechnical features

6. Specific documentation for QA and QC activities, including control charts
7. DDOT requirements for corrective action and Corrective Action Plans when QC and/or QA criteria are not met

28.3.2.1 Weekly Scheduling Notice to DDOT

The DB Contractor shall notify DDOT in writing before the close of business on Thursday of each week of planned construction activities, including fabrication, and shall describe the anticipated construction activities for the following week (Sunday through Saturday) to allow DDOT to schedule its resources. For activities occurring further than 60 miles from the Project, the DB Contractor shall give DDOT notification at least 14 Calendar Days prior to the planned Work.

28.3.2.2 Coordination and Notification

The Construction QA Manager shall designate a primary point of contact for notifications of Inspections at Hold Points. An alternate contact may be designated to function in the primary contact's absence. DDOT will designate one person to handle responses to the DB Contractor for written reports or releases for Hold Points.

The time necessary to respond to the notification for Inspection at Hold Points shall be included in the QMP and mutually agreed to by the DB Contractor and DDOT.

28.3.2.3 Hold Points

Hold Points shall be identified in the construction process where critical characteristics are to be measured and maintained and at points where it is impractical to determine the adequacy of either Materials or workmanship once Work progresses past this point. Pre-Activity meetings shall be included in the DB Contractor's QMP as Hold Points. Hold Points shall be established where required QA Inspection is mandatory. The DB Contractor shall provide DDOT with three Calendar Days' notice of each Hold Point so that DDOT, at its discretion, can observe or visually examine a specific Work operation or Test. Work shall not proceed until Inspection is performed and a written release is granted by the DB Contractor's QA organization.

The Engineer of Record and the Designer of Record shall submit specific Hold Points with the RFC Documents.

At a minimum, the Construction QA Manager shall establish Hold Points at the stages listed below and as required by the DDOT Standard Specifications. The QMP shall identify any additional Hold Points necessary to certify compliance. The following Hold Points are not intended to limit or diminish the DB Contractor's responsibility to inspect all construction Work:

1. Utility relocations:
   a. Prior to any relocation of existing Utilities
   b. Prior to backfill of Utility relocations and as required by Utility owner's permit
2. Temporary erosion and sediment control:
   a. After installation of high-visibility fencing around environmentally sensitive areas, clearing limits, travel corridors, and stockpile sites
   b. After completion of placement of temporary erosion and sediment control devices, and prior to any construction operations
   c. Prior to any temporary erosion and sediment control (TESC) dewatering operations
3. Embankments (includes backfill behind walls and abutments):
   a. After completion of drainage embankment and Utility installations, and before backfill
   b. At intervals of embankment construction every 5 vertical feet
4. Structures (bridge, abutment and retaining walls, curtain walls, and end walls):
   a. At completion of bridge embankment or excavation, and before the start of structure foundation
   b. Before saw-cutting of concrete occurs

c. Before pile driving or drilled shaft operations

d. After completion of the first pile driven at each structure support, and at the completion of each pile group, for each structure support

e. After completion of each drilled shaft along with cross-hole sonic logging testing, and at the completion of each drilled shaft group, for each structure support

f. Before concrete placement of any subsurface element including concrete for cast-in-place piles and drilled shafts

g. After installation of grout pad or anchor bolts prior to setting bearing or girder

h. Before setting of any structural steelwork

i. After girder and diaphragm placement

j. Before concrete placement of bridge deck, approach slabs, diaphragms, moment slabs, traffic barrier, and parapet walls (with formwork, inserts, and reinforcement in place)

k. After completion of excavation and prior to box culvert construction

l. Before concrete placement for cast-in-place box culverts with formwork, inserts, and reinforcement in place

m. Prior to installation of post-tensioning strands or bars

n. Prior to jacking operations for post tensioning with a hydraulic jack on the job site

o. After completion of bridge deck grinding and deck repair

5. Retaining wall:

a. After completion of soil foundation and before the placement of the leveling pad of a structural earth wall or the foundation of any other type of retaining wall

b. Panel tolerances after completion of placement of every four rows of panels for each structural earth wall and prior to beginning of coping placement

c. Before concrete placement for cast-in-place retaining walls with formwork, inserts, and reinforcement in place

d. Before installation of any soldier pile, tieback or ground anchor wall and before/after verification Tests

6. Drainage:

a. After placement of pipe or box culvert and prior to backfilling

b. After installation and placement of bands or gaskets and prior to backfilling

c. After placement of catch basins and manholes and prior to backfilling

d. After completion of drainage systems behind walls and before backfill of walls

e. Stormwater facility (including bio-swales)

f. After layout of stormwater facility

g. After excavation and prior to installation of drainage structures

h. Prior to operation of facility

7. In-water Work:

a. Before conducting any in-water construction activities and prior to operating any equipment below the ordinary high water mark; includes Work in wetlands, streams, or mitigation sites

b. Culvert replacement, removal, and extensions

c. Prior to capturing and removing fish from the job site at any area that includes water bypass, in-water coffer dam, and any water area likely to be disturbed

d. Prior to installing riprap or other bank stabilization

e. Ensure all appropriate agency notifications have occurred

f. All applicable permits are in place

8. Subgrade, surfacing, and pavement:

   a. After completion of subgrade and prior to surfacing placement

   b. After completion of surfacing placement and prior to asphalt-treated base, HMA, and reinforcement for approach slab placement

9. Signs

   a. After signs are staked in the field and prior to installation

10. Local jurisdiction

    a. Prior to any Work within local jurisdiction right-of-way

11. Electrical, ITS, and illumination:

    a. Prior to removal of existing ITS equipment, and after new or temporary ITS equipment is in place and operational, in accordance with Section 17, Traffic Signals/Intelligent Transportation Systems

    b. Prior to removal of existing closed-circuit television (CCTV) cameras, and after new CCTV cameras are in place and operational

    c. Inspection of electrical and traffic management systems that will be performed by DDOT

    d. Prior to removal of existing illumination, and after new or temporary illumination is in place or operational, in accordance with Section 16, Illumination

12. Landscaping and aesthetics:

    a. After planting area preparation and prior to planting any plant material

28.3.2.4 Traffic Electrical Inspection

The DB Contractor shall inspect all electrical and ITS systems. In addition, DDOT will inspect all electrical and ITS systems for code compliance, functionality, and acceptance.

28.3.2.5 Performance Verification of Project Geotechnical Elements/Features

The QMP shall include Inspection and Tests to verify the integrity of foundation structures and elements and to verify that their performance is as anticipated from the design.

Walls shall be designed for anticipated total and differential settlements based on site geotechnical analyses. The QMP shall include Inspection, wall face tolerance and deflection measurements, and verification and proof Tests for anchors and soil nails to determine the integrity of foundation structures and wall elements and to verify that the wall performance is as anticipated in the design.

The DB Contractor shall use geotechnical instrumentation in accordance with the Technical Provisions to verify the performance of areas with significant cuts or fills to determine deformation and stability, in particular where soft or otherwise unstable ground is present, or to control filling or cutting rates to maintain stability.

If soil densification or other foundation soil stabilization techniques are used, the DB Contractor's QMP shall address how the integrity and success of the soil densification technique will be investigated, monitored, and compared to the intended design.

28.3.2.6 DDOT Oversight

DDOT will audit the field performance of the DB Contractor's QA staff, testing frequencies, and Testing results at a frequency determined by DDOT. DDOT will conduct oversight Inspection audits to verify the adequacy of the DB Contractor's Inspection activities and testing procedures.

DDOT reserves the right to generate and submit a NCR to the QAM for resolution if nonconforming Work is observed.

28.3.2.7 Quality Assurance Inspection

The QMP shall contain Inspection plans for each construction Work item included in the Project, whether performed by the DB Contractor, a Subcontractor, or a vendor. Work items may be definable features or items of Work defined by the DDOT Standard Specifications.

28.3.2.8 Inspection Guidelines

During the design of the Project, the DB Contractor shall review each item of Work to determine which significant characteristics of the items need to be monitored during the construction phase to ensure that the completed Project will function in accordance with the design intent over its expected lifetime. The Inspection guidelines shall include the appropriate criteria, Tests, and Inspection requirements identified in the DDOT Standard Specifications, the DDOT Construction Management Manual, and the requirements of the Technical Provisions. The Inspection plan shall address the following elements within each item of Work:

1. Identification—Work items included in the Inspection plan.
2. Characteristics—what characteristics of the item will be inspected?
3. Inspection Criteria—directly or by reference, the DB Contractor shall provide sufficient information for the QC/QA inspector to use to determine if the item or activity being performed is conforming or nonconforming. Maximum use of checklists shall be made for this purpose.

Inspections shall be performed during all phases of the Project from start to completion in order to ensure that the Work meets and is being performed in accordance with the Contract, RFC Documents, approved submittals, and any requirements of DDOT.

The DB Contractor shall conduct an examination of the quality of workmanship to confirm that all Work is being performed in accordance with the RFC Documents and any understandings reached at the Pre-activity Meeting for that item of Work.

The DB Contractor shall conduct appropriate follow-up Inspections and sampling and Testing of Materials as each item of Work progresses to assure consistency in workmanship; compliance with Contract requirements, Design Documents and RFC Documents; and to assure satisfactory performance of the Work in service.

28.3.2.9 Inspection Documentation

Each of the QA inspectors shall summarize their daily Inspections, Tests, and Material sampling activities in a daily report. The QA inspectors shall use DDOT's inspectors' daily report to maintain a written record of Inspection results and shall provide copies of the daily reports to DDOT the next Business Day. The inspector's daily reports shall include the following key points of record:

1. Work performed by the DB Contractor, Subcontractor, or Material supplier
2. Weather conditions
3. Inspections performed and their results, including any corrective actions taken
4. Materials used, the manufacturer or source, product identity, and quantities
5. Equipment and personnel
6. Communications
7. Type, location, and results of all Tests performed

8. Delays encountered
9. Type of traffic control setup in accordance with approved MOT plans, and any Inspection and corrective action taken by the DB Contractor
10. Any safety-related problems and corrective action taken
11. All nonconforming Work and the corrective action taken
12. A copy of any checklist used for the Inspection
13. The inspector's signature

28.3.2.10 Construction Inspection Forms and Checklists

The DB Contractor's QMP shall include Construction Inspection Forms and checklists for all anticipated construction operations and processes, which shall be used by the DB Contractor's QA Inspection personnel and other personnel responsible for QC such as foremen and individual workers.

Construction Inspection Forms shall be used to document all construction Work activities required in the QMP. For each critical construction Work activity, Construction Inspection Forms shall include activity-specific checklists Approved by DDOT prior to the start of the Work activity. The checklist for each Work activity shall include the construction requirements described in the DDOT Standard Specifications or the Contract for that Work activity.

At a minimum, each checklist shall address the following:

1. Date
2. Time
3. Location
   a. Pier or structure component
   b. Drainage code #
   c. Compaction Report (referenced to centerline station and subgrade elevation, etc.)
4. Type of Inspection
   a. Example: completion of drainage code, final check, pre-pour check, etc.
5. Specification Requirement
   a. List of applicable specifications for this item
6. Frequency
   a. Indicated Test or Inspection frequency if any (see Section 25, Control of Materials, of Technical Provisions for Material Test requirements)
7. Items Inspected
   a. List elements or items inspected (e.g., rebar, chair placement or pipe size and type, grate box, pipe bedding, etc.)
8. Conformance to Specifications
   a. Verify Work and Materials meet the appropriate specifications
9. Deficiencies Noted
   a. Note any deficiencies to specifications
10. Individual Notified
    a. Individual notified for corrective action (DDOT notified)
11. Corrective Action Noted
    a. List what corrective action is required to ensure products conform to Specifications.

28.3.2.11 Nonconforming Work

The construction QA staff shall identify and document all elements of Work that have not, or are believed to have not, been constructed in accordance with the approved drawings and specifications and the reason for nonconformance in an NCR. The NCR shall be submitted to DDOT in writing within 24 hours of identification and a copy sent to the design manager or designated engineers.

The design manager or a designated engineer shall evaluate and determine whether a nonconformance exists and the effect of the nonconformance on performance, safety, durability, long-term maintenance, and the life of the item of Work.

If required, documented remedial actions shall be stamped by a Professional Engineer licensed in the District of Columbia. The DB Contractor shall submit copies to DDOT for review and Approval within 24 hours and prior to performing the remedial action. The Construction QA Manager shall also sign the NCR stating that the remedial actions to be implemented have undergone the same level of Inspection and Testing as required by the original design.

If the nonconforming condition is repetitive and recurring, the DB Contractor shall develop and implement a Corrective Action Plan to eliminate the nonconforming conditions.

28.3.2.12 NCR and Corrective Action Tracking

The Construction QA Manager shall maintain a log of all NCRs and Corrective Action Plans and present them at the QA Team meetings. The Construction QA Manager shall number each NCR and Corrective Action Plan sequentially and shall maintain an active summary log that provides a brief description and status of the nonconforming Work.

28.3.2.13 DDOT Non-Conformance Reports

DDOT shall retain the right to write its own NCRs based on its observance of Work and audit findings. NCRs generated by DDOT will be submitted to the QAM for resolution.

28.3.2.14 Right to Stop Work

If there is evidence that QMP procedures are not adequate, or if a problem is encountered during the oversight Inspections or becomes evident during construction, DDOT may, at its sole discretion, stop Work in accordance with the DBA.

In addition, DDOT retains authority to stop Work without liability, wholly or in part, if the DB Contractor fails to perform the following:

1. Correct conditions that are unsafe for Project personnel or the general public; and
2. Correct unacceptable construction practices.

28.3.2.15 Pre-Approved Corrective Action Plans

The DB Contractor shall develop pre-approved Corrective Action Plans that shall be incorporated into the QMP.

The pre-approved Corrective Action Plan shall address Work that does not meet specifications, out of specification Material, or pre-approved re-work or repair procedures.

The following is a sample list of items for which pre-approved re-testing and/or re-work or repair procedures are commonly needed. Anticipated failures for each item may include, but are not limited to, the following:

1. Soil:
    a. Use of improper or incorrect density standards
    b. Lack of compaction
    c. Subgrade too wet or dry
    d. Subgrade too soft
    e. Materials out of specification

   f. Fill Materials too wet or dry
2. HMA:
   a. Materials out of specification
   b. Low density
3. Rebar:
   a. Materials out of specification/improper storage
   b. Poor or incorrect locations
   c. Insufficient clearance or lack of support
   d. Damaged epoxy coating on reinforcing steel, including damage due to field cutting or bending
   e. Broken ties or displaced bars
   f. Out of specification post-tension tendon elongations
   g. Post-tensioning ducts that fail air pressure testing
4. Concrete:
   a. Slump out of specification
   b. Improper cold weather curing
   c. Rock pockets, small and large
   d. Repair of cracked concrete
   e. Temperature out of specification
   f. Air content out of specification (too low or too high)
   g. Improper water/cement ratio
   h. Improper consolidation
   i. Inadequate counter reporting
   j. Improper certification of compliance
   k. Exceeding maximum allowed time between concrete lifts
   l. Over time limit
   m. Incorrect mix design

The DB Contractor shall include retesting and/or re-work and repair procedures to the QMP and revise these procedures should repetitive nonconformance be identified.

28.3.2.16 Pre-Activity Meetings

The DB Contractor shall hold Pre-Activity Meetings to ensure that all Project personnel have a thorough understanding of the Work to be accomplished. Work activities include design, survey, fabrication, and construction activities that generally correspond to the sections of the DDOT Standard Specifications; examples include, but are not limited to, clearing and grubbing, erosion control, earthwork, aggregate base, and hot mix asphalt (HMA), or definable features of Work such as pre-paving conference, installation of structure components, and pre-pour conferences for bridge decks.

The Pre-Activity Meetings should include discussions relating to what type of Work shall be accomplished, by whom it will be performed, and where, when, and how the Work will be done. The Pre-Activity Meetings are to ensure that all parties have the same understanding of the design intent; have the appropriate plans, specifications, environmental requirements, and any special details; and are aware of safety regulations and procedures that need to be followed. The QA Inspection checklist for each activity should be reviewed during the meeting.

The DB Contractor's Design QA Manager, Construction QA Manager, Construction QC Manager, and construction

manager shall plan, conduct, and take minutes at the Pre-Activity Meetings. Mandatory attendees include construction QC and QA staff and the construction staff who will actually be performing the Work. The DB Contractor shall document any clarifications and understandings related to the Work activity that are not documented elsewhere in the minutes of the meeting. The DB Contractor shall distribute the minutes to attendees and other QA, QC, and quality verification (QV) staff that require the information. Pre-Activity Meetings are classified as Hold Points and shall be identified as such in the QMP and the Project schedule.

Example topics for a Pre-Activity Meeting include the following:

1. Scope (design criteria and intent, constraints)
2. Applicable documents
3. Work activity outline and schedule (what, where, who, when, and how)
4. Staking plan
5. Safety regulations and procedures
6. Maintenance of Traffic (MOT) Plan
7. Environmental requirements
8. Work area ingress/egress
9. Coordination and Utilities
10. Inspection plan/QA procedures
11. Concurrent Work activities and QA staff coverage
12. Status of submittals
13. Acceptance criteria, including Hold Points
14. Status of Materials approval and acceptance requirements
15. Frequency of Materials Testing
16. Examination of the Work area
17. Examination of stored Material
18. Open discussion

28.3.3 Construction Materials QA/QC Plan Requirements

The QMP shall specify all aspects of the Materials QA and QC Plan. At a minimum, the Materials QA and QC Plan shall include the items described in this Section to verify that all Materials conform to the Contract requirements. The Materials QA and QC shall be separate functions performed by separate personnel who have no affiliation with each other or with the same organization.

28.3.3.1 DB Contractor Responsibilities

The DB Contractor shall be responsible for the quality of construction and Materials incorporated into the Project. The DB Contractor's QC measures are intended to ensure that operational techniques and activities provide Material of acceptable quality.

The Materials QA organization shall be responsible for ensuring all Materials and workmanship incorporated into the Project meet acceptance criteria. The Materials QA organization shall also perform sampling and Testing, determine acceptance or rejection of the Materials on behalf of the DB Contractor, and implement a tracking system to monitor nonconforming Materials and disposition of nonconforming Materials, according to the Contract.

28.3.3.2 Materials Testing Quality Program

The DB Contractor shall monitor and measure the characteristics of all Work activities to verify that all Project requirements have been met. This monitoring and measurement shall be carried out at appropriate stages of construction in accordance with the planned Work and minimum frequencies for sampling and Testing as

described in Section 25 of the Technical Provisions.

The five levels of quality management provided by the DB Contractor and DDOT where Testing is being used for acceptance are as follows:

1. **QC—**The DB Contractor's Construction Quality Control Manager shall be responsible for the Materials sampling, Testing, and processes for QC. Testing for QC includes all Inspection and Testing actions necessary to ensure that all Materials incorporated into the Work meet the Contract requirements for the Material being used and will perform satisfactorily for the purposes intended. All Materials sampling and testing for QC will be performed by a random sampling method using Testing methods and minimum frequencies defined in Section 25 of the Technical Provisions, the DDOT Construction Management Manual, the DDOT Standard Specifications for Highways and Structures, and the Contract.
2. **IA—**The Construction QA Manager shall be responsible for the Independent Assurance Materials sampling, Testing, and processes for IA. Testing for IA includes all planned (for instance, audits and assessments) and systematic actions necessary to ensure that all Materials incorporated into the Work meet the Contract requirements for the Material being used and will perform satisfactorily for the purposes intended and to confirm Testing results of QC Testing. All Materials sampling and testing for IA will be performed by a random sampling method using Testing methods and minimum frequencies defined in Section 25 of the Technical Provisions, the DDOT Construction Management Manual, the DDOT Standard Specifications for Highways and Structures, and the Contract.
3. **VST—**The Construction QA Manager shall be responsible for Verification Sampling and Testing. VST will be used to validate the IA sampling and Testing results. All VST sampling and testing will be performed by a random sampling method using Testing methods defined in Section 25 of the Technical Provisions, the DDOT Construction Management Manual, the DDOT Standard Specifications for Highways and Structures, and the Contract.
4. **OIA—**DDOT or its agent will perform Owner's Independent Assurance Testing to validate the DB Contractor's sampling and Testing IA program.
5. **OVST—**The Owner's Verification Sampling and Testing is an independent verification performed by DDOT that includes an observation of sampling and Testing procedures, a review of the qualifications of the tester, and a verification of the testing equipment used to perform acceptance Testing activities. The OVST will validate the DB Contractor's IA and VST processes and DDOT's OIA processes. The OVST may include auditing of quality assurance testing records, observing the Tests being performed by the DB Contractor's technicians, or taking split samples with the DB Contractor on a random basis for verifying the DB Contractor's testing equipment. Any deficiency will result in a NCR being generated. It shall be the responsibility of the QAM to resolve the NCR to the satisfaction of DDOT. The DB Contractor shall take corrective action immediately for any noted deficiencies.

28.3.3.3 Materials Testing Laboratory

All IA Testing that will be used for quality assurance of Materials shall be performed by a laboratory Approved by DDOT. The laboratory shall report directly to the Construction QA Manager. The DB Contractor or a Subcontractor shall employ the laboratory personnel. The Materials testing laboratory that is used for IA Testing shall not perform QC Testing and shall not be owned, operated, equipped, or staffed by Material suppliers. The laboratory shall meet the requirements of AASHTO R-18 for qualified testers and calibrated/verified equipment and shall be able to accomplish the Testing according to the Test procedure they are performing.

The DB Contractor's laboratory shall develop and maintain a Laboratory Quality Systems Manual. The manual shall include the following:

1. Staff qualifications, position descriptions, and the qualification process;
2. Listing of Test procedures approved for performance throughout the Project;
3. Equipment including verification, calibration, recall procedures, and inventory;

4. Test reports, worksheet, summary logs, and forms;
5. Sample management procedures;
6. Diagnostic and Corrective Action Reports; and
7. Quality systems review.

DDOT will perform an onsite evaluation of the facility to ensure all Work is being performed according to the Contract. The evaluation will include the following: audit and Inspection functions; review of training, equipment calibration, and verification of records; and observation of testers as they perform the Test procedures. For laboratories located outside of the District, or laboratories performing only minor testing, DDOT may use the AASHTO accreditation program or another state's Department of Transportation to inspect the laboratory.

The DB Contractor shall request the DDOT Inspection a minimum of 30 Calendar Days prior to the start of construction. Together with the request, the DB Contractor shall submit a copy of the Laboratory Quality Systems Manual and a list of the Testing procedures that the laboratory shall perform throughout the Project. The laboratory shall be properly equipped, staffed, and fully operational at the time of DDOT's Inspection and for the duration of its use on the Project.

DDOT will advise the DB Contractor in writing of any deficiencies noted during the Inspection, and the DB Contractor shall take immediate action to correct them. Work requiring laboratory acceptance will not proceed until the laboratory and its staff has been inspected and has received written Approval from the DDOT engineer.

28.4 Construction Requirements

Not Used.

28.5 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated in Section 1, General Information, of these Technical Provisions.

TABLE 28-1
Quality Management Plan Deliverable Requirements Summary

Submittal	DDOT Review Type	Schedule	Section
Executive Management Review and QMP Audit Documentation	Submit	Within 21 Calendar Days of completing the review or audit	28.1.3
Design QMP	Review and Approve	Within 14 Calendar Days of NTP1 and as a condition for issuance of NTP2	28.3.1
Design Review Submittals	Review and Comment	As per Project design schedule. Comment resolution to the satisfaction of DDOT required prior to plans being Released for Construction	28.3.1
Construction QMP (including Materials QA/QC Plan)	Review and Approve	Prior to issuance of NTP2	28.3.2 28.3.3

SECTION 29

Maintenance during Construction

29.1 General

The DB Contractor shall conduct all Work necessary to meet the maintenance requirements described in this Section. Elements of Work shall include operation, maintenance, and repair of the existing facilities, and facilities constructed under the Contract beginning at the second Notice to Proceed (NTP2) and ending on the day of Final Acceptance. The DB Contractor shall coordinate with DDOT in the performance of all maintenance Work and enable DDOT to perform its duties and functions as described herein.

The DB Contractor shall perform maintenance during construction in a safe, reasonable, and prudent manner and shall employ good business practices and appropriate management techniques. The DB Contractor shall furnish all labor, Materials, Equipment and necessary services as required to perform the Work described in this Section.

Following NPT2, the DB Contractor shall provide maintenance, Inspections, and repairs required on an "as needed" basis throughout the duration of the Contract. Maintenance, Inspections and repairs shall be provided in a manner acceptable to DDOT for the specific categories of Work described in this Section. Upon identification of a maintenance or repair need, DDOT will notify the DB Contractor first verbally and then in writing. If the DB Contractor cannot respond in a timely manner, DDOT retains the sole right to direct the DB Contractor to perform the Work or perform the Work with DDOT resources as needed and deduct the cost of performing the work from monies due the DB Contractor.

Maintenance work requiring access to traffic control cabinets shall be coordinated with DDOT's Traffic Operations Administrations (TOA), and a TOA representative must be present to monitor the maintenance work being performed.

29.1.1 Limits of Maintenance Responsibility

The longitudinal limits of the DB Contractor's maintenance responsibilities on the Project are defined by the Project Limits. The lateral limits of DB Contractor's maintenance responsibility shall encompass the entire ROW or construction easement, whichever is greater, including ramps, viaducts, crossroads, outer roads, and service roads within the Project site. Any other area disturbed by DB Contractor activities, outside of these limits, shall be the sole maintenance responsibility of the Contractor.

29.1.2 DDOT's Obligations

DDOT will maintain certain responsibilities for maintenance within the Project Limits as described in this Section. This includes snowplowing, applying de-icing agents and/or abrasives on the roadways open to use by the general public within the Project Limits, as described above, maintaining existing Intelligent Transportation Systems (ITS) facilities, and maintaining the existing Frederick Douglass Memorial Bridge until any part of the bridge or approaches are impacted by construction activities.

29.1.3 Maintenance Management Plan

DB Contractor shall develop and implement a Maintenance Management Plan that defines the DB Contractor's complete strategy for the implementation, coordination, scheduling, and monitoring of maintenance Work during the Project. The plan shall be updated annually and reflect changes in the DB Contractor's organization and construction activities. The plan shall include the following:

1. A list of all proposed routine maintenance.
2. Schedule of proposed routine maintenance.
3. Name of the Contractor's supervisor who will be in charge of maintenance efforts.

29.2 Performance Requirements

29.2.1 Maintenance of the Right-of-Way

29.2.1.1. General

The DB Contractor shall maintain the roadway vegetation within the limits of the ROW. The Work includes nuisance vegetation control, tree and brush control, turf and grass care, and litter control.

29.2.1.2. Nuisance Vegetation Control

The DB Contractor shall remove or cut to within 6 inches of ground line nuisance vegetation that are within 30 feet from the edge of the paved shoulder.

29.2.1.3. Tree and Brush Control

The DB Contractor shall remove or trim any trees or brush that obscure any roadway signs or cause a reduction in sight distance. The DB Contractor shall remove any trees that are identified as hazards or dangers within the Project Limits, roadway, or structures adjacent to or within the ROW. DDOT will identify and notify the DB Contractor of any trees and brush that fall within these criteria. The DB Contractor shall remove any fallen and/or standing danger or hazard trees within 24 hours of verbal and/or written notification from DDOT. The DB Contractor shall remove any trees that have fallen and are within 30 feet of the edge of the paved shoulder of an active travel lane or that may be a safety concern for public travel.

29.2.1.4. Turf and Grass Care

The DB Contractor shall mow turf or grasses from the edge of pavement to the ROW limits on slopes 3:1 or flatter. When the average grass height reaches 12 inches, the grass or turf shall be mowed to a height of no less than 3 inches, but no higher than 6 inches. The DB Contractor shall not scalp the ground within sensitive areas. Mowing will not be required on slopes steeper than 3:1.

29.2.1.5. Health Hazards

The Project area may be occupied by transients, birds, bats, and rodents, and may contain biological and associated physical hazards.

Transients The Project area may include materials and waste that pose a physical and/or biological safety and health hazard, such as waste associated with transients and drug users. Materials and waste may include hypodermic needles, food, garbage, clothing, bedding, broken glass, human and animal excrement, drug paraphernalia, makeshift dwellings, and other hazards.

In the event transients are encountered within the Project Limits and are hampering or causing unsafe Work conditions, the DB Contractor shall notify the Office of the Deputy Mayor for Health and Human Services Office on Homeless Encampments, who will assist the DB Contractor with removing the transients. The DB Contractor shall coordinate a place, date, and time to meet with enforcement agencies so that they can escort the transients from the Project Limits.

Site Maintenance for Biological and Physical Hazards Before beginning the construction Work, the DB Contractor shall perform an initial cleanup of the Project area, including all preparatory Work required to make the Project area sanitary and safe in accordance with applicable laws and the health hazards plan and to address all biological and physical hazards present. Necessary training of personnel; onsite and offsite preparations; and safety equipment shall be provided by the DB Contractor to complete the initial cleanup and disposal of the biological and physical hazards. The DB Contractor shall inspect the area at least 72 hours in advance of commencing Work to determine the type of cleanup and removal effort required.

Public Notification The DB Contractor shall furnish and install informational signs Approved by DDOT three Calendar Days prior to performing hazardous activities within the Project area known to be occupied by transients. Hazardous activities include: cleaning, clearing brush, overhead activities, excavating, or operating other heavy equipment. The signs shall include dates and locations of the activity and state that trespassing is prohibited. The signs shall be visible from each apparent access route into the Work area. Each sign shall be weather resistant and post mounted; be written in both English and Spanish and state "No Trespassing"; and

include the dates and location of the Work. Signs shall be maintained in legible condition until the hazardous Work at the Work area is physically completed, at which time the signs shall be removed from the Project.

Periodic Site Maintenance If the Project area becomes unsanitary or unsafe due to biological and physical hazards after the DB Contractor prepares the site for the first phase of construction activities, the DB Contractor shall perform additional site maintenance and take additional measures as needed to protect the public, DDOT's and the DB Contractor's personnel. The nature and frequency of the site maintenance activities shall be included in the health hazards plan. Periodic maintenance of the Project area may include the use of signs, fencing, lighting, law enforcement, or security.

29.2.2 Maintenance of Roadways

29.2.2.1. General

The DB Contractor shall complete all components of the Work to allow for unrestricted traffic access to lanes, shoulders, sidewalks, and paths in accordance with the Contract Documents.

29.2.2.2. Failure to Maintain Roadway or Structure

Failure on the part of the DB Contractor to properly address maintenance issues will be addressed in accordance with DDOT's Standard Specifications for Highways and Structures.

29.2.2.3. Roadway Sweeping

The DB Contractor shall maintain all paved areas within the Project Limits to prevent the accumulation of dirt and gravel. The DB Contractor shall periodically, and when directed by DDOT, perform street sweeping or other best management practices to remove debris from the roadway and shoulders.

The DB Contractor shall take care to prevent spillage on haul routes. If spillage occurs, the DB Contractor shall remove it and clean the area within 1 hour of the spillage being observed or from receiving verbal notification from DDOT. Tracking of dirt and gravel from the work zone is prohibited.

29.2.2.4. Existing Pavement

The DB Contractor shall maintain all existing pavement including pothole repair. Any pothole greater than a total of 36 cubic inches in volume and/or 3 inches in depth shall be repaired within 24 hours of being observed by the DB Contractor or notified by DDOT. If the pothole is causing traffic to slow and/or deviate from normal traffic patterns, the DB Contractor shall perform pothole repair within 1 hour of being observed by the DB Contractor or notified by DDOT. Temporary pothole repairs will be allowed if the material is pre-Approved by DDOT; if weather conditions will not allow for permanent repairs; and if traffic conditions dictate that permanent repairs are scheduled for another time to reduce impacts. All temporary pavement repairs shall be inspected by the DB Contractor at least once every business day or more often if the temporary repair shows any signs of failure. If the temporary repair shows signs of imminent failure, the repair shall be reinforced within 1 hour of being observed by the DB Contractor or from receiving verbal notification from DDOT.

Permanent pothole repair shall be performed in accordance with the Contract Documents. Materials used for permanent pothole repair shall be of the same type and depth as the adjacent pavement.

29.2.2.5. Pavement Markings

The DB Contractor shall maintain existing and new temporary and/or permanent markings. Paint for temporary pavement markings shall be in accordance with the Standard Specifications. The DB Contractor shall anticipate that, at a minimum, existing markings will need to be refreshed once per Calendar Year.

All costs to maintain, install, move or remove permanent or temporary pavement markings, lines, or raised pavement markings within the Project Limits, or outside of the Project Limits that are considered part of the Work, are included in the Contract Price.

DDOT will maintain the existing striping until the DB Contractor is issued NTP2.

29.2.2.6. Traffic Control Devices

The DB Contractor shall be responsible for maintaining active travel lanes free from traffic control devices such as traffic barrels, cones, and other devices.

All traffic control devices shall be placed behind barrier or guardrail away from traffic when not in use. In areas where traffic control devices cannot be placed behind barrier or guardrail, the devices shall be removed. The DB Contractor shall locate traffic control devices so as not to block existing sidewalks to pedestrians and to provide adequate space for wheelchairs.

29.2.2.7. Streetlight System

The DB Contractor shall be responsible for maintaining the streetlight system within the limits of the Project, from the Notice to Proceed2 until Final Acceptance by DDOT. This shall include all streetlight outages and pole knockdowns. All streetlight outages shall be repaired within 24 hours of being notified by DDOT.

29.2.3 Guardrail, Concrete Barrier, and Attenuators

The DB Contractor shall replace or repair any guardrail, concrete barrier, and attenuators that become damaged by the public or by the DB Contractor's operations. Attenuators that are damaged and must be replaced shall meet current AASHTO MASH and DDOT standards. Any part used to repair a damaged attenuator shall be a direct replacement part as required by the manufacturer.

29.2.4 Traffic System Signs

The DB Contractor shall be responsible for maintenance of existing permanent signs. Maintenance of existing permanent signs includes cleaning, repairing, and replacing damaged signs and posts. Cleaning will only be required when directed by DDOT.

29.2.5 Stormwater Management

The DB Contractor shall maintain and provide adequate stormwater management on the Project until Final Acceptance. Maintenance shall include cleaning and repair of riprap, cribbing, ditches, channels, culverts, cross drains, drainage structures, underdrains, and gutters.

29.2.6 Access to Public Facilities

The DB Contractor shall maintain uninterrupted access to all public and private facilities affected by the Project. Access shall mean providing a clear and easily understood route into and out of existing public and private facilities and businesses. The DB Contractor shall provide all necessary signing to convey that the route to the facilities and businesses is open to traffic. DDOT will determine whether the signing is adequate. The DB Contractor shall provide access for all types of vehicles, including delivery trucks.

29.2.7 Protection of Drainage Structures and Electrical Boxes

The DB Contractor shall verify that all existing and new drainage structures and electrical boxes located within 2 feet of temporary or permanent travel lanes have sufficient strength to safely carry highway traffic loads without failing. If any of these structures or boxes has insufficient strength, they shall be reinforced and/or protected prior to opening the travel lanes to traffic.

29.2.8 Snow and Ice Operations

29.2.8.1. Public Travel Way

DDOT will perform snowplowing and application of deicer or abrasives for public travel lanes. The snowplowing will be done as part of the normal course of plowing the public roadways within and in the vicinity of the Project. DDOT will not remove snow and/or ice from the public travel lanes to facilitate the Work or construction.

When plowing within the Project Limits, DDOT will take no special measures to protect Materials, traffic control devices, or Equipment the DB Contractor has stored or stockpiled within the Project Limits. The DB Contractor shall maintain any channelization devices that may be displaced or damaged by snowplowing operations and application of deicer or abrasives.

DDOT will not remove snow, ice, abrasives, or other debris such as car parts and tire chains that are plowed or have migrated from the public traffic lanes or shoulders into the Work area. Any removal of this material within the Project Limits shall be performed by the DB Contractor.

29.2.8.2. Work Zone

The DB Contractor shall perform any snow and ice removal for the DB Contractor's operations within the Work area. The DB Contractor shall not allow any snow and ice removal from its operations to be placed within the traffic lanes.

29.2.9 Electrical

29.2.9.1. Signals

Refer to Section 17, Traffic Signals/Intelligent Transportation Systems, of these Technical Provisions for maintenance of signals.

29.2.9.2. Intelligent Transportation Systems

All ITS equipment within the Project Limits shall be preserved in full operating condition and maintained by the DB Contractor. Refer to Section 17, Traffic Signals and Intelligent Transportation Systems, of these Technical Provisions for ITS requirements.

29.2.9.3. Luminaires

The DB Contractor shall maintain all lighting systems in accordance with Section 16, Illumination, of these Technical Provisions. Maintenance and operation shall be performed within 24 hours of notice from DDOT and shall include the following activities:

1. Replacement of lamps, as required.
2. Replacement or repair of any damaged equipment or underground cable.
3. Maintenance concerning a public safety issue (including exposed wires and knockdowns), within 1 hour of notice from DDOT.
4. Routine maintenance and other maintenance that does not affect the public safety.

29.2.10 Hazardous Spills Response

29.2.10.1. Public Travel Way

Cleanup of hazardous spills within the public traffic lanes and shoulders will be the responsibility of DDOT, DDOE, law enforcement, Fire and EMS, as appropriate. The DB Contractor shall allow access to the Project area for spill response. The DB Contractor shall make personnel and Equipment available to respond to all emergencies, except when such emergencies are life threatening to those personnel.

In the event the hazardous spill is caused by the DB Contractor's Equipment, operations, or Work, the DB Contractor shall be responsible for costs incurred by DDOT, DDOE, and other resource agencies and/or contractors required to mitigate the hazard.

29.2.10.2. Work Zone

Any hazardous spills within the Work area and outside of the public travel lanes shall be the responsibility of the DB Contractor. The Work shall be performed in accordance with the Spill Prevention, Control, and Countermeasures Plan described in Section 8, Environmental, of these Technical Provisions.

29.2.11 Structures

29.2.11.1. Existing Bridges

DDOT will be responsible for Inspection and maintenance of the existing I-295 bridges over Howard Road, Suitland Parkway and Firth Sterling Avenue until the issuance of NTP-2, at which time the DB Contractor will assume all maintenance responsibilities for these structures.

The DB Contractor is responsible for maintenance of all structures constructed under this Contract until Final Acceptance.

DDOT will be responsible for Inspection and maintenance of the existing Frederick Douglass Memorial Bridge until any part of the bridge or bridge approaches are impacted by construction activities; after which time, the DB Contractor will be responsible for maintaining the bridge in a safe and fully operational condition until completion of demolition and Final Acceptance. For the purposes of this Contract, "impacted by construction activities" includes but is not limited to;

1. The off-loading of materials of any kind from the existing bridge,
2. Performing any activity which creates a material change in the existing bridge approaches or to the existing sub-structure or super structure in any way,
3. The removal of some, or all traffic from the existing bridge, and;
4. Closure of the existing bridge in preparation to begin demolition activities.

Maintaining the bridge in a safe and fully operational condition includes but is not limited to; performing inspections, maintenance, repairs, and all other work necessary to maintain current traffic usage until such time as the new bridge becomes fully operational and the existing bridge can be closed to all traffic.

29.2.11.2. Drainage Structures

The DB Contractor shall maintain all drainage structures on and off the bridges within the Project. Free draining of water through any drainage structure shall be maintained.

29.2.11.3. Manholes, Vaults, and Junction Boxes

The DB Contractor shall maintain all manholes, vaults and junction boxes within the Project.

29.2.12 Emergency Response

29.2.12.1. Cooperation

The DB Contractor shall cooperate with law enforcement and other emergency response agencies in response to accidents, fires, spills, or other emergencies in any area affected by the Project, including the Project area and public traffic lanes. The DB Contractor shall cooperate in all DDOT investigations of accidents and other incidents within the Project area. Refer to Section 9, Public Information, of these Technical Provisions for additional information regarding emergency response requirements.

29.2.12.2. Emergency Access

The DB Contractor shall work with emergency service providers to address their concerns about emergency access to and through the Project corridor. This may include installing gates to allow emergency personnel to access the Project area. Refer to Section 22, Maintenance of Traffic, of these Technical Provisions for additional requirements.

29.2.12.3. Notification

The DB Contractor shall notify DDOT, the Metropolitan Police Department, the NPS Police, Metro Transit Police, and all emergency service providers in the affected area in writing of any access closures at the construction site. Notification shall include the names, pager numbers, telephone numbers (business, residence, and cellular) and email of Project personnel to contact in case of emergencies. This contact list shall be updated as necessary. Refer to Section 9, Public Information, of these Technical Provisions for additional requirements.

29.2.12.4. Use of DB Contractor Resources

The DB Contractor shall make personnel and Equipment available to respond to all emergencies, except when the emergency is life-threatening to those personnel. Refer to Section 22, Maintenance of Traffic, of these Technical Provisions for additional requirements.

29.2.13 Maintenance of Property

The DB Contractor shall preserve public and private property at all times.

Refer to Section 5, Surveys and Mapping, of these Technical Provisions for additional requirements regarding monumentation and surveying.

29.2.13.1. Restoration of Property and Landscape

The DB Contractor shall restore, at its own cost, property and landscaping that is damaged in the course of construction to a condition equal, or better, to that existing prior to the occurrence of damage by repairing, replacing in kind, rebuilding, replanting, or compensating the property owner.

29.2.13.2. Temporary Fencing

The DB Contractor shall be required to furnish and install temporary chain link security fencing to contain animals and people prior to removal of any existing ROW fencing within the Project Limits.

29.2.14 Maintenance of Aesthetic Treatment

The DB Contractor shall monitor the appearance of the aesthetic treatments on walls or bridges for any defects, flaws, or vandalism. The DB Contractor shall be responsible for correcting defects and flaws and for cleaning up and restoring property impacted by vandalism until Final Acceptance. The DB Contractor shall document and bring to DDOT's attention defects, flaws, and vandalism.

The use of paint and/or permanent marking of any type on permanent barrier, railing, and walls will not be allowed except as required by the Contract.

29.3 Submittals

In addition to the requirements stated here-in, all submittals shall meet the requirements of Section 12, Project Documentation, and Section 28, Quality Management Plan, of these Technical Provisions.

DDOT will respond to DB Contractor submittals within the time frames stated within Section 1, General Information, of these Technical Provisions.

TABLE 29-1
Maintenance During Construction Deliverable Requirements Summary

Deliverable	DDOT Review Type	Schedule	Section
Maintenance Management Plan	Review and Comment	As a condition for the issuance of NTP2	29.1.3