

CONTRACT DOCUMENTS

**RELATING TO THE 495 EXPRESS LANES
NORTHERN EXTENSION PROJECT**

DATED AS OF SEPTEMBER 30, 2021

BY AND BETWEEN

**CAPITAL BELTWAY EXPRESS, LLC
A Delaware Limited Liability Company**

AND

THE LANE CONSTRUCTION CORPORATION

495 NEXT CONTRACT DOCUMENTS

The Execution Date is September 30, 2021

The Contract Documents consist of the following, appended hereto:

- Part 1 – Request for Proposals
- Part 2 – 495 NEXT Project Technical Requirements
- Part 3 – Design-Build Contract
- Part 4 – General Conditions
- Part 5 – Division 1 Amendments to the Standard Specifications

The Parties to the Agreement are:

CONCESSIONAIRE
Capital Beltway Express, LLC
6440 General Green Way
Alexandria, VA 22312

DESIGN-BUILDER
The Lane Construction Corporation
14500 Avion Parkway, Suite 200
Chantilly, VA 20151

Signatures:

FOR THE CONCESSIONAIRE:



Signature

Pierce R. Coffee, President - North America

Printed Name and Title

September 30, 2021

Date

FOR THE DESIGN-BUILDER:

Signature

Printed Name and Title

Date

Signature

Printed Name and Title

Date

495 NEXT CONTRACT DOCUMENTS

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14500 Avion Parkway, Suite 200
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Signatures:


FOR THE CONCESSIONAIRE:

Signature

Printed Name and Title

Date

FOR THE DESIGN-BUILDER:




Signature

Mark A. Schiller, President & CEO

Printed Name and Title

September 29, 2021

Date



Signature

Paul H. Cyril, EVP & CEO

Printed Name and Title

September 29, 2021

Date

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The Design-Build Contractor shall comply with the Federal Highway Administration (FHWA) Buy America Requirement in 23 CFR 635.410, which permits FHWA participation in the Contract only if domestic steel and iron will be used on the Project. To be considered domestic, all steel and iron used and all products manufactured from steel and iron must be produced in the United States and all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied. This requirement does not preclude a minimal use of foreign steel and iron materials, provided the cost of such materials does not exceed 0.1% of the contract price under the Contract.

Concurrently with execution of the Contract, the Design-Build Contractor has completed and submitted, or shall complete and submit, to the Department a Buy America Certificate, in format below. After submittal, the Design-Build Contractor is bound by its original certification.

A false certification is a criminal act in violation of 18 U.S.C. 1001. Should this Contract be investigated, the Design-Build Contractor has the burden of proof to establish that it is in compliance.

At the Design-Build Contractor's request, the Department may, but is not obligated to, seek a waiver of Buy America requirements if grounds for the waiver exist. However, the Design-Build Contractor certifies that it will comply with the applicable Buy America requirements if a waiver of those requirements is not available or not pursued by the Department. A request for a waiver shall be treated as a Concessionaire request for a Deviation under the Agreement.

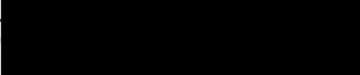
BUY AMERICA CERTIFICATE

The undersigned certifies on behalf of itself and all proposed subcontractors (at all tiers) that only domestic steel and iron will be used in the Project.

A. The Design-Build Contractor shall comply with the Federal Highway Administration ("FHWA") Buy America Requirements of 23 CFR 635.410, which permits FHWA participation in the Contract only if domestic steel and iron will be used on the Project. To be considered domestic, all steel and iron used and all products manufactured from steel and iron must be produced in the United States, and all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes which protect or enhance the value of the material to which the coating is applied. This requirement does not preclude a minimal use of foreign steel and iron materials, provided the cost of such materials does not exceed 0.1% of the Contract Price.

B. A false certification is a criminal act in violation of 18 U.S.C. 1001. Should this Contract be investigated, the Concessionaire has the burden of proof to establish that it is in compliance.

C. At the Design-Build Contractor's request, the Department may, but is not obligated to, seek a waiver of Buy America requirements if grounds for the waiver exist. However, the Design-Build Contractor certifies that it will comply with the applicable Buy America requirements if a waiver of those requirements is not available or not pursued by the Department.

DESIGN-BUILD CONTRACTOR	
SIGNATURE	
NAME (Printed or Typed)	Mark A. Schiller
TITLE	President & CEO
DATE	September 29, 2021


DESIGN-BUILD CONTRACTOR	
SIGNATURE	
NAME (Printed or Typed)	Phil H. Cyril
TITLE	EVP & CFO
DATE	September 29, 2021

EXHIBIT I
NEXT DESIGN-BUILD CONTRACT

[See attached]

PART 1
REQUEST FOR PROPOSALS [ADDENDUM 7]
[ATTACHMENTS INCLUDED IN DESIGN-BUILDER'S TECHNICAL AND PRICE
PROPOSALS]

495 Express Lanes Northern Extension (NEXT) Design-Build Project Request for Proposals

October 8, 2020

Execution Version

Transurban Project No.: PRJ00495

VDOT Project No.: 0495-029-419 (UPC 115401)

FHWA Project No.: NHPP-495-5(095)



PART 1

Design-Build Request for Proposals

495 Express Lanes Northern Extension Project

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PART 1 REQUEST FOR PROPOSALS

1.0 INTRODUCTION

Transurban (USA) Inc., on behalf of Capital Beltway Express LLC (“**Concessionaire**”), is issuing this Request for Proposals (“**RFP**”) to solicit Design-Build proposals (“**Proposal**”) for the 495 Express Lanes Northern Extension Project (“**Project NEXT**” or “**Project**”) to those entities that submitted Statements of Qualifications (SOQs) pursuant to the Concessionaire’s January 7, 2020 Request for Qualifications (RFQ) and were invited to submit proposals in response to this RFP (“**Offeror**”). The purpose of this RFP is to determine which Offeror (the “**Successful Offeror**”) will be awarded the design-build contract for Project NEXT.

Project NEXT will be delivered in coordination with the Virginia Department of Transportation (“**VDOT**”) under an amendment to the existing *Amended and Restated Comprehensive Agreement Relating to the Route 495 HOT Lanes Project in Virginia dated December 19, 2007, between the Concessionaire and VDOT* (“**Comprehensive Agreement**”). The Concessionaire will be responsible for the design, construction, financing and ongoing operations and maintenance of the Project.

The Successful Offeror is expected to support the Concessionaire’s key objectives established for Project NEXT, which include:

Safety – The Concessionaire has a strong corporate commitment to exemplary safety performance and expects the Design-Builder to provide industry-leading safety practices to provide a safe working environment for workers and ensure the safety of road users.

Delivery Certainty – The Concessionaire expects the Design-Builder to deliver Project NEXT on time and within the Contract Price.

Innovation & Sustainability – The Concessionaire expects the Design-Builder to promote innovation and enhance sustainability in designing and constructing Project NEXT.

Coordination and Collaboration – The Concessionaire expects the Design-Builder to share its commitment to a collaborative problem-solving approach and to engage with all Project stakeholders to ensure successful outcomes. The Design-Builder is also expected to cooperate and coordinate with other contractors on adjacent projects by maintenance contractors and/or service providers.

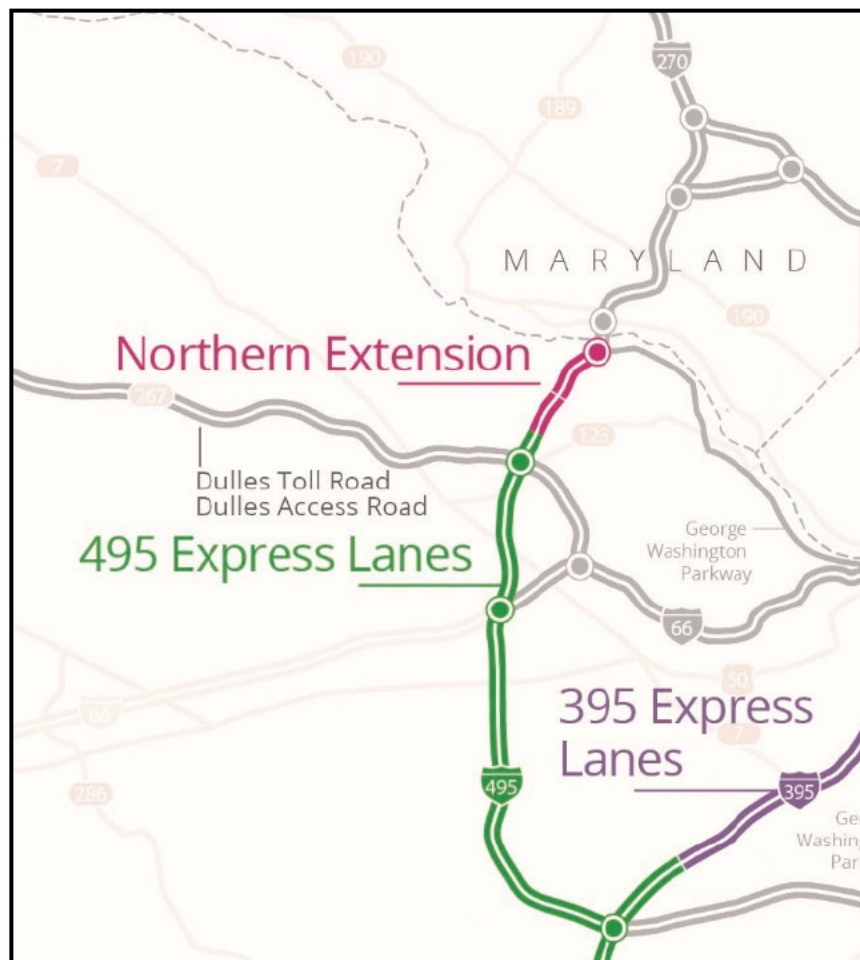
Maintenance of Traffic – The Concessionaire will require that the Design-Builder plan and execute its construction staging to minimize disruptions to General Purpose and Express Lanes traffic, and ensure that the staging is coordinated and fully integrated with other adjacent works.

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Communications and Stakeholder Management – The Concessionaire is committed to a comprehensive and robust communications and outreach program for Project NEXT, and the Design-Builder will be an active partner in the development and implementation of this program.

1.1 Project NEXT Overview

The Project is an extension of the 495 HOV/HOT Lanes (Express Lanes) in Fairfax County, Virginia. As shown in the figure below, the Project will extend along Interstate 495 (I-495) from the current northern terminus of the 495 Express Lanes near Old Dominion Drive (Route 738) to the vicinity of the George Washington Memorial Parkway (GW Parkway), and improvements to the Dulles Toll Road, Georgetown Pike and GW Parkway interchanges, existing bridges and the General Purpose lanes. I-495 currently operates with four General Purpose lanes in each direction along the Project corridor.



The primary objective of the Project is to extend the 495 Express Lanes further north to provide additional capacity in the corridor, which will be available at no charge to HOV 3+ vehicles, and open to other authorized vehicles paying a toll. This extension will be subject to the same operating

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rules and regulations as the existing 495 Express Lanes, and when complete, will operate as a single, fully integrated 495 Express Lanes facility between the Springfield Interchange and the GWMP.

1.2 Project NEXT Scope Summary

The scope of Project NEXT includes the design and construction (or installation) of the following:

- Approximately two miles of new two-lane HOT (Express) Lanes in each direction (with full shoulders) from the existing northern terminus near Old Dominion Drive (Route 738) to the vicinity of the GW Parkway), and improvements to the Dulles Toll Road, Georgetown Pike and GW Parkway interchanges and the General Purpose lanes;
- New northbound I-495 General Purpose (GP) Auxiliary Lane between Dulles Toll Road (DTR) and Georgetown Pike (Route 193);
- New Express Lanes access points with adequate merge lengths as follows (at-grade HOT Lanes access points other than those stated below are prohibited):
 - Dulles Toll Road EB to 495 Express Lanes NB (Ramp E1, including necessary adjustments to the existing GP lane Ramp D2)
 - Dulles Toll Road EB to 495 Express Lanes SB
 - Dulles Toll Road WB to 495 Express Lanes NB (Ramp E3)
 - GW Parkway WB to 495 Express Lanes SB
 - 495 Express Lanes NB to GW Parkway EB;
- Replacement of four existing bridges:
 - Live Oak Drive over the Beltway (with bicycle/pedestrian facilities added)
 - Georgetown Pike over the Beltway (with bicycle/pedestrian facilities added)
 - Old Dominion Drive over the Beltway (with bicycle/pedestrian facilities added)
 - I-495 GP NB over DTR EB to 495 NB Express Lanes and GP Lanes (bridge over Ramp D2);
- New Express Lane ramps and bridges:
 - GW Parkway WB to 495 Express Lanes SB
 - 495 Express Lanes NB to GW Parkway EB
 - Dulles Toll Road EB to 495 Express Lanes NB over Dulles Airport Access Road
 - Dulles Toll Road EB to 495 Express Lanes NB over DTR/495 GP NB;
- Modification of existing bridges:
 - I-495 GP and Express Lanes over Scott's Run Creek (widening)
 - GW Parkway over the I-495 GP (rehabilitation)

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- Lewinsville Road over I-495 (sidewalk modifications);
- Comprehensive Traffic Management System (TMS), including the following components: dynamic message signs, microwave vehicle detectors (MVDS), closed-circuit television cameras, automated incident detection (AID) cameras, and supporting infrastructure (e.g., fiber optic communications network, power, controllers, cabinets, etc.);
- Necessary upgrades and updates to the existing 495 Express Lanes electronic tolling and traffic management systems software necessary to operate Project NEXT. Integration and commissioning of the new TMS devices and equipment into the 495 Express Lanes back office systems and operations center. This work will be performed by a designated TMS Subcontractor (Transurban (USA) Inc.), whose responsibilities are further defined in Part 2 (NEXT Technical Requirements) Section 3.16 and the TMS Interface Plan (Attachment 3.16c);
- Signage and traffic signal enhancements on local approach roadways to I-495; and
- New and replacement noise barrier walls along the Project corridor (and connecting roadways, where applicable).

The alternative design for the GW Parkway interface necessary to fully integrate with Maryland's Express Lanes preferred design ("Alternative Maryland Express Lanes Interface") remains subject to NEPA and FHWA review and shall be included in the Offeror's Technical and Price Proposals as further detailed in this RFP. The Concessionaire shall make a determination no later than Commercial Close for Project NEXT as to whether Design-Builder's scope of work will be the base design at the GW Parkway or the Alternative Maryland Express Lanes Interface, and such determination shall be incorporated into the Design-Build Contract.

A full description of the scope of work and requirements for Project NEXT is provided in Part 2 (NEXT Technical Requirements). The final design and construction of Project NEXT also shall not preclude the ultimate planned roadways shown in the *Future Project NEXT Phase 2 Concept Roll Plots*, *2045 Design Year Concept Roll Plots*, and *Alternative Maryland Express Lanes Interface Roll Plots* included in Part 2 (NEXT Technical Requirements), Attachment 1.0.

Transurban reserves the right to revise or modify the NEXT Technical Requirements during the RFP process, and if so, Addenda will be released to all shortlisted Offerors.

1.3 Project-Wide Work Elements

The following Project-wide work elements are included in Project NEXT.

1.3.1 Noise Impact Analysis and Noise Barriers

The Design-Builder shall provide noise mitigation in compliance with the Virginia State Noise Abatement Policy and the Highway Traffic Noise Impact Analysis Guidance Manual. The final barrier location(s) and dimension(s) will be determined by the Design-Builder based on the results

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of the final Noise Abatement Design Report (NADR) prepared in accordance with Part 2NEXT Technical Requirements.

1.3.2 Right of Way

The Design-Builder shall be responsible for all right-of-way acquisitions, including dedications and easements (permanent and/or temporary) necessary for the construction and operation of Project NEXT. Right-of-way work includes all services necessary to acquire the right-of-way. The Offeror's right-of-way team member shall be a VDOT prequalified right-of-way contracting consultant, and must include a VDOT pre-qualified Fee Appraiser and a VDOT pre-qualified Review Appraiser. All right of way acquisitions and relocations shall be performed in accordance with VDOT Right of Way Manual and all applicable state and federal laws and regulations. The Design-Builder shall be responsible for right-of-way acquisition services and costs in accordance with the terms of the Design-Build Contract.

Project NEXT will require acquisition of additional property rights outside the existing VDOT rights-of-way, as shown in the RFP Conceptual Plans. Should the Design-Builder's final design and construction approach require additional right-of-way and/or easement acquisitions (including for temporary staging and laydown areas) not shown on the RFP Conceptual Plans., the Design-Builder shall be responsible for any additional approvals by required the Concessionaire and VDOT, including any necessary public hearings.

1.3.3 Utilities

The Design-Builder shall be responsible for all utility work necessary for the construction and operation of Project NEXT, including the identification, avoidance or adjustment (if necessary), and cost responsibility determination of any conflicting utilities. Utility work includes all items necessary to provide new services, perform relocation(s) or adjustments, and associated coordination with utility owners and/or owner's representatives. The Design-Builder shall be responsible for all costs associated with Utility work.

1.3.4 Permits

Other than the initial NEPA and FHWA approvals, the Design-Builder shall be responsible for acquiring and maintaining in its name (or the Concessionaire's or VDOT's name, as applicable) all environmental, water quality, and other permits necessary for the construction of Project NEXT as described in Part 2 (NEXT Technical Requirements). In those instances, where the Concessionaire or VDOT must be the permittee, the Design-Builder shall be responsible for preparing all necessary materials to support the issuance of a permit and ensuring compliance with the permit terms during the construction period.

1.3.5 Coordination with Third Parties

The Design-Builder shall be responsible for coordination with the affected public and private entities (third parties) and local jurisdictions necessary for the design and construction of Project

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NEXT, including but not limited to: VDOT, Fairfax County, Federal Highway Administration, Metropolitan Washington Airports Authority (MWAA), National Park Service (NPS), Fairfax County Park Authority (FCPA), Maryland State Highway Administration (MSHA), permitting agencies (and authorities), utility owners, community and/or homeowner’s associations, and private property or business owners.

Because of the requirements of the Comprehensive Agreement between the Concessionaire and VDOT, the Concessionaire’s review, concurrence, approvals, inspections, variations, and acceptance are subject to VDOT and, where applicable, third party review, concurrence, approvals, inspections, variations, and acceptance.

1.3.6 Adjacent Project Coordination

Project NEXT will require interface and coordination with the operating 495 Express Lanes and other adjacent projects being delivered by VDOT, MWAA, NPS, Fairfax County, FCPA and MSHA concurrently with the construction of Project NEXT. The Design-Builder shall coordinate and interface with the respective entity’s project teams, and their associated consultants and contractors throughout the duration of Project NEXT to ensure that the respective activities are properly coordinated and scheduled. Cooperation between all parties is essential for the successful completion of Project NEXT.

1.3.7 Transportation Management Plan

VDOT will develop and administer an overall Transportation Management Plan for Project NEXT corridor that focuses on broader regional strategies and solutions to facilitate mobility and safety during the construction period. The Design-Builder shall be responsible for the preparation and implementation of a Project-wide Maintenance of Traffic Plan and associated construction phase or location-specific maintenance of traffic plans and traffic control plans in accordance with the applicable requirements in Part 2 (NEXT Technical Requirements). The Design-Builder shall maintain traffic and perform its work in accordance with these plans for the duration of the Project.

1.3.8 Early Works

Each Offeror must develop and submit with its Technical Proposal, a proposed plan, scope of work, and schedule for Early Works as a draft Exhibit 5.1.1 of Part 3 (NEXT Design-Build Contract). The Offeror’s plan must include a proposed risk allocation between the Design-Builder and the Concessionaire for the Early Works and a proposed funding allocation for costs incurred prior to Financial Close. The plan and scope of work for Early Works will be discussed at the Final Proprietary Meeting noted in Section 2.3 of Part 1 (NEXT RFP) and finalized in accordance with Attachment N (NEXT Design-Build Contract Execution Requirements). Any Early Works will be conducted under a Limited Notice to Proceed (“LNTP”) at the request of the Design-Builder.

The purpose of the Early Works program is to allow the Design-Builder to complete those activities that are necessary to initiate a range of construction operations in the field and maximize

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the amount of construction work that may be performed immediately after the issuance of the Work Notice to Proceed (“**Work NTP**”) and subsequent Construction Segment Approvals.

The Design-Builder’s Early Works scope may include, but not limited to, the following: (i) preparation and approval of the Baseline Schedule, (ii) preparation and approval of various Project Development Plans and the Submittal Register needed to obtain the Work NTP, (iii) initiation of the Project NEXT Scope Validation Work; (iv) any design work, permitting, preparation of right of way, project management activities, and other work performed by the Design-Builder necessary to complete the Project NEXT Scope Validation Work; (v) the commencement and completion of the final noise studies and reports; (vi) any geotechnical or due diligence investigations and surveys, design work, permitting, preparation of right of way, project management activities, and other work performed by the Design-Builder in the approved Early Works Scope of Work necessary to meet the conditions precedent for the Work NTP as detailed in Section 5.1.2 of Part 3 (NEXT Design-Build Contract).

1.4 Environmental and FHWA Approvals

To comply with the requirements of the National Environmental Policy Act (NEPA), VDOT completed a Revised Environmental Assessment (EA) for the Project and issued it for public review on February 26, 2020. Combined NEPA and Location and Design Public Hearings were held on October 5, 2020 (virtual) and October 8, 2020 (in-person), 2020. A NEPA Finding of No Significant Impact for the Project is expected to be issued by the Federal Highway Administration (FHWA) in April 2021. The EA document and associated technical reports are available for shortlisted Offerors to review at: <http://495northernextension.org>. The Design-Builder will be required to meet all environmental commitments included in the NEPA documents.

An Interchange Justification Report (IJR) has been developed for the Project by VDOT and submitted to the Federal Highway Administration (FHWA) in March 2021. The IJR is expected to be approved by FHWA in April 2021. The Design-Builder will be required to meet all commitments included in the approved IJR relative to Phase 1 of Project NEXT.

VDOT will conduct NEPA and IJR Re-evaluations for the design changes associated with the Alternative Maryland Express Lanes Interface. Final approvals for these changes are scheduled to be completed prior to Financial Close for Project NEXT.

The Concessionaire is bound by the applicable provisions of the FHWA’s Design-Build Contracting regulations (23 CFR 636) with regard to the NEPA process and commencement of design-build activities.

1.5 Procurement Overview

The Concessionaire will use a two-phase selection process on Project NEXT. The first phase of the selection process is complete with the selection of the shortlisted Offerors who responded to the RFQ and have been invited to submit Proposals pursuant to this RFP.

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In accordance with the terms of this RFP, Offerors will submit Proposals meeting the requirements of Section 4.0 (Contents of Proposals). Upon completion of the evaluation and scoring of the Proposals, and subject to the process set forth in Section 5.0 (Evaluation Process for Proposals), the Successful Offeror will be awarded the NEXT Design-Build Contract by the Concessionaire. The award of a contract will be made to the Successful Offeror in accordance with the process outlined in Section 8.0 (Award of Contract, Proposal Validity, and Contract Execution). Offerors are also on notice that the issuance of a full NTP for Project NEXT is subject to the Concessionaire’s successfully reaching Financial Close.

Offerors’ Proposals will be evaluated and scored by Concessionaire based upon the evaluation criteria established in this RFP. An Offeror’s Proposal must meet all requirements established by this RFP. Requirements of this RFP generally will use the words “shall”, “will”, or “must” (or equivalent terms) to identify a required item that must be submitted with an Offeror’s Proposal. Failure to meet an RFP requirement may render an Offeror’s Proposal non-responsive.

The extent to which an Offeror’s Technical Proposal meets or exceeds evaluation criteria will be evaluated by the Concessionaire and reflected in the scoring of the Offeror’s Technical Proposal. An Offeror’s Technical Proposal, that is deemed non-responsive to this RFP, will be returned to the Offeror, and the Concessionaire shall not consider their Price Proposal.

2.0 BACKGROUND INFORMATION

2.1 Design-Build Contract Overview

The Design-Build Contract for the Project will be a fixed price, lump-sum contract between the Concessionaire and the Design-Builder. The Design-Builder is required to provide the personnel, resources, and processes necessary to deliver the Project, including coordination with and integration of subcontractors.

The NEXT Design-Build Contract will be based on the standard VDOT Design-Build Contract, with modifications made to reflect, among other things, the fact that the Concessionaire, and not VDOT, is the counter-party to the Design-Builder and incorporate provisions required by the Concessionaire’s Comprehensive Agreement with VDOT and the project financing plan. **The Contract will require a minimum of thirty percent (30%) of the Contract value be self-performed by the Offeror’s Lead Contractor.** If an Offeror’s Lead Contractor is a Joint Venture, this requirement may be met either by the Joint Venture entity or the Joint Venture Contractor member firms.

The estimated Design-Build Contract value for Project NEXT is **\$425 million**.

2.2 Project NEXT Completion

All Work included in the NEXT Design-Build Contract shall be completed no later than [**April 11, 2026**] based on the Anticipated Work NTP date as stipulated in Section 2.3 of the RFP. The

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Service Commencement Date shall be no later than [October 13, 2025] based on the Anticipated Work NTP date as stipulated in Section 2.3 of the RFP. Offerors shall base their Proposals on these milestones. The actual commencement and completion milestones for Project NEXT are established as specified in Article 5 of Part 3 (NEXT Design-Build Contract) and are subject to change based on the timing of Commercial and/or Financial Close with VDOT. The overall construction durations available to the Offerors shall remain unchanged.

A **Limited Notice to Proceed (LNTP) Date** solely for the commencement of Early Works may be issued as described in RFP Section 1.3.8. Any LNTP will only be issued following successful Commercial Close for Project NEXT with VDOT.

2.3 Procurement Schedule

The Concessionaire currently anticipates conducting the procurement of Project NEXT in accordance with the following milestones leading to award of the NEXT Design-Build Contract. The Concessionaire reserves the right to modify this schedule as it finds necessary, in its sole discretion.

Action	Date & Time
Issue RFP	October 8, 2020
Pre-Proposal and Utility Information Meeting with Offerors	October 15, 2020, at 9:00 AM Virtual Meeting via WebEx
First Proprietary Meeting with Offerors	Week of November 16, 2020 Virtual Meeting via WebEx
Second Proprietary Meeting with Offerors	Week of December 14, 2020 Virtual Meeting via WebEx
Third Proprietary Meeting with Offerors (Optional)	Week of March 15, 2021 Virtual Meeting via WebEx
Deadline for Offeror Questions - Technical Proposals	April 9, 2021 at 3:00 pm local time
Completion of Concessionaire Responses to Offeror Questions on Technical Proposals	April 16, 2021
Technical Proposals Due Date	Electronic Submittal: April 20, 2021, at 3:00 pm local time Hardcopy Submittal: April 22, 2021, at 3:00 pm local time
Final Proprietary Meeting with Offerors (Offerors Presentation)	Week of April 26, 2021
Deadline for Offeror Questions – Price Proposals	May 10, 2021, at 9:00 pm local time
Completion of Concessionaire Responses to Offeror Questions on Price Proposals	May 11, 2021, at 11:00 am local time
Price Proposals Due Date	May 12, 2021, at 11:00 am local time

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Action	Date & Time
Anticipated Notice of Intent to Award NEXT Design-Build Contract	June 8, 2021
Anticipated Commercial Close between Concessionaire and VDOT	August 23, 2021
Anticipated NEXT Design-Build Contract Execution	August 24, 2021
Anticipated Limited NTP	August 24, 2021
Anticipated Financial Close between Concessionaire and VDOT	December 1, 2021
Anticipated Work NTP	December 1, 2021

2.4 Concessionaire’s Point of Contact

The Concessionaire’s sole Point of Contact for matters related to the RFP shall be Kirsten Domingo. Concessionaire’s Point of Contact is the only individual authorized to discuss this RFP with any interested parties, including Offerors. All written communications with the Concessionaire about Project NEXT or this RFP shall be conducted via the Concessionaire’s web-based procurement tool (known as “**Ansarada**”) as required by applicable provisions of this RFP.

Name: Kirsten Domingo
Address: 6440 General Green Way
Alexandria, VA 22312
Phone: (571) 419-6014 – office
(571) 214-0238 – mobile
E-Mail: NEXTProcurement@transurban.com

All written communications to Concessionaire from Offerors shall specifically reference “495 Express Lanes Northern Extension Project RFP (Project No. PRJ00495).”

Offerors are specifically instructed not to contact VDOT personnel or consultants for information about this RFP or Project NEXT. Concessionaire will coordinate with VDOT as required to provide Offerors with responses to any questions submitted in accordance with Section 7.0 of this RFP.

Concessionaire disclaims the accuracy of information derived from any source other than Concessionaire’s designated Point of Contact or made available via its web-based procurement tool, and the use of any such information is at the sole risk of the Offeror.

2.5 RFP Documents

2.5.1 The documents included in this RFP (collectively the “RFP Documents”) will be available to Offerors in digital format only on the Concessionaire’s web-based procurement tool (Ansarada). No hard copies will be provided. The RFP Documents consist of the following parts and any addenda, as well as any attachments and exhibits contained or identified in such sections:

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PART 1 – REQUEST FOR PROPOSALS [Revision 7]

- ATTACHMENT A.1 – ACKNOWLEDGEMENT OF RECEIPT OF RFP, REVISIONS AND/OR ADDENDA - TECHNICAL PROPOSAL
- ATTACHMENT A.2 – ACKNOWLEDGEMENT OF RECEIPT OF RFP, REVISIONS AND/OR ADDENDA - PRICE PROPOSAL
- ATTACHMENT B.1 – TECHNICAL PROPOSAL CHECKLIST
- ATTACHMENT B.2 – PRICE PROPOSAL CHECKLIST
- ATTACHMENT C – PRICE PROPOSAL INSTRUCTIONS [Revision. 1]
- ATTACHMENT D.1 – PRICE PROPOSAL FORM
- ATTACHMENT D.2 – PROJECT NEXT PRICE PROPOSAL [Revision 2]
- ATTACHMENT D.3 – SCHEDULE OF PAY ITEMS [Revision 1]
- ATTACHMENT E – OFFEROR’S STATEMENT
- ATTACHMENT F – OFFEROR’S CERTIFICATION
- ATTACHMENT G – PROPOSAL PAYMENT AGREEMENT [Revision 1]
- ATTACHMENT H – WAIVER OF PROPOSAL PAYMENT
- ATTACHMENT I – ESCROW PROPOSAL DOCUMENTS CHECKLIST
- ATTACHMENT J – ESCROW AGREEMENT
- ATTACHMENT K – CERTIFICATION REGARDING DEBARMENT; PRIMARY COVERED TRANSACTIONS
- ATTACHMENT L – CERTIFICATION REGARDING DEBARMENT; LOWER TIER COVERED TRANSACTIONS
- ATTACHMENT M – PROPOSAL GUARANTY FORM
- ATTACHMENT N – NEXT DESIGN-BUILD CONTRACT EXECUTION REQUIREMENTS [Revision 2]

PART 2 – NEXT TECHNICAL REQUIREMENTS [Revision 5]

ATTACHMENT 1.0 – PROJECT NEXT SCOPE OF WORK [Revision 5]

Appendix A – RFP Conceptual Plans *dated September 30, 2020*:

- RFP Conceptual Plan Sheets (11” x17”)
 - RFP Conceptual Plan Sheets – Revision 1 *dated November 13, 2020*
 - RFP Conceptual Plan Sheets – Revision 2 *dated December 18, 2020*
 - RFP Conceptual Plan Sheets – Revision 3 *dated March 9, 2021*
 - RFP Conceptual Plan Sheets – Revision 4 *dated April 6, 2021*
 - RFP Conceptual Plan Sheets – Revision 5 *dated April 30, 2021*
 - RFP Conceptual Plan Sheets (Alternative Maryland Express Lanes Interface applicable sheets) – Revision 0 *dated April 6, 2021*
- RFP Conceptual Plan Sheets – Conformed Set Containing All Sheets for Base Design and Alternative Maryland Express Lanes Interface Design *dated April 6, 2021*
- Conceptual Roadway Roll Plots – Revision 4 *dated April 6, 2021*
- Conceptual Drainage Roll Plots – Revision 4 *dated April 6, 2021*
- Conceptual Signing, Lighting and Pavement Marking Roll Plots, Revision 4 *dated April 6, 2021*
- Conceptual TMS Roll Plots, Revision 4 *dated April 6, 2021*
- Future Project NEXT Phase 2 Concept Roll Plots – Revision 4 *dated April 6, 2021*
- Future 2045 Design Year Concept Roll Plots – Revision 4 *dated April 6, 2021*
- Alternative Maryland Express Lanes Interface Roll Plots (Phase 1, Future, and Comparison Exhibits) *dated April 6, 2021*
- Conceptual Drainage Roll Plots (Alternative Maryland Express Lanes Interface) – Revision 0 *dated April 6, 2021*
- Conceptual Signing, Lighting and Pavement Marking Roll Plots (Alternative Maryland Express Lanes Interface) – Revision 0 *dated April 6, 2021*
- Conceptual TMS Roll Plots (Alternative Maryland Express Lanes Interface) – Revision 0 *dated April 6, 2021*

ATTACHMENT 1.3 – PROJECT DEVELOPMENT PLANS [Revision 1]

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ATTACHMENT 1.5a – STANDARDS AND SPECIFICATIONS [Revision 2]
 ATTACHMENT 1.5b – DESIGN CRITERIA [Revision 3]
 ATTACHMENT 1.5c – REQUIRED DESIGN EXCEPTIONS AND DESIGN WAIVERS [Revision 2]
 ATTACHMENT 1.6 – LIMITED ACCESS LINE CHANGES
 ATTACHMENT 1.11a – MWAA PERMITTING REQUIREMENTS [Revision 1]
 ATTACHMENT 1.11b – MARYLAND STATE HIGHWAY ADMINISTRATION REQUIREMENTS
 ATTACHMENT 1.13 – HEALTH, SAFETY & ENVIRONMENT REQUIREMENTS
 ATTACHMENT 3.3 – FAIRFAX COUNTY PARK AUTHORITY REPLACEMENT PARCEL
 ATTACHMENT 3.4a – GEOTECHNICAL DATA AND PAVEMENT REPORT
 ATTACHMENT 3.4b – SETTLEMENT OF STRUCTURES
 ATTACHMENT 3.6 – EXISTING DRAINAGE ASSETS TO BE REPLACED/REHABILITATED
 ATTACHMENT 3.8 – MINIMUM PAVEMENT REQUIREMENTS [Revision 4]
 ATTACHMENT 3.9a – E-ZPASS PAVEMENT LOGOS
 ATTACHMENT 3.9b – PAVEMENT MARKINGS
 ATTACHMENT 3.15a – BRIDGE REPAIR QUANTITIES [Revision 2]
 ATTACHMENT 3.15b – LEWINSVILLE ROAD OVER I-495 – BRIDGE AND APPROACH SIDEWALK
 MODIFICATIONS
 ATTACHMENT 3.16a – TMS SPECIAL PROVISIONS
 ATTACHMENT 3.16b – NOTICE OF IMPACTS TO EXISTING ASSETS
 ATTACHMENT 3.16c – TMS INTERFACE PLAN [Revision 1]

PART 3 – NEXT DESIGN-BUILD CONTRACT [Revision 4]

EXHIBIT 5.1.1 – EARLY WORKS SCOPE OF WORK
 EXHIBIT 5.2.1 – REQUIREMENTS FOR SERVICE COMMENCEMENT
 EXHIBIT 5.2.2 – REQUIREMENTS FOR FINAL COMPLETION
 EXHIBIT 5.2.3 – RELEASE OF ALL CLAIMS FOR SERVICE COMMENCEMENT
 EXHIBIT 11.3 – FEDERAL REQUIREMENTS

PART 4 – NEXT GENERAL CONDITIONS [Revision 5]

EXHIBIT 1.2.1 – PROJECT NEXT DEFINITIONS [Revision 2]
 EXHIBIT 2.1.5 – KEY PERSONNEL REQUIREMENTS
 EXHIBIT 5.1.1 – INSURANCE REQUIREMENTS [Revision 1]
 EXHIBIT 5.2.1(a) – FORM OF PERFORMANCE BOND [Revision 2]
 EXHIBIT 5.2.1(b) – FORM OF PERFORMANCE BOND (EXPEDITED DISPUTE RESOLUTION) [Revision 1]
 EXHIBIT 5.2.1(c) – FORM OF PAYMENT BOND
 EXHIBIT 6.2.5(a) – FORM OF DESIGN-BUILDER INTERIM LIEN WAIVER [Revision 2]
 EXHIBIT 6.2.5(b) – FORM OF SUBCONTRACTOR INTERIM LIEN WAIVER [Revision 1]
 EXHIBIT 6.2.5(c) – FORM OF SUBCONTRACTOR FINAL LIEN WAIVER
 EXHIBIT 6.6.3 – FORM OF DESIGN-BUILDER FINAL LIEN WAIVER
 EXHIBIT 10.8 – COMPREHENSIVE AGREEMENT DISPUTE RESOLUTION PROVISION
 EXHIBIT 12.1.1 – FORM OF PROJECT NEXT DIRECT AGREEMENT

PART 5 – NEXT DIVISION 1 AMENDMENTS TO THE STANDARD SPECIFICATIONS [Revision 1]

EXHIBIT 107.15.1 – USE OF DISADVANTAGED BUSINESS ENTERPRISES FOR DESIGN-BUILD PROJECTS
 EXHIBIT 107.15.2 – USE OF SMALL, WOMEN-OWNED, AND MINORITY-OWNED BUSINESSES FOR DESIGN-BUILD PROJECTS

2.5.2 Each Offeror shall review the RFP Documents and provide questions or requests for clarification, including, but not limited to, terms that it considers to be ambiguous or to which it takes exception. Such questions or requests for clarifications shall be submitted to Concessionaire

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in accordance with the procedures and timeframes specified in Section 7.0 (Questions and Clarifications) and Section 2.3 of this RFP. Concessionaire will review all questions and/or requests for clarifications received and, if it deems appropriate, in its sole discretion, may modify the RFP Documents through an Addendum. Offerors shall base their Proposals on the terms and conditions of the RFP Documents included in the latest issued Addendum.

2.5.3 Offeror’s designated representative shall be notified via the Concessionaire’s web-based procurement tool (Ansarada) when any addenda to the RFP Documents are issued. Electronic copies of any updated or additional RFP Documents will be provided to Offerors via the Ansarada project web site. No hard copies will be provided.

2.6 Deviations from the RFP Documents

If an Offeror would like to deviate from any requirement of an RFP Document, it shall notify Concessionaire in writing of such proposed deviations prior to the Second Proprietary Meeting described in Section 3.4 of this RFP. Concessionaire has the sole discretion as to the acceptability of any such proposed deviations based on the determination of whether the proposed deviation meets or exceeds the RFP Document requirements. Proposed deviations from the requirements of the RFP Documents will not be valid unless they are submitted by the Offeror in writing and accepted by the Concessionaire. All Offerors will be notified by RFP Addendum of any accepted deviations.

2.7 Obligation to Meet All of the Requirements of the RFP Documents

If awarded the NEXT Design-Build Contract, the Design-Builder will be obligated to meet the requirements of the RFP Documents for the Project NEXT Contract Price and within the Project NEXT Contract Time. Offerors are on notice that Concessionaire’s review of Technical Proposals with respect to the RFP, as well as its issuance of any Addendum relative to a proposed deviation under Section 2.6 of this RFP, shall not be construed as relieving the Design-Builder of this obligation. Offerors are on further notice that Concessionaire will review, comment and/or approve the Design-Builder’s final design after the award of the NEXT Design-Build Contract, in accordance with Part 2 (NEXT Technical Requirements).

2.8 RFP Supplemental Information

An RFP Supplemental Information Package will be provided in digital format only to each Offeror. The RFP Supplemental Information is provided for information only. The Design-Builder shall verify and supplement the information as needed to complete the Work in accordance with the Contract Documents. The RFP Supplemental Information includes the following:

A. Project NEXT Information:

- Project NEXT Preliminary Drainage and Stormwater Management Report *dated September 30, 2020*
- Project NEXT Existing Drainage Assessment Report – Volume I *dated April 30, 2020*

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- Project NEXT Existing Drainage Assessment Report – Volume II (Video Pipe Inspection) *dated April 30, 2020*
- Project NEXT Hydrologic and Hydraulic Analysis Report *dated April 6, 2021*
- Project NEXT Right of Way Acquisition Report *dated April 6, 2021*
- Project NEXT Utility Tracking Report *dated December 18, 2020* (PDF File, Excel File, and CADD Files); Revision 3 *dated April 6, 2021* (PDF File Only)
- Project NEXT Utility Tracking Report (Alternative Maryland Express Lanes Interface) *dated April 6, 2021*
- Project NEXT Service Panel Report *dated December 18, 2020*
- RFP Conceptual Plans - Plan Sheets and Roll Plots in VDOT CADD Manual Format (.dgn)
 - CADD (.dgn) files associated with revised plans and roll plots issued in Addendum 1
 - CADD (.dgn) files associated with revised plans and roll plots issued in Addendum 2
 - CADD (.dgn) files associated with revised plans and roll plots issued in Addendum 3
 - CADD (.dgn) files associated with revised plans and roll plots issued in Addendum 5
 - CADD (.dgn) files associated with Alternative Maryland Express Lanes Interface design in Addendum 3
 - CADD (.dgn) files associated with Alternative Maryland Express Lanes Interface design in Addendum 5
- RFP Conceptual Plans - 3D Model in VDOT CADD Manual Format (.dgn)
 - 3D Model (.dgn) files associated with revised plans issued in Addendum 2
 - 3D Model (.dgn) files associated with revised plans issued in Addendum 3
 - 3D Model (.dgn) files associated with revised plans issued in Addendum 5
 - 3D Model (.dgn) files associated with Alternative Maryland Express Lanes Interface design issued in Addendum 5
- Approved Design Waivers for Project NEXT – DW-29, DW-30, DW-M (*Various Dates*)
- Preliminary Jurisdictional Determination Application for Project NEXT *dated September 30, 2019*
- US Army Corp of Engineers - Preliminary Jurisdictional Determination Letter for Project NEXT *dated January 15, 2020*
- Project NEXT Proposed Noise Barrier Layout and Profiles *dated April 6, 2021*
- Project NEXT Proposed Noise Barrier Layout and Profiles (Alternative Maryland Express Lanes Interface) *dated April 6, 2021*
- Hill View Estates Development Plan (Parcels 55, 56, 57) *dated February 23, 2016*
- Project NEXT gINT Project File (.gpj) for Geotechnical Borings included in Part 2 - NEXT Technical Requirements, Attachment 3.4a (Geotechnical Data and Pavement Report)
- Project NEXT Preliminary EPA SWMM and HEC-RAS Model Files
- Project NEXT Environmental Assessment VISSIM, VISUM, Synchro, and iSATe Traffic Files

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- Project NEXT Preliminary Noise Analysis – TNM Files
- Project NEXT 2018 Traffic Count Data Files from VDOT
- I-495 NEXT - Wood Turtle Survey and Habitat Evaluation *dated December 18, 2020*
- Project NEXT Traffic Management System (TMS) Subcontract – Draft Scope of Work *dated March 3, 2021*
- I-495 NEXT Draft Environmental Project Commitments *dated April 2, 2021*
- I-495 NEXT Section 4(f) De Minimus Letter (George Washington Memorial Parkway) *dated March 24, 2021*
- I-495 NEXT Section 4(f) De Minimus Letter (Scott’s Run Nature Preserve) *dated March 25, 2021*
- Dominion Transmission Tower Coordination Exhibits *dated April 1, 2021*
 - March 29, 2021 Meeting Minutes and Plan Exhibits
 - March 11, 2021 Meeting Minutes and Plan Exhibits
- VDOT Special Provision for Sound Barrier Walls *dated April 29, 2021*
- VDOT Special Provision for Architectural Finish, Concrete Form Liners and Color Stain Coating *dated April 29, 2021*
- VDOT Special Provision for Articulated Concrete Block *dated April 30, 2021*

B. Additional Reference or Supporting Information:

- NEXT Price Proposal Forms – Excel File [Revision 1]
- MWAA Lane Closure Request Form – Excel File
- Executive Order 13502 - Use of Project Labor Agreements for Federal Construction Projects *dated February 6, 2009*
- FHWA’s Interim Guidance on the Use of Project Labor Agreements *dated May 7, 2010*
- VDOT Cellular Telephone Lease Agreements and Permits (*Various Dates*)
- VDOT Asbestos Containing Materials (ACM) Reports
 - Structure No. 029-2031 – I-495 NB & SB over Scott’s Run
 - Structure No. 029-5002 – George Washington Memorial Parkway EB over I-495
 - Structure No. 029-5003 – George Washington Memorial Parkway WB over I-495
- Existing Roadway As-Built Plans
 - I-495 Route 123 to American Legion Bridge (1959)
 - I-495 Widening Route 50 to George Washington Memorial Parkway (1977)
 - I-495 SB Widening (1970)
 - I-495 Widening to 8 Lanes
 - 495 Express Lanes in the vicinity of Dulles Toll Road Interchange (495 HOT Section 7) – As-Built Plans and Noise Barrier Shop Drawings
 - I-495 Fiber Extension – VDOT Assets

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- I-495 NB Shoulder Use Project
- Existing Bridge As-Built Plans
 - Route 738 (Old Dominion Drive) over I-495 and Scott’s Run (Plan Nos. 138-24, 138-24A, 138-24B)
 - I-495 NB & SB over Scott’s Run (Plan Nos. 138-25, 138-25A, 138-25C, 138-25E, 138-25F, 138-25G)
 - Route 193 (Georgetown Pike) over I-495 (Plan Nos. 139-01, 139-01A, 139-01B)
 - George Washington Memorial Parkway over I-495 (Plan Nos. 152-04, 152-04A, 152-04B)
 - I-495 NB over Ramp EN of Route 267 EB (Plan Nos. 189-13, 189-13A)
 - (Plan No. 265-90)
 - I-495 Express Ramp NB to DTR WB over Ramp from DTR EB to I-495 NB (Plan No. 287-43)
 - Lewinsville Road over I-495 (Plan No. 287-58)
- Existing Bridge Inspection Reports
 - Structure No. 029-2031 – I-495 NB & SB over Scott’s Run
 - Structure No. 029-2056 – Live Oak Drive over I-495
 - Structure No. 029-2107 – I-495 over Scott’s Run Culvert (Single Barrel)
 - Structure No. 029-2108 – I-495 over Scott’s Run Culvert (Triple Barrel)
 - Structure No. 029-2120 – I-495 NB over Ramp EN of Route 267 EB
 - Structure No. 029-2275 – Lewinsville Road over I-495
 - Structure No. 029-2299 – I-495 Express Ramp NB to DTR WB over Ramp from DTR EB to I-495 NB
 - Structure No 029-5002 – George Washington Memorial Parkway EB over I-495
 - Structure No 029-5003 – George Washington Memorial Parkway WB over I-495
- Existing Bridge Load Ratings
 - Fed ID 06583 – I-495 NB & SB over Scott’s Run
 - Fed ID 06608 – I-495 over Scott’s Run Culvert (Single Barrel)
 - Fed ID 06609 – I-495 over Scott’s Run Culvert (Triple Barrel)
 - Fed ID 28661 – Lewinsville Road over I-495
- 495 Northbound Shoulder Use Project - Geotechnical Data Report *dated December 3, 2013*
- Existing Traffic Signal Information
 - Structure No. 029-1773 (Inspection Report)
 - Structure No. 029-1774 (Inspection Report)
 - Structure No. 029-3883 (Inspection Report)
 - Structure No. 029-3884 (Inspection Report)
- Existing Sign Structure Information
 - Structure No. 029-0646 (Inspection Report)

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- Structure No. 029-0722 (Inspection Report, Plans)
- Structure No. 029-1001 (Inspection Report, Plans)
- Structure No. 029-1022 (Inspection Report, Plans)
- Structure No. 029-1023 (Inspection Report, Plans)
- Structure No. 029-1031 (Inspection Report, Plans)
- Structure No. 029-1066 (Inspection Report, Plans)
- Structure No. 029-1074 (Inspection Report, Plans)
- Structure No. 029-1077 (Inspection Report, Plans)
- Structure No. 029-1078 (Inspection Report, Plans)

The information and documents provided as RFP Supplemental Information are not suitable for designing or constructing Project NEXT. The requirements described in Part 2 (NEXT Technical Requirements) and other Contract Documents shall supersede any information contained in the RFP Supplemental Information. All RFP Supplemental Information is provided solely for the information of the Offeror, which each Offeror may use at their own risk and as they deem appropriate.

3.0 GENERAL PROCEDURES AND REQUIREMENTS

This section of the RFP provides general information, procedures, and requirements related to the pre-submittal period to be followed by all Offerors.

3.1 Relationship of RFQ and RFP

Offerors are advised that the content of the RFP Documents may differ from the content of the RFQ Documents. In the event of any conflict between the RFQ Documents and the RFP Documents, the RFP Documents shall govern.

3.2 Offeror's Pre-Submittal Responsibilities and Representations

3.2.1 Each Offeror shall be solely responsible for examining the RFP Documents, including any Addenda issued to such documents, and any and all conditions that may in any way affect its Proposal or the performance of the work on Project NEXT, including but not limited to:

.1 Visiting the Project NEXT Site and becoming familiar with and satisfying itself as to the general, local, and Site conditions that may affect the cost, progress, or performance of its work on the Project NEXT;

.2 Addressing all potential impacts with affected utility owners and third parties and ensuring all such impacts have been included in the Offeror's Technical and Price Proposals;

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.3 Becoming familiar with and satisfying itself as to all federal, state, and local laws and regulations that may affect the cost, progress, or performance of its work on Project NEXT;

.4 Determining that the RFP Documents are sufficient to indicate and convey understanding of all terms and conditions for the performance of Offeror's work on Project NEXT;

.5 Making its own interpretations of provided data with regard to the nature and extent of existing site conditions and the Work to be undertaken; and

.6 Notifying Concessionaire in writing, in accordance with the processes set forth in Section 7.0 (Questions and Clarifications) of this RFP, of all conflicts, errors, ambiguities, or discrepancies that Offeror discovers in the RFP Documents.

The Offeror acknowledges the RFP Documents are not represented to be complete. The Offeror is expected to make a variety of assumptions as to the inherent risks and determine what it views as necessary to finalize the design and complete the Work according to the requirements of the Contract Documents for the agreed Contract Price and Contract Time. Any failure to fulfill these responsibilities is at the Offeror's sole risk, and no relief will be provided by Concessionaire.

3.3 Pre-Proposal and Proprietary Meetings

3.3.1 Concessionaire will hold a mandatory Pre-Proposal and Utility Information Meeting for all Offerors on the date and time set forth in RFP Section 2.3. At least one representative from each Offeror is required to attend this meeting in order for the Offeror's Proposal to be considered. No more than ten (10) representatives from each Offeror (inclusive of any member of Offeror's team) will be allowed to participate in the Pre-Proposal meeting. The Concessionaire will use this meeting to review the results of the design process to date and give the Offerors a chance to ask questions early in the RFP process in an open forum.

3.3.2 Concessionaire will invite each Offeror to participate in interactive proprietary meetings with Concessionaire. Three meetings are anticipated, as set forth in RFP Section 2.3. Each meeting will be private, in that only one Offeror will meet with Concessionaire at a time. All meetings will last no longer than two (2) hours. The final Proprietary Meeting will include an Offeror presentation led by the Offeror's Design-Build Project Manager and other appropriate Key Personnel that addresses, at a minimum, the Offeror's proposed Early Works Scope of Work and the Offeror's proposed Project NEXT Schedule. Additional meetings may be held at the Concessionaire's discretion until the due date for the Price Proposals. VDOT representatives may also participate in these proprietary meetings.

3.3.3 The purpose of the proprietary meetings is to give each Offeror, in a confidential setting, an opportunity to ask questions and discuss concerns related to Project NEXT, details of the Project NEXT scope, and administrative procedures, and for the Offeror to discuss any proposed deviations to the RFP. The meetings are also intended to enable Concessionaire to interact with Key Personnel and express, among other things, whether the Offeror is pursuing an approach that will not meet the RFP Documents, or that is otherwise unacceptable to Concessionaire. At least

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five (5) business days before each meeting, the Offeror shall submit to Concessionaire in writing the names and functions of each of its attendees and the issues and questions to be discussed. Sufficient detail on the topics for discussion shall be provided to give Concessionaire opportunity to have appropriate personnel in attendance (i.e., a bulleted list of topics is not considered sufficient detail). No more than ten (10) team members from each Offeror may attend such meetings.

3.3.4 The Offeror shall prepare minutes of its proprietary meetings with Concessionaire and furnish the minutes within three (3) business days of the meeting. Concessionaire reserves the right to comment on and return such meeting minutes to the Offeror to reflect its understanding of these meetings. Statements made by the Concessionaire at these meetings are for the Offerors' information only, and any recording of such in the meeting minutes shall not replace or supersede the written requirements of the RFP Documents unless such documents are changed by a formal Addendum issued by the Concessionaire. Because of the proprietary nature of these meetings, neither the agenda nor the minutes will be subject to disclosure until after the award of the NEXT Design-Build Contract.

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

3.3.6 Nothing herein shall be construed to preclude Concessionaire from speaking with any Offeror at any time prior to the opening of the Price Proposals, and Concessionaire expressly reserves all such rights to do so.

3.4 Acknowledgement of Receipt of RFP, Revisions, and/or Addenda

Offeror shall provide to Concessionaire the Acknowledgement of Receipt of RFP (Revisions and/or Addenda - Technical Proposal), set forth as Attachment A.1, signed by the Offeror's designated representative or Principal Officer, with the submission of the Technical Proposal, which will serve as acknowledgment that the Offeror has received this RFP and any Addenda issued by the Concessionaire. If additional Revisions and/or Addenda are issued past the date of the submission of the Technical Proposal, Offerors shall also submit a completed Attachment A.2 (Acknowledgement of Receipt of RFP Revisions or Addenda - Price Proposal) to acknowledge receipt of this additional information.

4.0 CONTENTS OF PROPOSALS

This section of the RFP describes specific information that must be included in the Offeror's Proposal. The Concessionaire will use the information provided in each Proposal to determine which Offeror provides the best value for Project NEXT and the Concessionaire based upon the evaluation criteria established in this RFP.

4.1 General Requirements

Offerors will submit a two-part Proposal as follows. The specific format and submittal requirements for the Proposals are described in Section 6.0 (Proposal Submittal Requirements) of the RFP.

4.1.1 The Technical Proposal will consist of all information required under Sections 4.2 – 4.7 of this RFP and is to be submitted separately from the Price Proposal by the date and time set forth in Section 2.3. Offerors shall include an original signed copy of Attachment A.1 (Acknowledgement of Receipt of RFP, Revisions and/or Addenda - Technical Proposal) and a completed Attachment B.1 (Technical Proposal Checklist) with their Technical Proposal. The purpose of the Technical Proposal Checklist is to aid the Offeror in ensuring all submittal requirements have been included in the Offeror's Technical Proposal and to provide a page reference indicating the location in the Technical Proposal of each submittal requirement.

4.1.2 The Price Proposal will consist of the information required by Section 4.8 of the RFP and is to be submitted separately from the Technical Proposal by the date and time set forth in RFP Section 2.3. The Price Proposal will not be opened until the Technical Proposal has been evaluated and scored pursuant to Section 5.0 of the RFP. Offerors shall complete the Attachment B.2 and include it with their Price Proposal. The purpose of the Price Proposal Checklist is to aid the Offeror in ensuring all submittal requirements have been included in the submittal. By submitting its Price Proposal, the Offeror certifies that its Technical Proposal is in conformance with Part 2 (NEXT Technical Requirements) as indicated in the RFP and/or Addenda.

4.1.3 Each Offeror shall meet all requirements established by this RFP. The Concessionaire will evaluate and score each Offerors' Technical Proposals based upon the evaluation criteria found in this RFP. Failure to meet an RFP requirement will render an Offeror's Proposal non-responsive, while the extent to which an Offeror meets or exceeds the RFP requirements will be determined by the Evaluation Team and reflected in the proposal scoring.

4.1.4 Offerors shall be aware that Concessionaire reserves the right to conduct an independent investigation of any information, including prior experience, identified in a Proposal by contacting project references, accessing public information, contacting independent parties, or any other means. Concessionaire also reserves the right to request additional information from an Offeror during the evaluation of that Offeror's Proposal.

4.1.5 If an Offeror has concerns about information included in its Proposal that may be deemed confidential or proprietary, the Offeror shall adhere to the requirements set forth in RFP Section 11.1.

4.2 Technical Proposal - Letter of Submittal

4.2.1 The Letter of Submittal shall be on the Offeror's letterhead and identify the full legal name and address of the Offeror. The Offeror is defined as the legal entity with whom the Concessionaire will execute the NEXT Design-Build Contract. The Letter of Submittal shall be signed by an authorized representative of the Offeror. All signatures shall be original and signed in ink. Additional documents required to support statements or declarations in the Letter of Submittal shall be included as appendices to Volume I of the Technical Proposal.

4.2.2 The Letter of Submittal shall declare Offeror's intent, if selected, to enter into the NEXT Design-Build Contract with Concessionaire in accordance with the terms of this RFP.

4.2.3 The Letter of Submittal shall, pursuant to Section 8.2 of the RFP, declare that the offer represented by the Technical and Price Proposals will remain in full force and effect for one hundred eighty (180) Days after the date the Price Proposal is actually submitted to Concessionaire ("**Price Proposal Submission Date**").

4.2.4 The Letter of Submittal shall identify the name, title, address, telephone and fax numbers, and email address of an individual who will serve as the designated representative and Single Point of Contact for the Offeror.

4.2.5 The Letter of Submittal shall identify the name, address, and telephone number of the individual who will serve as the Principal Officer for the Offeror (e.g., President, Treasurer, Chairperson of the Board of Directors, etc.).

4.2.6 The Letter of Submittal shall include either an executed Attachment G (Proposal Payment Agreement) or an executed Attachment H (Waiver of Proposal Payment).

4.2.7 The Letter of Submittal shall provide the Certification Regarding Debarment Forms, as set forth in Section 11.7.6 of this RFP.

4.2.8 The Letter of Submittal shall include a written statement that Offeror is committed to achieving the following goals with respect to small and minority business participation, on-the-job training, and workforce development:

- Disadvantaged Business Enterprise (DBE) participation equal to fifteen percent (15%) of the Adjusted Contract Value, **plus** Small, Women-owned, and Minority-owned (SWaM) business participation equal to twenty-five percent (25%) of an Adjusted Contract Value, which will exclude the amounts for selected project elements listed in Section 107.15 of Part 5 (Division I Amendments). For clarity, the total DBE/SWaM percentage is forty percent (40%) and no funds paid to qualified firms shall be double-counted toward this goal. The Adjusted Contract Value proposed in the Offeror's Technical Proposal shall be subject to the

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Concessionaire’s approval prior to Contract award in accordance with the process detailed in Attachment N (NEXT Design-Build Contract Execution Requirements);

- Providing at least twenty-seven (27) on-the-job trainee positions in accordance with VDOT’s trainee and apprenticeship program in accordance with the Design-Build Contract Part 3, Exhibit 11.3 (Federal Requirements), Attachment 10.

4.2.9 The Letter of Submittal shall include a draft of the proposed TMS Subcontract between the Offeror and Transurban (USA) Inc. that is consistent with the *Indicative TMS Subcontract Terms* provided with the RFQ. Any milestones dates shall be adjusted to reflect the final dates presented in Section 2.2 of the RFP. The Concessionaire’s approval of the contract form and terms shall occur prior to Contract award in accordance with the process detailed in Attachment N (NEXT Design-Build Contract Execution Requirements).

4.2.10 The Letter of Submittal shall reaffirm the Offeror’s commitment to sustainability and intent to achieve during the design and construction of the Project at least a “Silver” rating using the Envision infrastructure sustainability rating system. Additional information on the Envision rating system can be found at: <http://sustainableinfrastructure.org/envision/>. In addition, Offeror shall identify any on-going corporate commitments or established programs used by the Offeror to promote sustainability, including examples of current initiatives on other interstate roadway, toll road, or managed lanes projects.

4.2.11 The Letter of Submittal shall include a draft version of Part 3 (NEXT Design-Build Contract) Exhibit 5.1.1 (Early Works Scope of Work) that meets the requirements of RFP Sections 1.3.8 and 2.2.1. The Offeror’s Initial Baseline Schedule submitted with their Proposal shall outline their planned activities. Anticipated costs for this Early Works period and the Offeror’s proposed sharing of risk and funding with the Concessionaire, shall be provided. This draft Exhibit 5.1.1 will be finalized before the NEXT Design-Build Contract execution in accordance with the requirements of Attachment N (NEXT Design-Build Contract Execution Requirements). To expedite the processing of permits necessary to complete any such work within the existing VDOT or Concessionaire rights-of-way, the Letter of Submittal shall also include a detailed listing of specific Early Works activities to be conducted within the Project NEXT corridor.

4.2.12 The Letter of Submittal shall specify the approach the Offeror intends to use to meet the performance security requirements in Section 5.2 of Part 4 (NEXT General Conditions). The Letter of Submittal shall also include letters from the Offeror’s surety, insurance company, or financial institution confirming the Offeror’s ability to provide the necessary performance securities prior to Contract award and certifying that such commitments remain valid for the entire Proposal Validity Period detailed in RFP Section 8.2. The Offeror’s submittal and Concessionaire’s approval of the performance security package shall be in accordance with the process detailed in Attachment N (NEXT Design-Build Contract Execution Requirements).

4.2.13 The Letter of Submittal shall indicate if a Parent Company Guarantee is to be provided pursuant to the requirements of Section 10.3 of Part 3 (NEXT Design-Build Contract). If required, the Offeror’s submittal and Concessionaire’s approval of the Parent Company Guarantee shall be

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in accordance with the process detailed in Attachment N (NEXT Design-Build Contract Execution Requirements).

4.2.14 The Letter of Submittal shall include seven (7) years of currently valued General Liability insurance loss runs.

Evaluation Criteria for 4.2: Offeror's Letter of Submittal includes the necessary written statements, commitments, and/or documentation to verify that the mandatory requirements of the RFP have been met. This factor shall be evaluated on a Pass/Fail basis.

4.3 Technical Proposal - Offeror's Qualifications

4.3.1 Team Structure and Key Personnel. Offeror shall provide sufficient information to enable Concessionaire to verify that the previously-provided qualifications remain current and valid.

.1 Offeror shall confirm in its Proposal that the information contained in its SOQ remains true and accurate in accordance with the requirements of Section 11.3 of the RFP. To the extent that named team members or Key Personnel are proposed to change, such change requires Concessionaire approval. If such a change is proposed, the Offeror shall submit information at least sixty (60) days prior to submission of the Technical Proposal describing the reasons for the change and provide all pertinent information (in accordance with Section 3.0 of the RFQ) to the Concessionaire for review and written approval. The Offeror may not make any changes in its named team members or Key Personnel after receipt of Concessionaire approval above until Design-Build Contract execution and thereafter in accordance with the provisions in Section 2.1.5 of Part 4 (NEXT General Conditions). The Technical Proposal shall include a copy of any letter(s) issued by the Concessionaire approving team member changes from the SOQ.

.2 Offeror shall furnish an organization chart identifying Key Personnel and supporting managers where applicable. This chart shall identify major functions to be performed and their reporting relationships in managing, designing, and constructing Project NEXT. Additionally, furnish a narrative describing the functional relationships among contracting participants for the organizational chart. The organizational chart and narrative shall be updated and expanded from the SOQ submittal as necessary and shall clearly indicate any changes that have been made and were previously approved by Concessionaire in accordance with RFP Sections 4.3.1 and 11.3.

Evaluation Criteria for 4.3.1: Offeror provides statement that either confirms the information in SOQ remains true and accurate or indicates that any requested changes were previously approved by Concessionaire in accordance with the RFP requirements. Offeror provides the required organizational information that demonstrates a well-integrated team with a suitable project team structure, clear lines of authority and accountability and appropriate reporting relationships. This factor shall be evaluated on a Pass/Fail basis.

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4.3.2 Offeror’s SOQ Score. The Concessionaire’s assessment of the Offeror’s qualifications relative to the other shortlisted Offeror based on the final scoring and ranking of Statements of Qualifications (SOQs) submitted in response to the RFQ.

Evaluation Criteria for 4.3.2: Each shortlisted Offeror’s final SOQ scoring shall be the basis of calculating the score for this evaluation criteria. The shortlisted Offeror, which received the highest SOQ score, shall receive the full points available. The points awarded to the other shortlisted Offerors will be calculated based on the percentage of their SOQ score relative to the highest SOQ score.

4.4 Technical Proposal – Project NEXT Approach

Offeror should provide sufficient information to enable Concessionaire to understand and evaluate the Offeror’s overall approach to managing the design and construction of Project NEXT.

4.4.1 Design-Build Project Management. Provide sufficient information to enable Concessionaire to understand and evaluate the Offeror’s capability and capacity to effectively manage a complex design-build project and demonstrate Offeror’s prior experience in these areas. Offeror shall submit a narrative description of its design-build project management approach, including examples of how this approach has been successfully used on interstate roadway or managed lane projects of a similar scope, scale, and complexity. In particular, the Concessionaire is interested in how the Offeror has created and successfully managed a fully-integrated design-build team and what systems, tools, processes, and/or procedures the Offeror will use to actively manage the contract and ensure timely compliance with all contract obligations and reporting requirements. Offerors shall specifically describe how it has addressed the following project management functions on previous projects and how these techniques will be applied to the Project:

- Establishing clear lines of responsibility and accountability necessary to manage the Project and interact with the Concessionaire and key stakeholders as a single, integrated team, including the processes for resolving internal conflicts without engaging or involving the Concessionaire;
- Providing sufficient management and administrative personnel to actively administer the design-build contract and fulfill the full range of contract obligations;
- Ensuring continuous and seamless coordination between design and construction activities, including any necessary interfaces with the TMS Subcontractor;
- Developing the necessary business processes and procedures necessary to execute the work and meet the Project’s documentation and reporting requirements; and
- Developing and providing regular reporting on key metrics and performance indicators related to quality, safety, design performance, construction performance, and management effectiveness.

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Evaluation Criteria for 4.4.1: Extent to which the Offeror has demonstrated the capability and capacity to effectively manage a design-build project of similar scope, scale, and complexity during both the design and construction phases, including the identification of specific tools, techniques or methods that will be used to ensure that all aspects of the Project are effectively managed and administered in accordance with the Design-Build Contract requirements and best industry practices.

4.4.2 Health and Safety Management. Describe the Offeror's approach to health and safety management for Project NEXT, including but not limited to planned efforts during design and construction to avoid/minimize Project NEXT potential safety impacts to the construction workers and the traveling public. Demonstrate that all aspects of safety management are well integrated into Project NEXT plans and schedules. Describe specific safety programs, practices that will be adopted by the Offeror and its subcontractors to foster a proactive safety culture that engages the entire Offeror's team. Describe how the Offeror will implement enhanced safety training for supervisors and construction labor working on Project NEXT, including subcontractor personnel. Identify how safety performance will be measured and specific methods that will be used for continuous improvement throughout the project.

Evaluation Criteria for 4.4.2: Extent to which the Offeror's demonstrates a thorough and well-integrated approach to safety management, training and performance during design and construction considering both the Design-Builder's work and the on-going 495 Express Lanes and General Purpose Lanes operations. Scoring for this sub-factor to be based on the level of commitment to safety management, training and performance demonstrated by the Offeror.

4.4.3 Quality Assurance/Quality Control (QA/QC). Describe the Offeror's approach to QA/QC during design and construction, including an appropriate staffing plan to meet the QA/QC requirements for Project NEXT. Specifically, address the QA/QC process and procedures for those unique Project NEXT elements that the Offeror deems most critical from a design and construction perspective. Provide information on how a quality culture will be developed and maintained on Project NEXT throughout the Design-Builder's organization and how it will flow down to subcontractors. Describe process and approach for active management and auditing of QA and QC during the design and construction phases.

Evaluation Criteria for 4.4.3: Extent to which the Offeror's approach and staffing plan would maximize the quality for the unique Project NEXT elements that the Offeror deems most critical from a design perspective or a construction perspective. Effectiveness of the Offeror's approach to Design Quality Management to ensure a well-structured, easily audited process that provides the necessary documentation to fully meet the requirements of the NEXT Contract Documents. Extent to which the Offeror's approach to Construction Quality Management approach and processes demonstrates that all construction and field activities will fully meet the requirements of the NEXT Contract Documents.

4.5 Technical Proposal - Design of Project NEXT

Offeror shall provide sufficient information to enable Concessionaire to understand and evaluate the Offeror's proposed design concept for Project NEXT, including both the base design and Alternative Maryland Express Lanes Interface design. In evaluating the Offeror's design concepts, the Evaluation Team will score (in their sole discretion) the Offeror's Technical Proposals based upon the evaluation criteria found in this RFP. The extent to which an Offeror meets or exceeds evaluation criteria will be rated by the Evaluation Team and will be reflected in the scoring of the Technical Proposals submitted by Offerors.

4.5.1 Design Integration. Offeror shall provide sufficient information to enable Concessionaire to understand and evaluate the Offeror's approach to producing an integrated design for the entire Project NEXT. This information should outline the design deliverables and processes noting key Concessionaire, governmental agency, third party, and TMS Subcontractor inputs. Offeror shall address the interdisciplinary coordination at the design stage essential to avoid construction clashes and produce a quality product that takes into account long-term maintenance and safety considerations.

Evaluation Criteria for 4.5.1: Extent to which the Offeror's Design Integration Approach meets or exceeds the Concessionaire's expectations for an integrated Design-Build program and provides confidence that the design approach for Project NEXT will be fully integrated among all disciplines to ensure that long-term asset performance, safety, and durability objectives will be achieved. Extent to which the Offeror demonstrates the capability to meet or exceed the design-related Technical Requirements and fully integrate TMS-related requirements into the overall design process.

4.5.2 Design Concept Innovation. Offeror shall provide a complete Design Concept for Project NEXT that enables the Concessionaire to understand and evaluate the Offeror's design and use of innovation to address project challenges and risks. This Design Concept shall include a narrative and 11" x 17" (half-size) plans and/or graphics that depict the following:

- **Roadway Design.** Descriptions and conceptual roadway plans for Project NEXT that are compliant with Part 2 (NEXT Technical Requirements) indicating: (a) general geometry including horizontal curve data and associated design speeds, the number and widths of lanes and shoulders; (b) horizontal alignments; (c) limits of reconstruction; (d) proposed utility impacts; (e) typical sections showing pavement sections and cross slopes, and (f) proposed right-of-way limits.
- **Structural Design.** Description and structural concepts for the proposed bridge structures, flyover ramps, retaining walls, noise barriers and major drainage structures. Plans shall include elevations, transverse section, and abutment configurations for each proposed structure type.
- **Drainage and Stormwater Management Design.** Descriptions and conceptual plans for Project NEXT drainage and stormwater management (SWM) design that are compliant with Part

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2 (NEXT Technical Requirements). Provide plans showing proposed design, including new drainage structures and the use of existing structures. Identify existing drainage structures that will require rehabilitation or replacement and techniques proposed to complete this work. Identify locations and maintenance access for new SWM facilities.

- **Signage and TMS Equipment.** Provide drawings showing the Design-Builder’s plans for implementation of the Signing and TMS Roadside Equipment layout, as shown in the Signing and Pavement Marking Plans (Roll Plots) provided in the RFP Conceptual Plans noting any significant deviations proposed and the rationale/justification for such justifications.
- **Alternative Maryland Express Lanes Interface.** Offeror’s design concept for this alternative design shall be provided. Any differences in roadway, structures, drainage and SWM, signage and TMS equipment from the base design shall be identified and discussed.

Each Offeror shall also identify in the narrative and plans the five (5) most significant innovative design concepts included in the Technical Proposal, the reasons for their use, and their overall benefit or value in delivering Project NEXT.

Evaluation Criteria for 4.5.2: Extent to which the Offeror’s Design Concept (a) meets or exceeds Project NEXT’s scope and the Technical Requirements and (b) provides the Concessionaire full confidence in Project NEXT’s long-term asset performance and durability requirements will be achieved. Extent to which the Offeror demonstrates an understanding of the challenges associated with the corridor constraints and the associated challenges for roadway and structural design. Extent to which the Offeror provides innovative concepts for the design that minimizes cost, streamlines construction, improves operations, and minimizes environmental impacts and right-of-way acquisitions. Extent to which the Offeror demonstrates full understanding of the requirements and associated challenges for the signing and TMS design and confirms the layout of the signage and TMS roadside equipment shown on the RFP Conceptual Plans.

4.6 Technical Proposal - Construction of Project NEXT

Offeror shall provide sufficient information to enable Concessionaire to understand and evaluate the Offeror’s anticipated means and methods for the construction of Project NEXT (for both the base design and Alternative Maryland Express Lanes Interface design), the impacts those means and methods will have on the traveling public, and the use of innovative techniques or approaches to address project challenges and risks. In evaluating the Offeror’s construction approach, the Evaluation Team will score (in their sole discretion) the Offeror’s Technical Proposals based upon the evaluation criteria found in this RFP. The extent to which an Offeror meets or exceeds evaluation criteria will be rated by the Evaluation Team and will be reflected in the scoring of the Technical Proposals submitted by Offerors. The Offeror includes a narrative and 11” x 17” (half-size) plans and/or graphics to demonstrate their overall plan for constructing Project NEXT.

4.6.1 Construction Approach and Innovation. Describe the Offeror’s approach for completing the construction of Project NEXT, including (a) the general phasing and sequence of

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activities required to complete construction in the most efficient manner possible; (b) the proposed approach for utility coordination, adjustments, and relocations, including conflict resolution; (c) the proposed approach to identifying and mitigating geotechnical risks; (d) approach to environmental management; and (e) how specific coordination elements and interfaces will be addressed during the construction, installation, and the TMS testing and commissioning phases to achieve Service Commencement of the Project. Describe how the Offeror’s construction approach has considered public safety (including measures to limit disruptions to traffic), stakeholder engagement and awareness, accommodation of the existing 495 Express Lanes operations, and successful approaches and methods used in the past to manage specialty technology subcontractors within the context of a large civil construction project. Any differences in the construction approach between the base design and Alternative Maryland Express Lanes Interface design shall be identified and discussed.

Each Offeror shall also identify in their narrative and illustrations the five (5) most significant innovative construction methods or techniques that will be used, the reasons for their use, and their overall benefit or value in delivering Project NEXT.

Evaluation Criteria for 4.6.1: Completeness and effectiveness of Offeror’s approach to sequencing construction activities to adequately address safety and operations, as well as manage environmental risks, coordinate with adjacent projects, and address site constraints. Extent to which the Offer identifies specific steps that will be taken to: engage stakeholders, achieve timely receipt of required permits and government approvals, expedite utility coordination, address geotechnical conditions, and mitigate potential delays to construction or on-time Service Commencement for Project NEXT. Extent to which Offeror identifies opportunities and methods for reducing or eliminating risks associated with construction within a high traffic volume constrained corridor and the incorporation of technology elements. Extent to which the Offeror provides construction innovation that minimizes cost, minimizes traffic disruption, improves Express Lanes operations, and minimizes environmental impacts and right-of-way acquisitions.

4.6.2 Maintenance of Traffic Approach. Demonstrate how the Offeror will maintain traffic through all phases of Project NEXT construction based on the specific sequence of construction identified in the Offeror’s Technical Proposal. For each phase, describe in detail any proposed lane or ramp closures, temporary detours, minimum lane widths and work zone speed reductions required to construct Project NEXT using the Offeror’s means and methods. Identify major Project NEXT stakeholders located near Project NEXT and discuss how construction-related traffic impacts will be mitigated during construction. Furnish conceptual traffic control plans details and critical cross-sections showing proposed methods for ensuring safe and efficient movement of traffic throughout all phases of construction. Any differences in the maintenance of traffic approach between the base design and Alternative Maryland Express Lanes Interface design shall be identified and discussed.

Evaluation Criteria for 4.6.2: Extent to which the Offeror’s maintenance of traffic approach and conceptual traffic control plans fully address all phases of construction, ensures safe and efficient movements through the Project NEXT corridor and effectively mitigates impacts to the traveling public and major project stakeholders during the construction of Project NEXT.

4.7 Technical Proposal - Initial Baseline Schedule

Provide an Initial Baseline Schedule for the entire Project NEXT outlining the Offeror’s proposed plan to accomplish the Work for Project NEXT. This schedule submission shall include:

4.7.1 Initial Baseline Schedule. Initial Baseline Schedules shall be developed to depict the Offeror’s proposed overall sequence of work and durations for each work task and the deliverables required to complete: 1) the base design for Project NEXT and 2) the Alternative Maryland Express Lanes Interface design. Each Initial Baseline Schedule should be organized using a hierarchical Work Breakdown Structure (WBS), broken down into Level 3 elements, at a minimum, showing major phases of Project NEXT (i.e., project milestones, project management, TMS Subcontractor integration, Early Works, Scope Validation Period, design, public involvement, environmental, right-of-way, utility, construction, noise barriers, etc.). Each Initial Baseline Schedule should depict the anticipated Project NEXT critical path (based on the longest path), reviews by Concessionaire, VDOT, FHWA, other regulatory agencies; and work by suppliers, subcontractors, and other involved parties, as applicable.

4.7.2 Initial Baseline Schedule Narrative. An Initial Baseline Schedule Narrative describing the Offeror’s proposed overall plan to accomplish the NEXT Work, including but not limited to the overall sequencing, a description and explanation of the Critical Path, proposed means and methods, and other key assumptions on which the Initial Baseline Schedule is based. Any differences in the Baseline Schedule between the base design and Alternative Maryland Express Lanes Interface design shall be identified and discussed.

Offerors are to note that in addition to the Initial Baseline Schedule, the Design-Builder will be required to develop and submit a Baseline Schedule in accordance with Section 11.1 of Part 3 (NEXT Design-Build Contract) and Section 1.4 of Part 2 (NEXT Technical Requirements) upon award of NEXT Design-Build Contract.

Evaluation Criteria for 4.7.1 and 4.7.2: Extent to which the Offeror provides Initial Baseline Schedules and Initial Baseline Schedule Narrative that demonstrates an understanding of the complexities and interrelationships of the technical elements of Project NEXT. Additionally, the extent to which the Offeror’s Initial Baseline Schedules take into account activities and realistic durations for: internal plan reviews, Concessionaire plan reviews and approvals, Maintenance of Traffic sequencing, TMS Subcontractor integration, third party reviews and approvals, permitting requirements and constraints, right of way acquisition, utility relocation, construction activities, and QA/QC inspection and testing. Extent to which the Offeror provides Initial Baseline Schedule which commit to a shorter overall construction duration.

4.8 Technical Proposal – Project Labor and Workforce Strategy

Offeror shall provide sufficient information to enable Concessionaire to understand and evaluate the Offeror’s strategy to address worker availability, recruitment, training, worker benefits, and critical skills retention.

4.8.1 Craft Training and Critical Skills Retention. Provide a narrative that discusses the Offeror’s strategy to address craft training and critical skills retention focusing on what the Offeror’s team considers the most relevant to the success of Project NEXT. This narrative shall describe the criticality of having a coordinated labor strategy for the Project’s success and discusses the measures the Offeror’s team will implement to address potential challenges and ensure an adequate supply of skilled labor. Discussion should include the Offeror’s Lead Contractor and subcontractors planned participation in programs for skilled labor and craft training, apprenticeship (and apprenticeship-type) programs, on the job training, journeyman programs or other such formal training provided by the Offeror and/or subcontractors. The approval or certification authority (i.e. the Virginia Apprenticeship Council, etc.) for identified apprenticeship programs shall also be identified.

Evaluation Criteria for 4.8.1: Extent to which the Offeror commits to its Lead Contractor and subcontractors to participate in programs for skilled labor and craft training, apprenticeship (and apprenticeship-type) programs, on the job training, journeyman programs or other such formal training. Scoring for this sub-factor to be based on the level of commitment demonstrated by the Offeror.

4.8.2 Project Labor Agreement(s). To address potential challenges in attracting skilled construction labor in the metropolitan Washington D.C. market during the construction period for Project NEXT, Offerors may propose the use of voluntary Project Labor Agreement(s) (PLAs) as part of their overall labor and workforce strategy, provided that any such PLAs are consistent with Virginia law and meet the requirements of Executive Order 13502 (dated February 6, 2009) and FHWA’s Interim Guidance on the Use of Project Labor Agreements (dated May 7, 2010).

For the purposes of any proposed PLA and this RFP, the term “**Labor Organization**” means any organization of any kind, or any agency or employee representation committee or plan, in which employees participate and which exists for the purpose, in whole or in part, of dealing with employers concerning grievances, labor disputes, wages, rates of pay, hours of employment, or conditions of work, and the term “**Project Labor Agreement**” or “**PLA**” means a pre-hire collective bargaining agreement with all appropriate Labor Organizations that establishes the terms and conditions of employment for Project NEXT.

Evaluation Criteria for 4.8.2: Extent to which the Offeror commits to the use of voluntary PLAs on Project NEXT that meets or exceed the requirements stated in Executive Order 13502 (dated February 6, 2009) and FHWA’s Interim Guidance on the Use of Project Labor Agreements (dated May 7, 2010). Full credit will be given for a comprehensive project-specific PLA executed by the Offeror or Lead Contractor that meets all requirements. Partial credit will be given for an executed PLA (or PLAs) that covers only certain trades, is missing key elements, or excludes

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subcontractors. No credit will be given if no PLA is proposed or evidence of an executed PLA is not provided.

4.9 Price Proposal

The information and attachments required by this Section 4.9 shall be submitted on the due date and time set forth in RFP Section 2.3. If the Price Proposal is not submitted on the above-specified date and time, then the Offeror shall be deemed non-responsive and will be disqualified from further consideration under this procurement for this Project NEXT. Offerors shall complete the Attachment B.2 (Price Proposal Checklist), and include it with their Price Proposal submittal. The purpose of the Price Proposal Checklist is to aid the Offeror in ensuring all submittal requirements have been included in the submittal.

4.9.1 Offeror shall specify, on the form provided as Attachment D.1 (Price Proposal Form), its Proposal Price (in numbers and words) for Project NEXT. Additional pricing detail shall be provided on Attachment D.2 (Project NEXT Price Proposal) in accordance with the requirements of Attachment C (Price Proposal Instructions) and the following:

.1 Concessionaire payments for the initial Early Works period shall not exceed \$10 million and such payments are considered a part of the overall Contract Price.

.2 Payments for Mobilization (as detailed in Attachment C) shall not exceed two percent (2%) of the total of Project NEXT Proposal Price and will be made in two separate installments. The first installment of fifty percent (50%) of the Design-Builder's total mobilization cost will be made with the first approved progress payment request following issuance of the Work NTP. The second installment will be made with the first approved progress payment request following the first Construction Segment Approval.

.3 Offerors shall include on Attachment D.2 a fixed price adjustment (addition or reduction) for delivery of the Alternative Maryland Express Lanes Interface instead of the base Project NEXT design. This adjustment amount shall include Offeror's net costs to design and construct Alternative Maryland Express Lanes Interface if that option is advanced by the Concessionaire.

.4 The values associated with each price item shall be as described in Attachment D.1 and D.2 and shall be inclusive of all direct and indirect costs, overhead, profit, and any other expenses of any kind.

.5 Offerors are advised that the prices set forth above shall be considered full compensation to Offeror for all design and construction of Project NEXT, to include: labor, material, equipment, permits, taxes, overhead, profit and any other expenses of any kind applicable to the work to be undertaken by Offeror associated with such work, including but not limited to any escalation, extended site overhead, acceleration of schedule, and/or shift of construction sequencing. These values shall be clearly supported by the escrowed pricing documents.

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4.9.2 In addition to Attachments D.1 and D.2, Offerors shall also complete Attachment D.3 (Schedule of Pay Items) listing the total material quantities and costs of each proposed pay item, using item codes and units of measure that are consistent with VDOT’s list of standard and non-standard item codes. The values and quantities shall be clearly supported by the escrowed pricing documents. Any new pay items required for the Alternative Maryland Express Lanes Interface shall be included in Attachment D.3.

4.9.3 Submit proposed payment schedules and cash curves showing funds that will be required for each month for the duration of Project NEXT. The Offeror shall submit the Maximum Cumulative Drawdown Schedules generated by cost loading each Initial Baseline Schedule with all activities set on early start dates.

4.9.4 Provide a Proposal Guaranty for five percent (5%) of the Proposal Price for Project NEXT. A Proposal Bond will be accepted only if executed in a form that contains the exact wording as detailed in Attachment M (Proposal Guaranty Form). Any Proposal accompanied by a bond having wording that differs in any respect from that furnished by the Concessionaire will be rejected. When the principal is a Joint Venture, each party thereof shall be named and shall execute the Proposal Guaranty. Each surety to the Proposal Bond shall be named and shall execute the Proposal Bond. The Proposal Bond shall be accompanied by a certified copy of the power of attorney for the surety’s attorney-in-fact. **If the Proposal Guaranty is not submitted with the Price Proposal, then the Offeror shall be deemed non-responsive and will be disqualified from participating in the Design-Build procurement for Project NEXT.**

4.9.5 Provide the Sworn Statement Forms, as set forth in Attachment E (Offeror’s Statement) and Attachment F (Offeror’s Certification), respectively.

4.9.6 Provide full-year annual audited financial statements for the prior three (3) years and the latest available financial statements for the current year that have been prepared in accordance with Generally Accepted Accounting Principles (“GAAP”). If an Offeror does not maintain audited financial statements, it shall submit a notarized letter attesting to the completeness and accuracy of the unaudited financial statements signed by the chief financial officer of its parent company. If any of this information is not in the English language, a certified English translation shall be provided, including numeric conversion of amounts into U.S. dollars. If a party obligated to furnish such financial statements is not a public company, it may request that the statements be treated confidentially by the Concessionaire. In providing such financial statements with the Price Proposal, Offerors grant the Concessionaire permission to confidentially provide copies of the financial statements to rating agencies for the purposes of obtaining ratings for any debt financing required for the Project.

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5.0 EVALUATION PROCESS FOR PROPOSALS

Concessionaire will evaluate each Proposal from each Offeror, with such evaluation being based upon the numerical weighting set forth in RFP Sections 5.1 and 5.2. The Technical Proposal will have a weighting of forty percent (40%), and the Price Proposal will have a weighting of sixty percent (60%).

In its sole discretion, Concessionaire, may hold interviews, ask written questions of the Offerors, seek written clarifications, conduct discussions on the Proposals, and solicit updated proposals during the evaluation and selection process.

5.1 Technical Proposal Evaluation Factors

5.1.1 The Technical Proposal will be evaluated based upon the following factors, including the Pass/Fail factors of RFP Sections 4.2 and 4.3.1. All information required under the identified sections will be evaluated.

Section	Rating Weight
4.3 Offeror's Qualifications	10%
4.4 Project NEXT Approach	20%
4.5 Design of Project NEXT	25%
4.6 Construction of Project NEXT	25%
4.7 Initial Baseline Schedule	10%
4.8 Project Labor and Workforce Strategy	10%
TOTAL	100%

5.1.2 If Concessionaire determines that a Technical Proposal does not comply with or satisfy requirements of the RFP Documents, Concessionaire may find such Proposal to be non-responsive. In such event, the Price Proposal corresponding to the non-responsive Technical Proposal will not be opened, but will be returned unopened along with the non-responsive Technical Proposal to the Offeror. An Offeror that submits such a non-responsive Technical Proposal will not be eligible to receive any Proposal Payment.

5.1.3 Each evaluation criterion has an assigned maximum number of points that demonstrate its relative importance. The total Technical Proposal score will be determined in accordance with VDOT's *Design-Build Evaluation Guidelines* (September 2019).

5.2 Price Proposal Evaluation Factors

5.2.1 Price Proposals will be scored as follows:

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.1 The Offeror submitting the lowest Price Proposal will be awarded the maximum number of points, sixty (60). The Price Proposal evaluation shall be based on the Project NEXT Price Proposal Total shown on Attachment D.1

.2 The next-lowest Price Proposal will be awarded points based on the product of: (a) the ratio of the lowest Price Proposal divided by the next-lowest Price Proposal; and (b) sixty (60) points (i.e., the points awarded for the lowest Price Proposal), with such product rounded to the nearest one-hundredth of a point.

.3 The process will continue for each of the remaining Price Proposals, with points being awarded based on the product of: (a) the ratio of the lowest Price Proposal divided by the respective Offeror's Price Proposal; and (b) sixty (60) points (i.e., the points awarded for the lowest Price Proposal), with such product rounded to the nearest one-hundredth of a point.

5.3 Combining Technical and Price Proposal Scores

5.3.1 An overall Proposal Score for each Offeror shall be calculated using the best-value weightings specified in Section 5.0.1. The raw Technical Score determined using the process outlined in Section 5.1 shall be adjusted to reflect a Weighted Technical Score, which is then added to the Price Proposal Score derived from RFP Section 5.2 to determine an overall Proposal Score for each Offeror.

5.3.2 Award of the NEXT Design-Build Contract shall be made in accordance with RFP Section 8.0.

6.0 PROPOSAL SUBMITTAL REQUIREMENTS

This section describes the requirements that all Offerors must satisfy in submitting Proposals. Failure of any Offeror to submit its Proposal in accordance with this RFP may result in rejection of its Proposal.

6.1 Due Date, Time and Location

6.1.1 Technical and Price Proposals are to be submitted digitally via Ansarada, and additional hard copies (as specified in Sections 6.2.2 and 6.2.3 below) delivered to the address below by the date and time set forth in RFP Section 2.3.

6.1.2 Electronic submittals (in .pdf format) are required to be posted to Project NEXT site on Ansarada in the designated folder for each Offeror. All hard copy submissions, including hand-delivered packages, US Postal Service regular mail, US Postal Service express mail, or private delivery service (FedEx, UPS, courier, etc.), must be delivered to the following individual at the following address:

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Transurban
Attention: Kirsten Domingo
6440 General Green Way
Alexandria, Virginia 22312

Neither fax nor email submissions will be accepted. Offerors are responsible for achieving delivery by the stated deadline, and late submissions will be rejected without opening, consideration, or evaluation, and will be returned unopened to the sender. Concessionaire accepts no responsibility for misdirected or lost Proposals.

6.2 Format

The Proposal format is prescribed below. If Concessionaire determines that a Technical or Price Proposal does not comply with or satisfy requirements of this section, Concessionaire may find such Proposal to be non-responsive and may be disqualified from participating in the design-build procurement for this Project NEXT.

6.2.1 Separate sealed parcels containing the Technical Proposal and Price Proposal shall be submitted by the due dates and times set forth in RFP Section 2.3. Parcels shall be clearly marked to identify Project NEXT and the Offeror, and to identify the contents as Technical Proposal and Price Proposal, as applicable.

6.2.2 Each Offeror shall deliver fifteen (15) identical paper copies of the Technical Proposal, one (1) of which must bear original signatures on the Letter of Submittal, and one (1) copy of the Technical Proposal containing the entire proposal in a single, consolidated and bookmarked digital file in .pdf format (which can be opened using Adobe Acrobat Reader), submitted via Ansarada and posted to the designated folder for each Offeror. A digital copy of the Initial Baseline Schedule in Primavera format (.xer) shall also be submitted via Ansarada. If a discrepancy exists between the paper copy and the digital version, the information on the paper copy will supersede the information provided on the digital version.

Each printed copy of the Technical Proposal shall be securely bound, with an identity on its front cover, in the upper right-hand corner, as “Copy ___ of 15 Copies.” **Three-ring binders are not permissible.**

The Technical Proposal shall be divided into two separate volumes:

Volume I shall be prepared on 8.5” x 11” paper (charts, tables, exhibits and other illustrative information included in the Technical Proposal may be submitted on 11” x 17” paper, but must be folded to 8.5” x 11”) and shall include:

- The Letter of Submittal and all requirements of the Technical Proposal, including appendices, with the exception of the Offeror’s conceptual plans;
- Initial Baseline Schedule Narrative; and
- Technical Proposal Attachments, as listed in RFP Section 11.9, shall be included as appendices at the end of Volume I.

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Volume I of the Technical Proposal shall not exceed seventy (70) pages. The Technical Proposal appendices (Attachments) shall not be counted against this page limit.

Volume II shall be prepared on 11” x 17” paper (unfolded) and shall include:

- Conceptual Design Plans and supporting graphics drawn to an identifiable scale; and
- Initial Baseline Schedule.

Other general submittal requirements include:

- Printing on one (1) side of pages only;
- Page number references in the lower right-hand corner on each page;
- Numbered tabs for each section corresponding to the order set forth in RFP Section 4.0 (Contents of Proposals) (except for that required by RFP Section 4.8). The numbered tabs shall not count against the above-referenced page limit, provided that no project-specific information is included on them; and
- All printing, except for the front cover of the Technical Proposal, should be in 12-point font. (10 point font may be used for filling out information on charts, tables and/ or exhibits).

6.2.3 Each Offeror shall deliver two (2) paper copies of the Price Proposal and supporting Documents detailed in Attachment B.2 (Price Proposal Checklist), which must bear original signatures. The Price Proposal shall be securely bound and contained in a single volume. **Three-ring binders are not to be used.** Additionally, the Price Proposal shall be printed or typed on one (1) side only and separated by tabs with sections corresponding to the order set forth in RFP Section 4.8.

Each Offeror shall also submit one (1) copy of the Price Proposal containing the entire proposal in a single, consolidated, and bookmarked file in .pdf format (which can be opened using Adobe Acrobat Reader) via Ansarada and posted to the designated folder on Ansarada for each Offeror. If a discrepancy exists between the paper copy and the digital version of the Technical Proposal or Price Proposal, the information on the digital version will supersede the information provided on the paper copy.

7.0 QUESTIONS AND CLARIFICATIONS

7.1 All questions and requests for clarification regarding this RFP shall be submitted to Concessionaire’s Point of Contact in digital form via Ansarada. No requests for additional information, clarification, or any other communication should be directed to any other individual. Offerors shall not contact Transurban or VDOT personnel or consultants with questions regarding this RFP or Project NEXT. **No oral requests for information will be accepted.**

7.2 For instructions on the use of Ansarada or technical support, Offerors may contact the Ansarada support team at (312) 638-2200.

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7.3 With the exception of proprietary questions, all questions and Concessionaire’s answers will be sent to all Offerors. If an Offeror maintains that a clarification question or issue relates to Proprietary aspects of their Proposal, the Offeror must designate that question as “Proprietary” when submitting the question in the subject line.

If Concessionaire agrees that a question or issue relates to Proprietary aspects of their Proposal, the response will not be made available to other Offerors. If Concessionaire is of the view that the question or issue is not Proprietary, Concessionaire will advise the relevant Offeror, who will then have the option to:

- Withdraw the question (if applicable);
- Modify the question and re-submit as either a non-proprietary or Proprietary question (subject to Concessionaire’s re-assessment); or
- Continue to request a response to the question, noting that the question and the response will be made available to all Offerors.

Concessionaire reserves the right to determine in all cases whether a question is Proprietary.

7.4 If there is any conflict between versions for any RFP Documents or Addendum, the latest revision issued on Ansarada shall control.

7.5 All questions or requests for clarification must be submitted by the due dates and times set forth in RFP Section 2.3. Questions or clarifications requested after such time will not be answered unless Concessionaire elects, in its sole discretion, to do so.

7.6 Concessionaire’s responses to questions or requests for clarification shall be in writing and may be accomplished by an Addendum to this RFP. Concessionaire will not be bound by any oral communications or written interpretations or clarifications that are not set forth in an Addendum.

7.7 Concessionaire, in its sole discretion, shall have the right to seek clarifications from any Offeror to fully understand the information contained in the Proposal and to help evaluate and rank the Offerors.

8.0 AWARD OF CONTRACT, PROPOSAL VALIDITY AND CONTRACT EXECUTION

Concessionaire has determined that the negotiation and award of the NEXT Design-Build Contract will be made in the following manner:

8.1 Negotiations and Award of Contract

8.1.1 Concessionaire will review the Proposal submitted by the highest-scoring Offeror. If the Proposal is responsive and the Price Proposal is within the Concessionaire’s budget for design and

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construction services, then the Concessionaire will issue a Notice of Intent to Award to the highest-scoring Offeror. The Successful Offeror shall then complete the Contract Documents execution processes described in Attachment N (NEXT Design-Build Contract Execution Requirements).

8.1.2 The Concessionaire may conduct limited negotiations with the Successful Offeror to clarify any remaining issues regarding scope, schedule, financing, or any other information provided by the Successful Offeror.

8.1.3 If the Price Proposal submitted by the highest-scored Offeror is not within the Concessionaire’s budget for design and construction services, the Concessionaire may elect to establish a competitive range among those Offerors who have submitted responsive Proposals. In this case, all Offerors deemed to be within the competitive range will be invited to participate in a best and final offer process (BAFO), which complies with VDOT’s Design-Build Manual and the FHWA’s Design-Build Contracting regulations (23 CFR 636).

This BAFO process will include additional proprietary discussions with each bidder to better understand initial pricing and identify potential areas where modifications to the current requirements may result in better value for the Concessionaire. Following these discussions, a final RFP Addendum will be issued, identifying any changes in the Project requirements and requesting submission of a Revised Technical and/or Price Proposal.

The Revised Price Proposal will then be used as the basis for final scoring of each Offeror’s Proposal. A new Price Proposal score will be determined in accordance with Section 5.2 of the RFP. No further review of the Technical Proposals will be conducted prior to final scoring; the previously-determined Technical Score based on the Offeror’s compliant Technical Proposals will be used in calculating the final score in accordance with Section 5.3 of the RFP.

8.1.4 If following either limited negotiations or completion of a BAFO process, the Price Proposal submitted by the highest-scored Offeror still exceeds the Concessionaire’s budget for design and construction; the Concessionaire may cancel the RFP and consider other procurement alternatives. The Concessionaire shall notify all Offerors of the results of their decision.

8.2 Proposal Validity

The offer represented by each the Technical Proposal and Price Proposal will remain in full force and effect for one hundred eighty (180) days after the latest Price Proposal Submission Date. If the NEXT Design-Build Contract has not been executed within one hundred eighty (180) days after the Price Proposal Submission Date, each Offeror that has not previously agreed to an extension of such deadline shall have the right to withdraw its Proposal.

8.3 Contract Execution and Notice to Proceed

8.3.1 The execution of the NEXT Design-Build Contract is dependent on achievement of Commercial Close between the Concessionaire and VDOT for Project NEXT and issuance of the Work NTP to the Design-Builder is dependent on achievement of Financial Close between the

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Concessionaire and VDOT. Following the issuance of the Notice of Intent to Award, Successful Offeror shall deliver to Concessionaire all pertinent documents in accordance with requirements and timeframes specified in Attachment N (NEXT Design-Build Contract Execution Requirements). Following receipt of all Attachment N documents, the Concessionaire will return the Proposal Guarantees and a final, signature-ready version of the NEXT Design-Build Contract to the Successful Offeror. The Successful Offeror shall execute the NEXT Design-Build Contract and return to the Concessionaire with five (5) days thereof. The Concessionaire will counter-sign and fully execute the Design-Build Contract upon successfully achieving Commercial Close.

8.3.2 The final, signature-ready version of the NEXT Design-Build Contract shall reflect whether Design-Builder's scope of work includes the base design or the Alternative Maryland Express Lanes Interface. If the base design is ultimately selected by the Concessionaire, the Alternative Maryland Express Lanes Interface Adjustment set forth in Attachment D.2 shall be deleted and the Contract Price in the final, signature-ready version of the NEXT Design-Build Contract shall reflect the increase or decrease associated with such deletion.

8.3.3 Concessionaire may, but is not required to, issue a Limited Notice to Proceed any time after execution of the NEXT Design-Build Contract.

8.3.4 Upon execution of the NEXT Design-Build Contract, the Successful Offeror may submit an invoice for an advance payment of two hundred fifty thousand dollars (\$250,000) of the Contract Price. This amount, which should be included in the Offeror's Price Proposal, represents payment toward design and preconstruction services performed prior to execution of the NEXT Design-Build Contract and is intended to defray some of those expenses incurred by the Successful Offeror. Concessionaire will not make any other payment toward design and preconstruction services performed prior to execution of the NEXT Design-Build Contract to the Successful Offeror. Such invoice shall be processed and paid in accordance with the payment provisions of the NEXT Design-Build Contract.

9.0 RIGHTS AND OBLIGATIONS OF CONCESSIONAIRE

9.1 Reservation of Rights

In connection with this procurement, Concessionaire reserves to itself all rights (which rights shall be exercisable by Concessionaire in its sole discretion) available to it under applicable law, including without limitation, the following rights, with or without cause and with or without notice:

- (a) right to cancel, withdraw, postpone or extend this RFP in whole or in part at any time prior to the execution by Concessionaire of the NEXT Design-Build Contract without incurring any obligations or liabilities.
- (b) right to issue a new RFP.
- (c) right to reject any and all submittals, responses, and Proposals received at any time.
- (d) right to modify all dates set or projected in this RFP.

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- (e) right to terminate evaluations of responses received at any time.
- (f) right to suspend and terminate the procurement process for Project NEXT, at any time.
- (g) right to revise and modify, at any time prior to the Proposal Submittal Date, factors it will consider in evaluating responses to this RFP and to otherwise revise its evaluation methodology.
- (h) right to waive or permit corrections to data submitted with any response to this RFP until such time as Concessionaire declares in writing that a particular stage or phase of its review of the responses to this RFP has been completed and closed.
- (i) right to issue Addenda, supplements, and modifications to this RFP, including but not limited to modifications of evaluation criteria or methodology and weighting of evaluation criteria.
- (j) right to permit submittal of Addenda and supplements to data previously provided with any response to this RFP until such time as Concessionaire declares in writing that a particular stage or phase of its review of the responses to this RFP has been completed and closed.
- (k) right to hold meetings and conduct discussions and correspondence with one or more of the Offerors responding to this RFP to seek an improved understanding and evaluation of the responses to this RFP.
- (l) right to seek or obtain data from any source that has the potential to improve the understanding and evaluation of the responses to the RFP, including the right to seek clarifications from Offerors.
- (m) right to permit Offerors to add or delete named firms and/or Key Personnel until such time as Concessionaire declares in writing that a particular stage or phase of its review has been completed and closed.
- (n) right to add or delete Offeror responsibilities from the information contained in this RFP.
- (o) right to appoint and change appointees of the Evaluation Team.
- (p) right to use assistance of outside technical and legal experts and consultants in the evaluation process.
- (q) right to waive deficiencies, informalities, and irregularities in a Proposal, accept and review a non-conforming Proposal or seek clarifications or supplements to a Proposal.
- (r) right to disqualify any Offeror that changes its submittal without Concessionaire approval.
- (s) right to disqualify any Offeror that does not comply with the terms or requirements of this RFP.
- (t) right to change the method of award or the evaluation criteria and scoring at any time prior to submission of the Proposals.
- (u) right to respond to all, some, or none of the inquiries, questions, and/or request for clarifications received relative to the RFP.

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- (v) right to use all or part of an unsuccessful Offeror's Proposal that accepts a Proposal Payment.
- (w) right to negotiate the allocation of prices identified for specific portions of the work depicted within a Price Proposal.
- (x) right to disqualify and/or cease negotiations with an Offeror if Concessionaire, in its sole discretion, determines that the Offeror's Price Proposal contains unbalanced pricing among the specific portions of work identified therein.
- (y) right to introduce additional confidentiality requirements at any time to protect the Concessionaire's proprietary information and systems.

9.2 No Assumption of Liability

9.2.1 Except for such amounts as may be paid through the Proposal Payment set forth in RFP Section 9.3.1 for those Offerors who submit a responsive Proposal, but are not awarded the NEXT Design-Build Contract, and for such amounts set forth in RFP Section 8.3.3 for the Successful Offeror who may submit an invoice for an advance payment of three hundred thousand dollars (\$300,000) of the Contract Price, Concessionaire assumes no obligations, responsibilities, and 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 this RFP. All such costs shall be borne solely by each Offeror and its team members.

9.2.2 Except as stated in RFP Section 9.3.1, in no event shall Concessionaire be bound by, or liable for, any obligations with respect to Project NEXT until such time (if at all) a contract, in form and substance satisfactory to Concessionaire, has been executed and authorized by Concessionaire and, then, only to the extent set forth therein.

9.3 Proposal Payment

9.3.1 Notwithstanding the terms of RFP Section 9.2, Concessionaire is willing to pay those Offerors who submit a responsive Proposal, but are not awarded the NEXT Design-Build Contract, a Proposal Payment in the amount of three hundred thousand dollars (\$300,000).

9.3.2 Prior to the proposal submission date, if the Design-Build procurement process is terminated for any reason, Concessionaire shall not be responsible for any Proposal Payments, partial or in full, for any costs incurred by the Offerors in developing proposals.

9.3.3 After proposals have been received by Concessionaire and determined to be responsive, and Concessionaire makes the decision to cancel the procurement or not to award the NEXT Design-Build Contract all responsive Offerors will receive a Proposal Payment. The Proposal Payment will be made within forty-five (45) days after execution of the NEXT Design-Build Contract or, if applicable, the decision by Concessionaire to cancel the procurement or to not award the NEXT Design-Build Contract.

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9.3.4 Payment to an Offeror of the Proposal Payment is expressly conditioned upon such Offeror providing, pursuant to RFP Section 4.2.7, an executed Attachment G (Proposal Payment Agreement) and being fully compliant with the conditions established in such agreement for payment of the Proposal Payment.

9.3.5 Under no circumstances will the Concessionaire be liable for or reimburse any costs incurred by Offeror, whether or not selected for negotiations, in developing proposals unless otherwise noted in the RFP.

9.3.6 If an unsuccessful Offeror elects to waive the Proposal Payment, it will expressly do so by executing the Waiver of Proposal Payment in the form set forth in Attachment H (Waiver of Proposal Agreement) and submitting such Waiver of Proposal Payment as part of its Proposal, pursuant to RFP Section 4.2.7.

10.0 PROTESTS

The following represents an Offeror's sole recourse against the Concessionaire for any protests or challenges with respect to this RFP.

10.1 Protests regarding the requirements or form of this RFP must be received by the Concessionaire's point of contact not later than thirty (30) calendar days after this initial issuance of the RFP, except that an initial protest that arises under any addenda to this RFP may be filed up to five (5) calendar days after the date the addendum was issued, but in no case later than fifteen (15) calendar days before the Technical Proposal due date specified in Section 2.3 of the RFP. Protests regarding the Concessionaire's Notice of Intent to Award must be received by the Concessionaire's Point of Contact no later than five (5) calendar days after the Concessionaire has notified the Offerors of its Notice of Intent to Award. All protests shall be in writing and submitted to the Concessionaire's Point of Contact by hand-delivery or registered mail. The written protest shall be concise and logically presented to facilitate a review and include the basis for the protest and the relief sought. No protest shall be allowed for a claim that the Successful Offeror is not a responsible bidder. Failure to substantially comply with any of the requirements in this RFP, including requirements related to protests, may be grounds for dismissal of the protest.

10.2 The Concessionaire will acknowledge receipt of a protest and may take whatever actions it deems useful or necessary in making a decision, including having a meeting and requesting additional submissions. The Concessionaire shall issue a decision in writing, which decision shall be final and dispositive, and not subject to any legal review or challenge. By submitting a Proposal, each Offeror is deemed to have agreed that this protest process is its sole remedy and that it has waived its rights, if any, to judicially challenge any decision by the Concessionaire.

11.0 MISCELLANEOUS

11.1 Confidentiality of Disclosure of Offeror Submittals

All Proposals submitted in response to this RFP shall become the property of the Concessionaire upon their receipt. Offerors are advised that the Concessionaire is not subject to the disclosure requirements of the Virginia Public Procurement Act or the Virginia Freedom of Information Act and will treat the contents of all Offer or submittals as confidential throughout the entire solicitation process. Following award of the NEXT Design-Build Contract, records associated with the procurement will be provided to VDOT upon its request, and at that time, will become public records that are subject to disclosure requirements under current Virginia law.

Certain categories of records, however, are exempt from the disclosure requirements of the Virginia Freedom of Information Act (Va. Code Sec. 2.2-3700, et seq.) even after the award of the NEXT Design-Build Contract, when VDOT has all of the procurement records. To be excluded from the disclosure requirements of the Virginia Freedom of Information Act, an Offeror must submit a written request accompanying such records:

1. Invoking the relevant Virginia Freedom of Information Act exclusion upon submission of the records (to the Concessionaire) for which protection from disclosure is sought;
2. Identifying with specificity the records for which protection is sought; and
3. Stating the reasons why protection is necessary.

For complete requirements, refer to the Virginia Freedom of Information Act.

11.2 Conflict of Interest

11.2.1 Each Offeror shall require its proposed team members to identify potential conflicts of interest or a real or perceived competitive advantage relative to this procurement. Offerors are notified that prior or existing contractual obligations between a company and a federal or state agency relative to Project NEXT or the Concessionaire's Design-Build program may present a conflict of interest or a competitive advantage. If a potential conflict of interest or competitive advantage is identified, the Offeror shall submit in writing the pertinent information to Concessionaire's Point of Contract.

The Concessionaire, in consultation with VDOT, will make a determination relative to potential organizational conflicts of interest or a real or perceived competitive advantage, and its ability to mitigate such a conflict. An organization determined to have a conflict of interest or competitive advantage relative to this procurement that cannot be mitigated, shall not be allowed to participate as a design-build team member for Project NEXT. Failure to abide by Concessionaire's determination in this matter may result in a proposal being declared non-responsive.

11.2.2 Conflicts of interest and a real or perceived competitive advantage are described in state and federal law, and, for example, may include but are not limited to the following situations:

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.1 An organization or individual hired by Concessionaire or VDOT to provide assistance in development of request for proposals or evaluation criteria for Project NEXT.

.2 An organization or individual hired by Concessionaire or VDOT to provide assistance in development of request for proposals or evaluation criteria as part of the programmatic guidance or procurement documents for Concessionaire’s Design-Build program, and as a result has a unique competitive advantage relative to Project NEXT.

.3 An organization or individual with a present or former contract with Concessionaire or VDOT to prepare planning, environmental, engineering, or technical work product for Project NEXT, and has a potential competitive advantage because such work product is not available to all potential Offerors in a timely manner prior to the procurement process.

.4 An organization or individual with a present contract with Concessionaire or VDOT to provide assistance in NEXT Design-Build contract administration for Project NEXT.

11.2.3 Concessionaire reserves the right, in consultation with VDOT, to make determinations relative to potential conflicts of interest on a project-specific basis. Any questions related to potential conflicts of interest shall be submitted to the Concessionaire in accordance with the requirements of RFP Section 7.0.

11.2.4 Concessionaire may, in consultation with VDOT, determine that a conflict of interest or a real or perceived competitive advantage may be mitigated by disclosing all or a portion of the work product produced by the organization or individual subject to review under this section. If documents have been designated as proprietary by Virginia law, the Offeror will be given the opportunity to waive this protection from disclosure. If Offeror elects not to disclose, Offeror may be declared non-responsive.

11.2.5 The firms listed below will not be allowed to participate as a Design-Build team member due to a conflict of interest:

- Transurban (USA) Inc. (in a capacity other than designated TMS Subcontractor)
- Transurban (USA) Operations Inc.
- 360 Consultants
- HDR Engineering Inc.
- Mattern & Craig
- Pavement Technical Solutions
- Rice Associates
- Tolson Consulting
- Wallace Montgomery & Associates
- Consultants and contractors providing services to VDOT related to the Project:
 - § KPMG
 - § Lochner
 - § Moffatt & Nichol
 - § Ballard Spahr
 - § Ames and Gough
 - § PFAL

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- § C&M Associates
- § Volkert, Inc.
- § Johnson, Mirmiran & Thompson, Inc. (JMT)
- § Alpha Corporation
- § Atlas Group
- § Athavale, Lystad & Associates, Inc. (ALA)
- § Capitol Management
- § Century Engineering, Inc.
- § Dulles Geotechnical and Materials Testing Services, Inc. (DGMST)
- § McDonough Bolyard Peck Inc. (MBP)
- § PRIME AE Group, Inc. (PRIME)
- § Sharp & Company, Inc. (S&CO)
- § ATCS P.L.C.
- § Kimley-Horn
- § Continental Field Service
- § Jenkins Engineering Company
- § Jacobs Engineering Group
- § Whitman, Requardt & Associates (WRA)

Any Proposals received in violation of this requirement will be rejected.

11.3 Requirement to Keep Team Intact

The team proposed by Offeror, including but not limited to the Offeror's organizational structure, Lead Contractor, the Lead Designer, Key Personnel, and other individuals identified in the SOQ and pursuant to RFP Section 4.3.1, shall remain on Offeror's team for the duration of the procurement process and if the Offeror is awarded the NEXT Design-Build Contract, the duration of the NEXT Design-Build Contract. If circumstances require a proposed change, it must be submitted in writing to Concessionaire's Point of Contact, who, in his sole discretion, will determine whether to authorize a change. Unauthorized changes to the Offeror's team at any time during the procurement process may result in the elimination of the Offeror from further consideration. Any changes in Key Personnel identified in the Offeror's Proposal following Contract Award are subject to Liquidated Damages according to the Part 4 (NEXT General Conditions), Section 2.1.5.

11.4 DBE and SWaM Firms

11.4.1 Project NEXT requires the utilization of Disadvantaged Business Enterprises (DBE) and Small, Women-owned, and Minority-owned (SWaM) firms as specified Section 4.2.8 of this RFP and the Design-Build Contract. A list of certified DBEs and Virginia Department of Small Business and Supplier Diversity (SBSD) certified SWaM firms is maintained on the SBSBD web site (www.sbsd.virginia.gov).

11.4.2 Offerors shall take all necessary and reasonable steps to ensure that DBEs (as defined in 49 CFR Part 26) and SWaM firms have the opportunity to compete for and perform services for

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the Project NEXT. If the Offeror intends to subcontract a portion of the services on Project NEXT, the Offeror is encouraged to seek out and consider DBE and/or SWaM firms as potential sub-consultants. The Offeror is encouraged to contact such firms to solicit their interest, capability and qualifications. Any agreement between an Offeror and a DBE or SWaM firm whereby the DBE or SWaM firm promises not to provide services to other Offerors is prohibited.

11.4.3 Any Design-Builder, subcontractor, supplier, DBE firm, and contract surety involved in the performance of work on a federal-aid contract shall comply with the terms and conditions of the United States Department of Transportation (USDOT) DBE Program as the terms appear in 49 CFR Part 26 of the Code of Federal Regulations, as amended, the USDOT DBE Program regulations, VDOT's DBE Program rules and regulations, and Part 3 (NEXT Design-Build Contract), Exhibit 11.3 (Federal Requirements).

11.4.4 Following Contract Award, the Design-Builder shall submit documentation related to the use of DBEs and SWaMs for Project NEXT in accordance with the procedures set forth in Part 3 (NEXT Design-Build Contract), Exhibit 11.3 (Federal Requirements) and Part 5 (Division 1 Amendments) Sections 105.06 and 107.15. DBEs and SWaMs must be certified with the Virginia Department of Small Business and Supplier Diversity (SBSD) prior to the performance of any work for Project NEXT. In the case where the DBE is to be utilized to achieve the DBE participation goal, the DBE must be certified by VDOT prior to the submission and provide VDOT Forms C-111 (Minimum DBE Requirements), C-112 (Certification of Binding Agreement with DBE Firms) and Form C-48 (Subcontractor/Supplier Solicitation and Utilization). If the DBE is a prime, the firm will receive full credit for the planned involvement of their own workforce, as well as the work they commit to be performed by DBE and SWaM subcontractors. DBE primes are encouraged to make the same outreach. DBE credit will be awarded only for work actually performed by DBEs themselves. When a DBE prime or subcontractor subcontracts work to another firm, the work counts toward the DBE goals only if the other firm itself is a DBE. A DBE must perform or exercise responsibility for at least thirty percent (30%) of the total cost of its contract with its own workforce.

11.4.5 DBE and/or SWaM certification entitles a firm to participate on Project NEXT; however, it does not guarantee that the firm will obtain any work from the Design-Builder, nor does it attest to the firm's abilities to perform any particular type of work.

11.4.6 When preparing bids for projects with DBE and SWaM goals, Concessionaire encourages prospective Offerors to seek the assistance of the following offices:

Virginia Department of Small Business and Supplier Diversity
101 N. 14th Street
11th Floor
Richmond, VA 23219
www.sbsd.virginia.gov

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Metropolitan Washington Airports Authority
 Equal Opportunity Programs Department
 1 Aviation Circle
 Washington, DC 20001
 Phone: (703) 417-8625
www.metwashairports.com

Contractors are also encouraged to seek help from VDOT's District Equal Employment Opportunity (EEO) Offices, Central Office Civil Rights Office, and VDOT Business Opportunity and Workforce Development (BOWD) Center as listed below:

Central Office 1221 East Broad Street Richmond, VA 23219 (804) 786-2085	Northern Virginia District 4975 Alliance Drive Fairfax, VA 22030 (701) 259-1775	BOWD 1602 Rolling Hills Drive Suite 110 Richmond, VA 23229 (804) 662-9555
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The following informational websites may also be of assistance:

www.virginiadot.org/business/bu_bizDev.asp www.virginiadot.org/business/bu-civil-rights-home.asp

11.5 Trainee and Apprenticeship Participation

Concessionaire will require the Design-Builder's participation in VDOT's trainee and apprenticeship program for Project NEXT and has established a goal of twenty-seven (27) trainees identified in RFP Section 4.2.8.

11.6 Escrow Proposal Documents

11.6.1 Scope. Pursuant to RFP Section 11.6.5.1 below, the Successful Offeror shall submit to the individual set forth in RFP Section 2.4 above, within thirty (30) days of the Notice of Intent to Award date, one copy of all documentary information generated in preparation of its Proposal. This material is hereinafter referred to as Escrow Proposal Documents (EPDs). The EPDs will be held in a secure location at the Concessionaire's office until immediately prior to award of Project NEXT. The EPDs of the Successful Offeror will be transferred to and then held in escrow at the institution specified in RFP Section 11.6.6. Attachment I (Escrow Proposal Documents Checklist) has been provided for reference.

11.6.2 Ownership

.1 The EPDs are, and shall always remain, the property of the Successful Offeror, subject to joint review by Concessionaire, the Successful Offeror, and VDOT, as provided herein.

.2 Concessionaire stipulates and expressly acknowledges that the EPDs constitute trade secrets. This acknowledgment is based on Concessionaire's express understanding that the information contained in the EPDs is not known outside Successful Offeror's business, is known

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only to a limited extent and only by a limited number of employees of the Successful Offeror, is safeguarded while in Successful Offeror's possession, is extremely valuable to Successful Offeror and could be extremely valuable to Successful Offeror's competitors by virtue of its reflecting Successful Offeror's contemplated techniques of design and construction. Concessionaire further acknowledges that Successful Offeror expended substantial sums of money in developing the information included in the EPDs and further acknowledges that it would be difficult for a competitor to replicate the information contained therein. Concessionaire further acknowledges that the EPDs and the information contained therein are made available to Concessionaire only because such action is an express prerequisite to award of the NEXT Design-Build Contract. Concessionaire further acknowledges that the EPDs include a compilation of the information used in Successful Offeror's business, intended to give Successful Offeror an opportunity to obtain an advantage over competitors who do not know of or use the contents of the documentation.

11.6.3 Purpose

EPDs may be used to assist in the negotiation of change orders and in the settlement of disputes and claims for the life of Project NEXT. Specifically, the Concessionaire intends for the values set forth by the Offeror in the Pay Item Categories and Unit Prices of Section 4.8 of the RFP to be complete prices that represent the extent of the described work. A high level of detail and due-diligence by the Offeror is expected when preparing these price breakdowns that are critical for the Concessionaire and VDOT to make transparent and sound commercial decisions. The information in the EPDs and the Attachments described in Section 4.8 of the RFP may be used as components of change orders or to adjust Project NEXT Scope to make the project commercially viable.

11.6.4 Format and Contents

.1 Successful Offerors may submit EPDs in their usual cost estimating format provided that all information is clearly presented and ascertainable. It is not the intention of this section, to cause the Successful Offeror extra work during the preparation of the Proposal, but to ensure that the EPDs will be adequate to enable complete understanding and proper interpretation for their intended use. The EPDs shall be submitted in English.

.2 It is required that the EPDs clearly itemize the estimated costs of performing the work of each item contained in the Successful Offeror's Attachment D.2 (Project NEXT Price Proposal) and Attachment D.3 (Schedule of Pay Items) required by RFP Section 4.8. Cost items shall be separated into sub-items as required to present a detailed cost estimate and allow a detailed cost review. The EPDs shall include: estimates for costs of the design professionals and consultants itemized by discipline both for development of the design, all quantity take-offs, crew size and shifts, equipment, calculations of rates of production and progress, copies of quotes from subcontractors and suppliers, and memoranda, narratives, drawings and sketches showing site or work area layouts and equipment, add/deduct sheets, geotechnical reviews and consultant reports, and all other information used by the Successful Offeror to arrive at the prices contained in the Proposal. Estimated costs shall be broken down into estimate categories for each bid item, such as direct labor, repair labor, equipment ownership and operation, expendable materials, permanent

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materials, and subcontract costs as appropriate. Plant and equipment, indirect costs, bond rates and calculations, insurance costs, and financing should be detailed. The Successful Offeror's allocation of indirect costs, contingencies, and mark-up shall be identified.

.3 All costs shall be identified. For bid items amounting to less than \$10,000, estimated unit costs are acceptable without a detailed cost estimate, provided that labor, equipment, materials, and subcontracts, as applicable, are included, and provided that indirect costs, contingencies, and mark-up, as applicable, are allocated.

.4 RFP Documents provided by Concessionaire should not be included in the EPDs unless needed to comply with these requirements.

11.6.5 Submittal

.1 The EPDs shall be submitted in a sealed container to the individual set forth in RFP Section 2.4 above, which container shall be clearly marked on the outside with the Successful Offeror's name, date of submittal, Project NEXT name, and the words "Escrow Proposal Documents."

.2 Prior to award of the NEXT Design-Build Contract, EPDs of the Successful Offeror will be transferred to the institution referenced in RFP Section 11.6.6 and will be examined, organized, and inventoried by representatives of Concessionaire, together with members of the Successful Offeror's staff who are knowledgeable in how the Proposal was prepared. This examination is to ensure that the EPDs are legible and complete. It will not include review of and will not constitute approval of proposed construction methods, estimating assumptions, or interpretations of any RFP Documents or the NEXT Design-Build Contract. Examination will not alter any condition or term of the NEXT Design-Build Contract.

.3 If all the documents required by RFP Section 11.6 have not been included in the original submittal, additional documentation may be submitted, at Concessionaire's sole discretion, prior to award of the NEXT Design-Build Contract.

.4 If the NEXT Design-Build Contract is not awarded to the Successful Offeror, the EPDs of the next Offeror to be considered for award shall be processed as described above.

.5 Timely submission of the complete EPDs is the Successful Offeror's responsibility and a prerequisite to award of the NEXT Design-Build Contract.

.6 If the Successful Offeror's Proposal is based upon subcontracting any part of the work, each subcontractor whose total subcontract price exceeds ten percent (10%) of the Total Proposal Price proposed by the Successful Offeror, shall provide separate Escrow Documents to be included with those of the Successful Offeror. Such documents shall be opened and examined in the same manner and at the same time as the examination described above for the Successful Offeror.

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.7 If the Design-Builder wishes to subcontract any portion of the work after award of the NEXT Design-Build Contract, Concessionaire retains the right to require the Design-Builder to submit Escrow Documents from the subcontractor before the subcontract is approved.

11.6.6 Storage

The Successful Offeror's EPDs shall be stored at SunTrust Bank at the following address:

SunTrust Bank
919 East Main Street, Floor 7
Richmond, Virginia 23219
Attention: Corporate Agency Services
Telephone: (804) 782-5400

The cost of storing the EPDs will be paid by the Concessionaire.

11.6.7 Examination

.1 The EPDs shall be examined by Concessionaire and the Design-Builder, at any time deemed necessary by Concessionaire, or by VDOT in accordance with the Amended and Restated Comprehensive Agreement Relating to the Route 495 HOT Lanes Project in Virginia.

.2 Concessionaire may delegate review of EPDs to members of Concessionaire's staff or consultants. The foregoing notwithstanding, the EPDs and information contained therein may be used in the resolution of any claim or dispute before any entity selected to resolve disputes and in any litigation or arbitration commenced hereunder. No other person shall have access to the EPDs.

.3 Access to the documents will take place in the presence of duly designated representatives of both Concessionaire and the Design-Builder, except that, if the Design-Builder refuses to be present or to cooperate in any other way in the review of the documents, Concessionaire may upon notice to the Design-Builder, review such documents without the Design-Builder being present.

11.6.8 Final Disposition and Return of EPDs

The EPDs of the Successful Offeror will be returned to the Design-Builder at such time as the NEXT Design-Build Contract has been completed, final payment has been made, and all claims or disputes arising under or related to the NEXT Design-Build Contract have been fully and finally resolved and/or adjudicated.

11.6.9 Execution of Escrow Agreement

The Successful Offeror, as a condition of award of the NEXT Design-Build Contract, agrees to execute Attachment J (Escrow Agreement).

11.7 Administrative Requirements

In addition to the specific submittal requirements set forth in RFP Sections 3.0 (and 4.0, all Offerors shall comply with the following:

11.7.1 All business entities, except for sole proprietorships, are required to be registered with the Virginia State Corporation Commission (a Business Registration Guide is available on the Internet at <http://www.state.va.us/scc/division/clk/brg.htm>). Foreign Professional Corporations and Foreign Professional Limited Liability Companies must possess a Commonwealth of Virginia Certificate of Authority from the State Corporation Commission to render professional services. Any business entity other than a professional corporation, professional limited liability company, or sole proprietorship must be registered in the Commonwealth of Virginia with the Department of Professional & Occupational Regulation, Virginia Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Decorators and Landscape Architects (http://www.dpor.virginia.gov/dporweb/ape_reg.pdf). Board regulations require that all professional corporations and business entities that have branch offices located in Virginia, which offer or render any professional services relating to the professions regulated by the Board, be registered with the Board. Registration involves completing the required application and submitting the required registration fee for each and every branch office location in the Commonwealth. All branch offices that offer or render any professional service must have at least one full-time resident professional in responsible charge that is licensed in the profession offered or rendered at each branch. All firms involved that are to provide professional services must meet these criteria prior to a contract being executed by Concessionaire.

11.7.2 Concessionaire will not consider for award any Proposals submitted by any Offerors and will not consent to subcontracting any portions of the proposed NEXT Design-Build Contract to any subconsultants in violation of the provisions of the Federal Immigration Reform and Control Act of 1986, which prohibits employment of illegal aliens.

11.7.3 All Offerors must have internal control systems in place that meet federal requirements for accounting. These systems must comply with requirements of 48 CFR 31, “Federal Acquisition Regulations, Contract Cost Principles, and Procedures,” and 23 CFR 172, “Administration of Engineering and Design Related Service Contracts.”

11.7.4 Concessionaire assures compliance with Title VI of the Civil Rights Act of 1964, as amended. The consultant and all subconsultants selected for this Project NEXT will be required to submit a Title VI Evaluation Report (EEO-D2) when requested by the Concessionaire to respond to the RFP. This requirement applies to all consulting firms with fifteen (15) or more employees.

11.7.5 Concessionaire does not discriminate against an Offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

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11.7.6 Execute and return the attached Attachment K (Certification Regarding Debarment Form (s) Primary Covered Transactions) and Attachment L (Certification Regarding Debarment Form (s) Lower Tier Covered Transactions) for the Offeror and any subconsultant, subcontractor, or any other person or entity on the Offeror's organizational chart included in the Technical Proposal.

If the Offeror and any subconsultant, subcontractor, or any other person or entity are unable to execute the certification, then prospective participant shall attach an explanation to its Certification Regarding Debarment Form. Failure to execute the certification will not necessarily result in denial of award but will be considered in determining the Offeror's responsibility. Providing false information may result in federal criminal prosecution or administrative sanctions.

11.7.7 The required services may involve the handling of VDOT Critical Infrastructure Information/ Sensitive Security Information (CII/SSI) material. Personnel handling CII/SSI material, visiting Critical Infrastructure (CI) facilities, or performing bridge/tunnel inspections are required to sign CII/SSI Non-Disclosure Agreements and pass a fingerprint-based Criminal History Background Check (CHBC). An individual employee's failure to successfully pass the fingerprint-based CHBC will not negate the selection, and Offerors will be allowed to replace those individuals. VDOT reserves the right to conduct fingerprint-based CHBC on all employees of the Design-Builder's team members, or on any proposed replacements during the term of the contract who will be involved in this Project NEXT. All costs associated with the fingerprint-based CHBC are the responsibility of the Offeror or Design-Builder. A VDOT issued photo-identification badge is required for each employee of the Offeror's or Design-Builder's team who will need access to VDOT's CI facilities or who will be performing bridge/tunnel inspections. Based upon the results of the fingerprint-based CHBC, VDOT reserves the right to deny access to CII/SSI material, and issuance of a VDOT security clearance or a VDOT issued photo-identification badge.

11.8 Compliance with the Law in Virginia

An Offeror's failure to comply with the law regarding those legal requirements in Virginia (whether Federal or state) regarding its ability to lawfully offer and perform any services proposed or related to Project NEXT may render an Offeror's Proposal non-responsive and/or non-responsible, in the sole and reasonable discretion of Concessionaire. In that event, any consideration or evaluation of the Proposal by the Concessionaire will be suspended, and the Offeror prohibited from selection or Contract Award.

11.9 Attachments

The following attachments are specifically made a part of, and incorporated by reference into, this Request for Proposals:

ATTACHMENT A.1 – ACKNOWLEDGEMENT OF RECEIPT OF RFP REVISIONS AND/OR
ADDENDA (TECHNICAL PROPOSAL)

ATTACHMENT A.2 – ACKNOWLEDGEMENT OF RECEIPT OF RFP REVISIONS AND/OR
ADDENDA (PRICE PROPOSAL)

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- ATTACHMENT B.1 – TECHNICAL PROPOSAL CHECKLIST
- ATTACHMENT B.2 – PRICE PROPOSAL CHECKLIST
- ATTACHMENT C – PRICE PROPOSAL INSTRUCTIONS [Revision 1]
- ATTACHMENT D.1 – PRICE PROPOSAL FORM
- ATTACHMENT D.2 – PROJECT NEXT PRICE PROPOSAL [Revision 2]
- ATTACHMENT D.3 – SCHEDULE OF PAY ITEMS [Revision 1]
- ATTACHMENT E – OFFEROR’S STATEMENT
- ATTACHMENT F – OFFEROR’S CERTIFICATION
- ATTACHMENT G – PROPOSAL PAYMENT AGREEMENT [Revision 1]
- ATTACHMENT H – WAIVER OF PROPOSAL PAYMENT
- ATTACHMENT I – ESCROW PROPOSAL DOCUMENTS CHECKLIST
- ATTACHMENT J – ESCROW AGREEMENT
- ATTACHMENT K – CERTIFICATION REGARDING DEBARMENT; PRIMARY COVERED
TRANSACTIONS
- ATTACHMENT L – CERTIFICATION REGARDING DEBARMENT; LOWER TIER COVERED
TRANSACTIONS
- ATTACHMENT M – PROPOSAL GUARANTY FORM
- ATTACHMENT N – NEXT DESIGN-BUILD CONTRACT EXECUTION REQUIREMENTS
[Revision 2]

* * * * *

**END OF PART 1
REQUEST FOR PROPOSALS**

PART 2

PROJECT NEXT TECHNICAL REQUIREMENTS

[ATTACHMENTS PROVIDED ON ENCLOSED DVD]

PART 2

Project NEXT Technical Requirements

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- 3.8 Minimum Pavement Requirements
- 3.9a E-ZPass Pavement Logo
- 3.9b Pavement Markings
- 3.15a Bridge Repair Quantities
- 3.15b Lewinsville Road over I-495 – Bridge and Approach Sidewalk Modifications
- 3.16a TMS Special Provisions
- 3.16b Notice of Impacts to Existing Assets
- 3.16c TMS Interface Plan

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PROJECT NEXT TECHNICAL REQUIREMENTS

These Project NEXT Technical Requirements (also known as “NEXT Technical Requirements” or “Technical Requirements”) detail the scope, requirements and criteria for the design and construction of the I-495 Express Lanes Northern Extension Project (“Project NEXT” or “NEXT”). The Work, as defined in the Contract Documents, will be undertaken on behalf of the Concessionaire by the Design-Builder and/or its subcontractors, subconsultants, vendors or suppliers. A summary of the of the Project NEXT Work is provided in Attachment 1.0.

Capitalized terms used in these Technical Requirements, but not otherwise defined, have the respective meanings set forth in Part 4 (NEXT General Conditions), Exhibit 1.2.1 (Project NEXT Definitions) to Part 4 (General Conditions), or Part 5 (NEXT Division I Amendments) of the Contract Documents.

1 Project Management

1.1 Overview

- A. The Design-Builder shall establish and maintain an organization that effectively manages all elements of the Project NEXT Work. The Project NEXT management effort will be defined and guided by the Project NEXT Development Plans (PDPs), as described in Attachment 1.3.
- B. Project NEXT management activities shall include, but not be limited to, scope, schedule, cost, safety and document management, and will be consistent with the Work Breakdown Structure (WBS) developed by the Design-Builder.
- C. All Design-Builder correspondence, submittals, other required deliverables, and requests for information or action shall be provided to the Concessionaire in accordance with the requirements of the Contract Documents and are subject to the Concessionaire’s acceptance or approval.
- D. The Design-Builder acknowledges and accepts that Concessionaire’s management, review, concurrence, approval, inspection, variation, and/or acceptance of the Work is subject to the Virginia Department of Transportation’s (VDOT) review, concurrence, approval, inspection, variation, and/or acceptance of the Work and that all Design-Builder submittals and deliverables must be submitted (or provided) to VDOT for concurrent approval.
- E. The Design-Builder also acknowledges and accepts that Concessionaire’s management, review, concurrence, approval, inspection, variation, and/or acceptance of the Work may also be subject to other Governmental Approvals or third-party review, concurrence, approvals, inspections, variations, and/or acceptance.
- F. The Design-Builder acknowledges and accepts that as public-private partnership between the Concessionaire and VDOT, there are certain activities and approvals associated with

Project NEXT which only VDOT or third parties can perform or provide. The Design-Builder is responsible for ensuring VDOT or third party participation in such activities and required to obtain any such approvals required to complete the Project NEXT Work.

1.2 Project Administration

1.2.1 General Requirements

- A. The Design-Builder's management approach shall provide all components of an effective and efficient management system, including: communication and reporting; documentation of Work; supervision of Work personnel and activities; all tools, facilities, and materials; environmental protection and mitigation; safety of Work personnel; interface with stakeholders; and any other management elements needed to produce and document a quality, safe, efficient, and operable Project NEXT that complies with the Contract Documents.
- B. Any licensed contractors or lower tier subcontractors working for or on behalf of the Design-Builder shall prequalify (or be prequalified) with VDOT and shall have received a certification of qualification prior to undertaking Work on Project NEXT. This requirement does not apply to consultants, manufacturers, suppliers, or haulers.
- C. Subcontracting or otherwise delegating any portion of the Work shall not relieve the Design-Builder of any responsibility for the fulfilment of the Contract Document requirements. Further, delegation or subcontracting of the Design-Builder's responsibilities shall not eliminate the Design-Builder's obligation to report directly to the Concessionaire, unless the Concessionaire expressly agrees to accept reports or communications from third parties.

1.2.2 VDOT Oversight

- A. Through VDOT's Northern Virginia District Megaprojects Office, VDOT will provide oversight of Project NEXT, including the review and approval of all designs (and associated submittals) and the inspections and acceptance of all construction (and associated submittals).
- B. VDOT's designated manager for Project NEXT will be the primary point of contact for the Concessionaire and Design-Builder; however, only the Concessionaire has authority to direct and authorize the Design-Builder to perform the Project NEXT Work. The Design-Builder shall not take direction from VDOT representatives (or its consultants).

1.2.3 Submittals

- A. The Design-Builder shall prepare, revise, and finalize all submittals to be accurate, complete, and in a form and at a level of detail to enable the Concessionaire to satisfactorily discharge its review and approval obligations, which include concurrent reviews and approvals by VDOT and may include reviews and approvals by other governmental agencies and third-parties.
- B. The Design-Builder shall submit for review and approval, a Submittal Register that details the content, schedule, and proposed packaging of the required Design

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Documentation and Construction Documentation by the Design-Builder. The purpose of this Submittal Register is to understand the Design-Builder's design and construction approach and sequencing and to allow for proper allocation of Concessionaire resources to review the submissions.

- C. The Submittal Register shall be approved prior to the submission of any Design Documentation and/or Construction Documentation. The Submittal Register shall identify all submittal packages that the Design-Builder intends to submit for review and approval. Submittal packages not included in the approved Submittal Register will not be reviewed without prior approval.
- D. The Design-Builder shall include in the NEXT Baseline Schedule and in all other Project NEXT Schedules all proposed design and construction submittals listed in the Submittal Register.
- E. Following the commencement of the Work, the Design-Builder shall provide monthly updates to the Submittal Register referenced above in its Monthly Progress Report. Updates that are more frequent may be requested and the Design-Builder shall reasonably comply with such update requests.
- F. Unless otherwise mutually agreed by all parties, weekly submittal status meetings shall be conducted by the Design-Builder to review all anticipated submittals, current submittals and pending re-submittals.
- G. If, at any given time, the Design-Builder makes multiple submittals, the Design-Builder shall indicate the priority assigned to each submittal to foster a timely and coordinated review.
- H. The Design-Builder shall provide all Design Documentation and Construction Documentation as electronic files formatted as per VDOT Computer Aided Drafting and Design (CADD) Manual and, if required, sealed by a Professional Engineer licensed in the Commonwealth of Virginia. These documents will include, but are not limited to, the following items:
 - 1. Design calculations and analysis;
 - 2. Mix designs;
 - 3. Reports, studies, and investigations;
 - 4. Project NEXT Schedule;
 - 5. Design Public Hearing and/or Public Meeting Documentation;
 - 6. Design Documentation, including documentation of key design decisions, permitting, right of way submittals, right of way and/or construction revisions;
 - 7. Construction Documentation, including detailed design submittals and Approved for Construction (AFC) Documents, construction sketches, shop drawings, working drawings, and diagrams;
 - 8. Traffic Control Plans and Maintenance of Traffic (MOT) documentation;

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9. Soil boring logs, laboratory test results, quality control records and audits, and all other testing and inspection documentation, etc.;
 10. Material communications relating to Design Documentation and Construction Documentation;
 11. Responses to reviewed comments;
 12. Change (Work) Orders (including all related communications and disputes resolution proceedings);
 13. Governmental Approvals; and
 14. Third party approvals.
- I. The Design-Builder shall deliver all electronic submittals using the Project NEXT Electronic Document Management System (EDMS), unless otherwise directed. E-mail may be used to notify the Concessionaire of the availability of submittals.
 - J. Submittal packages shall be well organized and consistent with the approved Submittal Register. The Design-Builder shall include on all submittals the complete State project and job designation numbers. Items or component materials shall be identified by the specific item number and specification reference. All submittals shall be prepared in US Customary Units in accordance with the applicable Standards and Specification in Attachment 1.5a.
 - K. All design submittals shall be submitted electronically in *.pdf format. AFC Documents shall include the designs in *.pdf format, CADD files in *.dgn format, and hard copies. The Concessionaire may request the Design-Builder provide CADD *.dgn files of any submittal to facilitate its review. Five (5) hard copies of all AFC Documents shall be provided within two business days of the electronic submittal via the Project NEXT EDMS. The Design-Builder shall provide hard copies of any Design Documentation or Construction Documentation submittals upon request.
 - L. Electronic versions of the AFC Documents shall be submitted within seven (7) business days of receiving final design approval. AFC Documents shall not incorporate any changes to the approved Final for Approval documents unless otherwise approved. Upon receipt of the electronic AFC Documents, the Concessionaire will provide any comments to the Design-Builder within three (3) business days. If comments are provided, the Design-Builder shall address and resubmit within three (3) business days. If no comments are provided, the Design-Builder shall provide five (5) hard copies of all AFC Documents within three (3) additional business days.
 - M. Hard copies of the AFC Documents shall be 11” x 17.” The Concessionaire is required to provide two (2) hard copies of AFC Documents for VDOT’s records and two (2) hard copies of for the Federal Highway Administration’s (FHWA) records.
 - N. Submittals will be deemed “received” (thereby triggering the applicable timeframe for review) upon receipt of the complete package of electronic files, inclusive of all required information necessary to perform a complete review. Packages received after 3:00pm will be deemed received the following business day. The Concessionaire will notify the

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Design-Builder within three (3) business days if the package is incomplete and will include the basis for the submittal being deemed incomplete.

- O. The Design-Builder shall include with each submittal the signed cover sheets as described below.
1. A cover sheet, signed by the Design-Builder's Representative, that includes the following certifications:
 - a. The Design-Builder certifies that [description of submittal] was prepared by professionals (with proper licensing, as required) having the requisite qualifications, certifications, credentials, skills, and experiences needed to prepare the submittal in accordance with the Contract Documents and good industry practice.
 - b. The Design-Builder certifies that: (1) it has reviewed the submittal for completeness; (2) the submittal accurately depicts the Work to be undertaken or performed; and (3) the submittal was prepared in accordance, and otherwise complies, with:
 - (i) the NEXT Contract Documents;
 - (ii) the Technical Requirements;
 - (iii) the approved QMSP;
 - (iv) applicable Law; and
 - (v) Governmental Approvals.Any deviations from these requirements must be have been previously identified by the Design-Builder and approved prior to the submittal. Documentation of any such approval must be included with the submittal.
 2. A cover sheet, signed by the subcontractor, supplier, or consultant that prepared or is otherwise in responsible charge of the submittal, shall include the following certification:
 - a. The [name of Contractor (or Designer)], which is under contract with the Design-Builder to perform services related to Project, certifies that it prepared or is otherwise in responsible charge of the [description of submittal].
 - b. The [description of submittal] was prepared by professionals (with proper licensing, as required) having the requisite qualifications, certifications, credentials, skills, and experiences needed to prepare the submittal in accordance with good industry practice and the requirements of the Contract Documents.
 - c. The [description of submittal] is complete and accurately depicts the Work to be undertaken or performed; and the submittal was prepared in accordance with, and otherwise complies with:
 - (i) the Contract Documents;
 - (ii) the Technical Requirements;

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- (iii) the approved QMSP;
 - (iv) applicable Law; and
 - (v) Governmental Approvals.
- P. The Concessionaire may request interim submittals at any time for any of the above noted items for complex or unusual elements of the Work, or for elements where no applicable standards exist, if the Concessionaire can reasonably demonstrate that additional information is necessary to complete review of any such Work. Such interim submittals shall be developed to address the specific requests for information and shall be submitted within ten (10) days from the request, or other such timeframe as may be mutually agreed.
- Q. If the Design-Builder's approved Design Documentation needs to be revised after approval of the AFC Documents, then the Design-Builder shall use either a Notice of Design Change (NDC) or a Field Design Change (FDC) or to document the change. Any required NDC or FDC shall be submitted for review prior to implementation of construction associated with the NDC or FDC. NDC and FDC review and approval shall be completed within fourteen (14) days of receipt of a complete and accurate submittal by the Design-Builder. Any basis for disapproval will be provided to the Design-Builder in writing. Unless otherwise mutually agreed by all parties, weekly meetings shall be conducted to review open and forthcoming NDC and FDC submittals.
- R. Requests for Information (RFIs) may be submitted to request information or clarification. However, RFIs responses shall not be deemed a change any requirements of the NEXT Contract Documents nor shall they serve as documentation of changes to AFC Documents. As noted above, such changes to AFC Documents shall be revised using either the NDC or FDC process.
- S. The Concessionaire's review of the Design-Builder's submittals will relate only to conformance to and compliance with the requirements of the NEXT Contract Documents. Any deviation from these requirements must be specifically described and accompanied by explicit supporting justification. This review shall not relieve the Design-Builder of responsibility for errors and/or omissions in the submittals.
- T. The Design-Builder shall also provide, through the Project designated Electronic Document Management System, copies of all correspondence, meeting minutes, and other external documents (including e-mails) constituting any and all material Project NEXT communications with:
 - 1. Governmental Authorities;
 - 2. Business and Project NEXT stakeholders;
 - 3. Landowners;
 - 4. News media;
 - 5. Utilities;
 - 6. Railroads or transit entities; and
 - 7. Community stakeholders.

1.2.4 Plans and Drawings

- A. The Design-Builder shall furnish all plans and drawings showing such details as are necessary to give a comprehensive understanding of the NEXT Work. Except as otherwise shown on the plans, dimensions shown on the plans are measured in the respective horizontal or vertical planes. Dimensions that are affected by gradients or vertical curvatures shall be adjusted as necessary to accommodate actual field conditions and shall be specifically denoted on the working drawings.
- B. The Design-Builder shall furnish working drawings as required or requested.
- C. Plans and drawings that will be prepared by the Design-Builder include: a) Design and Construction Plans covering individual work packages, including interface points used by the Design-Builder during its design review process, b) Permitting Plans, c) Design Public Hearing Documentation (if required), d) Right-of-Way Plans, e) Shop Drawings and Working Drawings, f) Traffic Control Plans, g) As-Built Plans and all approved changes to these plans, including Notice of Design Changes (NDCs), Field Design Changes (FDCs), and Non-Conformance Reports (NCRs).
 - 1. The Design-Builder shall provide design submittals at each of the following design stages. The Design-Builder may elect to omit some stages noted below as optional, however, Design-Builder shall assume all cost and schedule risk associated with any such omissions:
 - a. (Optional) Interim: less than 100% complete – submission shall include an indication of the submittal's (or any component thereof) percentage of completeness to ensure the review comments are appropriate for the submission.
 - b. (Optional) Final for Review: 100% complete – submission will reviewed with expectation of being 100% complete.
 - c. Final for Approval: 100% complete – submission will be reviewed with expectation of being 100% complete and ready for construction.
 - d. Approved for Construction (AFC) – Immediately following approval of the Final for Approval submittal, distribution of approved documents to be used for construction.
- D. Plans and drawings shall not incorporate any deviations from the Technical Requirements unless the changes are specifically denoted, together with justification, and are approved in writing.
- E. The Design-Builder shall use working groups and over the shoulder review meetings with the Concessionaire to address Project concerns, resolve technical issues, facilitate design development, and provide preliminary reviews of plans and other submittals. These forums do not replace the formal submittal, review and approval processes required for all Design Documentation and Construction Documentation.
- F. A Professional Engineer licensed in the Commonwealth of Virginia shall certify plans and drawings for falsework supporting a bridge superstructure; concrete structures and

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pre-stressed concrete members; lighting, signal, and pedestrian poles; electrical and communication systems infrastructure; sign structures; breakaway support systems; anchor bolts; retaining walls and foundations.

- G. If a railroad, municipality, or other third-party entity is required to review the plans or working drawings, the Design-Builder shall submit with the design a plan of its proposed means and methods and shall provide the Concessionaire with evidence of approval by the railroad, municipality, or other entity providing the approval before performing any related work. The plans shall be clear and legible, and details shall be drawn to scale.
- H. Prior to manufacture of non-standard items, the Design-Builder shall furnish a certification of the acceptability of the design of such non-standard item, as determined from a review that shall be made on behalf of the Design-Builder by a Professional Engineer licensed in the Commonwealth of Virginia. Such certification shall cover all design data, supporting calculations and materials. Non-standard designs previously certified or approved will not require recertification, provided no changes are made.
- I. Review of the Design-Builder's plans and drawings will relate only to conformance to and compliance with the Contract Documents, including these Technical Requirements. Any proposed deviation(s) from these requirements must be specifically described and accompanied by explicit supporting justification. The Concessionaire's review shall not relieve the Design-Builder of responsibility for errors and/or omissions in the plans and drawings.

1.2.5 Location of Offices and Accommodations for Concessionaire's Staff During the Project

- A. The Concessionaire encourages co-location of its key staff with the Design-Builder during the design and construction period. The Concessionaire desires to cooperate with the Design-Builder during the design development and review periods in order to create efficiencies for the benefit of the Project.
- B. The Design-Builder shall establish one primary field office or dedicated Class C or better office space, the location of which is to be determined and mutually agreed to by the Design-Builder and the Concessionaire, but which is expected to be in the vicinity of the Project corridor. This work shall consist of locating, procuring, furnishing, erecting, equipping, maintaining, cleaning (weekdays), and removing and restoring property upon completion of use of the field office. The Design-Builder has the option to either provide modular trailers or to rent office accommodations to satisfy the Project office requirements.
- C. Design-Builder shall provide, maintain, and manage fully outfitted, furnished and networked office space for Design-Builder, Concessionaire, and VDOT use including at a minimum insurance, lease agreements, Utility connections, Utility service, internet service, maintenance, janitorial, security and other services necessary to provide the required office facilities. Workspaces provided for Concessionaire and VDOT personnel shall be available for their exclusive use at any time during the design and construction of the Project NEXT.

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Space	Quantity	Minimum Size (SF)
Office (Concessionaire)	2	100
Office (VDOT)	2	100
Workstation Cubicle (VDOT & Concessionaire)	10	64
Conference Room (Shared)	2	250
File Room (Shared)	1	100
Storage Room (Shared)	1	100
Kitchen (Shared)	1	---
Washroom (Shared)	1	---

- D. Design-Builder shall provide parking facilities sufficient for the number of Design-Builder and Concessionaire personnel assigned to the location plus visitor parking.
- E. Design-Builder shall be responsible for loss to property as a result of fire, theft, malicious acts, and other human activity or related causes.
- F. Design-Builder shall provide Concessionaire continuous access and maintain, at a minimum, the following systems and equipment at the field office location:
1. High-speed internet connection with minimum 100 Mbps download/100 Mbps upload with static IP address;
 2. Two Network connected color printers/scanners/copiers/faxes, minimum 600 dpi and 30 pages per minute, staple, duplex and paper handling up to 11" x 17";
 3. Computer network wiring for each office, desk and conference room to support access to any VDOT-provided file server (for VDOT's dedicated use) or other networked devices.
- G. Design-Builder shall provide field office site and floor plans for review and comment no less than 30 calendar days prior to occupancy.
- H. The field office shall be available and operational from 30 days after the latter of Financial Close or Work Notice to Proceed to 30 days after Final Completion. Furnishings and equipment specified shall be in sound and functional condition throughout the duration of the project.
- I. The field office and equipment as required herein shall remain the property of the Design-Builder.
- J. The Design-Builder shall provide and maintain in a neat, sanitary condition such accommodations for the use of its employees, as well as the employees or agents of the Concessionaire and VDOT, as may be needed to comply with the requirements of applicable Law.

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- K. The field office shall be weatherproof, tightly floored and roofed, constructed with an air space above the ceiling for ventilation, supported above the ground and anchored against movement. The floor-to-ceiling height shall be at least 7 feet 6 inches. The inside walls and ceilings shall be constructed of Masonite, gypsum board, or other similarly suitable materials as permitted by fire and building codes. The exterior walls, ceiling, and floor shall be insulated.
- L. Lighting, Heating, and Air Conditioning: The field office shall have satisfactory functional lighting, electrical outlets, heating equipment, an exhaust fan, and air conditioner connected to an operational power source. Electrical power and fuel for heating equipment shall be furnished by the Design-Builder.

1.2.6 Document Management System

- A. The Concessionaire shall establish and maintain an Electronic Document Management System (EDMS) to store and record all material documents generated on Project NEXT, including those records required by Law.
- B. In the provision of an EDMS, the Concessionaire will:
 - 1. Use data systems, standards, and procedures with consistent naming and searching protocols;
 - 2. Ensure document retention for any minimum statutory period(s);
 - 3. Provide a secure EDMS, such that only authorized users have access and that it is protected from theft, damage, unauthorized or malicious use;
 - 4. Provide a mechanism for the electronic transfer of metadata along with the associated document in standard business file format; and
 - 5. Provide the Design-Builder with written procedures and training of staff who will be required to access all relevant documents. All electronic information shall be searchable.
- C. In the relevant Project Development Plan, the Design-Builder shall:
 - 1. Reference the specific EDMS tool to be used by the Concessionaire and the access methods available to the Design-Builder and others that may need access to the system;
 - 2. Describe methods by which all documents issued and received by the Design-Builder shall be uniquely coded and retrievable in a user-friendly format;
 - 3. Describe upon completion of the Project NEXT, the transfer of EDMS data and files, such that the Concessionaire has a complete set of material project documentation in electronic format and written documentation on the contents of the data.

1.2.7 Project Meetings

- A. Authorized Representatives and other pertinent representatives of the parties shall meet regularly to discuss issues affecting the administration of the Work and to implement the

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necessary procedures, including those relating to submittals and approvals, to facilitate the ability of the parties to perform their obligations under the Contract.

- B. Prior to the start of construction activities for specific portions of the Work, the parties and their respective representatives shall conduct pre-construction meetings to discuss the Design-Builder's planned construction operations. At the pre-construction meeting, the parties shall discuss, among other things, safety, the sequence of the Work, scheduling, constructability issues, coordination with Separate Contractors, Governmental Authorities and Utilities, and maintenance of traffic.
- C. The Design-Builder shall hold monthly progress meetings with the Concessionaire. During such meetings, progress during the prior month, Work to be undertaken during the next month, and encountered or anticipated issues, and overall project schedule updates shall be reviewed. These meetings shall be attended by the Design-Builder Representatives and other personnel as requested, including relevant subcontractor and VDOT representatives. Meetings will occur monthly beginning the month after the Limited Notice to Proceed is issued and continue until Final Completion. The Design-Builder shall be responsible for preparing, maintaining and distributing minutes of the meetings to all attendees for review. The meeting minutes shall be provided within three days after the monthly progress meeting or such other timeframe as mutually agreed. The parties may cancel a monthly progress meeting from time to time if they mutually agree that such meeting is not necessary.
- D. The Design-Builder and/or the Concessionaire shall conduct other meetings as needed to complete the Project's design and construction.

1.3 Project Development Plans

1.3.1 General Requirements

- A. The Design-Builder shall prepare and submit Project Development Plans (PDPs) in accordance with the requirements of Attachment 1.3 and Section 5.1.2 of Part 3 (NEXT Design-Build Contract).
- B. Such PDPs shall address the activities of the Design-Builder and shall not obligate the Concessionaire or VDOT to perform any activity unless agreed to in writing.
- C. The Design-Builder shall develop and maintain a quality control and quality assurance system for the PDPs as part of its overall Quality Management System Plan (QMSP).
- D. The Concessionaire may audit and monitor the activities described in the PDPs to assess the Design-Builder's compliance. Any audit findings shall be adequately addressed within 30 days of the Concessionaire's audit report.

1.3.2 Project Development Plan Updates

- A. The Design-Builder shall annually (or more frequently if requested by the Concessionaire) assess the effectiveness of its PDPs and have mechanisms in place to monitor progress and identify opportunities for improvement.

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- B. A PDP or procedure shall be updated pursuant to Attachment 1.3, if such PDP or an associated procedure:
 - 1. does not adequately address the matters it is intended to address;
 - 2. does not conform or is otherwise necessary to comply with any Contract Document requirements;
 - 3. has to be changed because of an audit;
 - 4. no longer represents current or appropriate practice; or
 - 5. is required by the NEXT Technical Requirements to be updated.

1.4 Schedules

1.4.1 Design-Builder Schedule Manager

- A. The Design-Builder shall within thirty (30) days of the Notice of Intent to Award the Design-Build Contract, identify and submit for Concessionaire approval, the individual that will be designated as the Design-Builder's Schedule Manager, including a summary of relevant qualifications and experience.
- B. This individual shall be responsible, on behalf of the Design-Builder, for the development and approval of the all Project schedules, including the Initial Baseline Schedule, Baseline Schedule, monthly updates, any revised Baseline Schedules and any required Recovery Schedule(s). The Schedule Manager shall be experienced with developing and managing Critical Path Method schedules for design-build projects of a similar size, scope and complexity as the Project. Proficiency with the most current version of Primavera scheduling software and a minimum of ten (10) years of experience in design-build project scheduling is required. The designated Schedule Manager shall be an individual who is dedicated to the Project and is required to be available to the Project on an as-needed basis immediately upon Contract Award and for the duration of construction operations, including pre-construction activities.
- C. If for any reason, including a request from the Concessionaire related to performance, the approved Schedule Manager must be replaced during the Contract term, the Design-Builder shall provide at least fourteen (14) days' notice of such and seek formal approval of the replacement. The Design-Builder shall ensure this function is maintained during any transition period.

1.4.2 Project NEXT Schedules

- A. Schedule Purpose, Format, and Content
 - 1. The purpose of the Project NEXT Schedule is to ensure that adequate planning, scheduling, and resource allocations occur to provide a reasonable and executable work plan, cash flow projections, and continuous monitoring and reporting for the NEXT Work performed or remaining. The Baseline Schedule and the monthly updates to the Project Schedule shall be used for coordinating the Work, monitoring

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the progress of Work performed, identifying Work to be performed, evaluating changes, and a tool for measuring progress.

2. The Project NEXT Schedule shall consist of the Project NEXT Initial Baseline Schedule, the Baseline Schedule, updates to the Project NEXT Schedule, any revised Baseline Schedules, any required Recovery Schedule(s) and the As-Built Schedule.
3. Project NEXT Schedules will be reviewed in accordance with the VDOT Post-Award Scheduling Guide and the American Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 53-06 as appropriate. Acceptance of the Project NEXT Schedule will not relieve the Design-Builder from its responsibility to complete all Work within the Project NEXT Schedule. In addition, the Concessionaire's acceptance of any Project NEXT Schedule creates neither a warranty, expressed or implied, nor an acknowledgment of the reasonableness of the activities, logic, durations, or cost loading of the Design-Builder's Project NEXT Schedule. Furthermore, acceptance of the Project NEXT Schedule will not relieve the Design-Builder from complying with all other requirements of the Contract Documents.
4. Terms not defined in the Contract Documents shall have the same meanings ascribed to them in the AACE International Recommended Practice No. 10S-90 ("Cost Engineering Terminology").

B. General Requirements

In the Project NEXT Schedule(s), the Design-Builder shall:

1. Ensure that the actual number of activities in the schedule is sufficient to assure adequate planning of the Work and to permit monitoring and evaluation of progress and perform the analysis of alleged time impacts. If at any time the Concessionaire determines that the level of detail in the Design-Builder's schedule(s) is not sufficient for adequately planning or monitoring the progress of the Work, remaining Work or the analysis of time impacts, the Design-Builder will expand the level of schedule detail to satisfy the Concessionaire's request;
2. Ensure that design activities identify Final for Approval and AFC Documents;
3. Apply the Critical Path Method (CPM) of network calculation to generate the Project NEXT Schedule (the critical path shall be based on the longest network path through the Project NEXT schedule) and prepare the Project NEXT Schedule using the Precedence Diagram Method (PDM) to establish relationships and interdependencies between the individual activities required to complete the Project NEXT;
4. Ensure that activity identification numbers, textual descriptions, and codes are consistently applied in the Project NEXT Schedule and are unique for each specific activity. Descriptions should clearly define the type of work, area of work and should be assignable to a single contractor responsibility.;

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5. Divide all Work prior to NEXT Final Completion Date into activities with appropriate logic ties to show the Design-Builder's overall approach to sequencing, include logical relationships between activities reflecting the Design-Builder's actual intended sequence of Work; and logically tie all activities to avoid open ends. Acceptable logic relationships include Finish to Start, Start to Start and Finish to Finish. The use of negative lags and Finish to Start lags is specifically prohibited;
6. Show the Project NEXT milestones, including the issuance of any Notices to Proceed, any agreed interim milestones, the NEXT Service Commencement Date, and the NEXT Final Completion Date;
7. Show phasing of the Work as detailed in the plans, subcontractor work, procurement, fabrication, delivery, installation, testing of materials and equipment, commissioning of systems, and any long-lead time orders for major or significant materials and equipment;
8. Allocate an estimated cost to the appropriate lowest level elements (activities) of the Work Breakdown Structure (WBS) by use of labor, material and equipment resources;
9. Reflect the required coordination with other contractors working within or adjacent to the Project Site, utility owners, Governmental Agencies, transit entities and railroads, engineers, architects, contractors, and suppliers;
10. Identify regulatory approvals required and the dates by which such approvals are necessary;
11. Be fully compliant with the Contract Documents;
12. Conform to the Work Restrictions (Section 1.8) and Maintenance of Traffic (Section 1.9) requirements;
13. Incorporate all required right of way acquisition activities;
14. Incorporate all required utility coordination, adjustment, and relocation activities; and
15. Incorporate all work necessary to complete installation and testing of TMS equipment and systems necessary to commence TMS operations in accordance with these Technical Requirements (including TMS Interface Plan).
16. Float available in the schedule, at any time shall not be considered for the exclusive use of either the Concessionaire or the Design-Builder. Any float generated due to the efficiencies of either party is not for the sole use of the party generating the Float; rather it is a shared commodity to be reasonably used by either party. Efficiencies gained as a result of favorable weather within a calendar month, where the number of days of normally anticipated adverse weather is less than expected, will also contribute to Float for the Project. Any schedule accepted by the Concesionaire showing the Work being completed prior to the contractual completion dates shall be considered to have Float. No time extensions will be granted unless an approved delay which impacts the Project's critical path

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consumes all available Float and extends the Work beyond the contractual completion dates.

17. Use of Float suppression techniques, such as; preferential sequencing, lag logic restraints, zero total or free float constraints, extending activity times, or imposing constraint dates other than as required by the contract, shall be cause for rejection of any Project schedule or its updates.

C. Monthly Progress Earnings

1. General

- a. The Monthly Progress Earning Schedule will be based on cost data generated from the Project NEXT Schedule. The progress earnings schedule shall depict planned progress based on anticipated earnings and shall depict monthly comparisons of actual versus planned progress, including: (1) illustrating the schedule variance graphically by plotting the budgeted cost of work performed (BCWP) and the budgeted cost of work scheduled (BCWS); and (2) reporting the schedule performance index (SPI), defined as the ratio of BCWP divided by BCWS for the Project NEXT to date and the monthly projections through Final Completion.
- b. The Schedule of Values (SOV) is a detailed, itemized list of payment activities for which the Design-Builder desires to be paid and 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 Design-Builder shall allocate the Contract Amount in the SOV consistent with the Price Proposal.
- c. The Design-Builder shall submit an initial SOV for Approval with the Initial Baseline Schedule and a Baseline SOV for Approval with the Baseline Schedule. Each SOV shall be generated by the corresponding schedule file through the use of assigned labor, material and equipment resources.
- d. The purpose of cost-loading the Project Schedule is to tie activities with payment activities in order to monitor progress for making payment.

2. Payment Activities

- a. The Design-Builder shall attach costs to those activities in the Initial Baseline Schedule and Baseline Schedule for which the Design-Builder desires to be paid. The Design-Builder shall not assign costs to activities for which it is not ultimately responsible, *i.e.* the Concessionaire, VDOT, or Third-Party activities.
- b. The SOV shall include payment activities for the items identified on the Price Proposal. The SOV shall show the purchase and delivery costs for Materials and Permanent Equipment that the Design-Builder anticipates it shall request payment prior to installation.

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- c. The SOV shall include payment activities for punch-list work leading to Final Completion.
 - d. The Design-Builder shall meet with the Concessionaire to demonstrate its conversion of the Price Proposal to the SOV structure as part of its development of the Baseline Schedule.
 - e. 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.
 - f. Each payment activity shall include a directly proportional amount of Design-Builder overhead and profit. The Contract Amount shall be allocated to accurately reflect the Design-Builder's cost for such activity and shall not artificially inflate, unbalance, or front-load payment activities.
 - g. When requested, the Design-Builder 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.
 - h. The SOV shall include payment activities sufficient to cover all efforts necessary to meet all Contract Document requirements and successfully complete the Work for the following continuing activities utilizing Level of Effort:
 - (i) Project Management and staffing;
 - (ii) Production of As-Built Plans;
 - (iii) Scheduling;
 - (iv) Environmental Compliance;
 - (v) Quality Control;
 - (vi) Quality Assurance
 - (vii) Project Office and Associated Equipment;
 - (viii) Public Information;
 - (ix) Design Management;
 - (x) Maintenance during Construction; and
 - (xi) Design Support during Construction.
3. Measurement of Progress
- a. For any activity where partial payment for partial completion may be requested by the Design-Builder, sufficient detail shall be provided to clearly define the work elements included and demonstrate the level of completion. Any such partial payments shall be made in accordance with Section 6.2 of Part 4 (NEXT General Conditions).

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- b. For continuing activities, payment shall be made based on the total project percent completion for the month payment is being requested.
- D. The scheduling software used by the Design-Builder shall be the latest version of Primavera Project Management software (P6).
- E. An accepted Project Schedule showing work completing in advance of the NEXT Service Commencement Date or Final Completion Date, will be considered to have Float.
- F. The Design-Builder shall maintain at all times, at its office, a minimum of one complete set of all schedule reports in electronic (.xer and .pdf) format. All schedule reports shall be available for inspection and audit. Additional reports may be required as future needs dictate, and the reports listed above may be deleted (by mutual consent of the parties).
- G. The Design-Builder shall exercise resequencing logic to minimize any delays before requesting any extension of time and the implementation of any resequencing logic shall be fully explained in schedule update narratives.

1.4.3 NEXT Initial Baseline Schedule

- A. The NEXT Initial Baseline Schedule is the Design-Builder's conceptual plan for the design and construction of the Project NEXT. This schedule shall be used to monitor performance of the Work until the Baseline Schedule is approved.
- B. The schedule submitted with the Design-Builder's Proposal shall be the NEXT Initial Baseline Schedule
- C. The NEXT Initial Baseline Schedule, which shall outline the Design-Builder's proposed plan to accomplish the Work, shall be in the same general format as the Baseline Schedule, as described in the Technical Requirements. The NEXT Initial Baseline Schedule shall include at least the following:
 - 1. Schedule activities representing all Work to the WBS Level 3 or greater as set forth in AACE International Recommended Practice No. 37R-06 "Schedule Levels of Detail – As Applied in Engineering, Procurement and Construction" (AACE-37R-06); and
 - 2. Individual cost loaded (using labor, material and equipment resources) Schedule activities, designated as payment activity at WBS Level 2 or greater as set forth in AACE-37R-06.

1.4.4 Baseline Schedule

- A. Within the time set forth in Part 3 (NEXT Design-Build Contract), Section 11.1.2, the Design-Builder shall submit, for review and approval, a proposed Baseline Schedule, which shall include the Design-Builder's detailed plan for design and construction of the Project NEXT. The Design-Builder shall develop its proposed Baseline Schedule from the NEXT Initial Baseline Schedule. The Design-Builder shall submit an electronic versions of the proposed Baseline Schedule created in the Primavera proprietary exchange format (*.xer) and .pdf format. Hard copies shall be provided upon request.

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- B. Within twenty-eight (28) days of the Concessionaire's receipt of the proposed Baseline Schedule, the Concessionaire shall notify the Design-Builder in writing of its approval or disapproval of the proposed Baseline Schedule, and of any comments it has or amendments it wishes the Design-Builder to make. The Design-Builder shall revise the proposed Baseline Schedule and re-submit the same within fourteen (14) days its review and approval. Within twenty-eight (28) days of the Concessionaire's receipt of the re-submitted proposed Baseline Schedule, the Concessionaire shall notify the Design-Builder in writing of its approval or disapproval. Upon approval, the proposed Baseline Schedule will become the Baseline Schedule.
- C. The Baseline Schedule shall include a well-organized WBS, the development of which is based on a deliverable-oriented methodology that captures all the Project NEXT activities. The WBS shall allow schedule summarization at a minimum of four hierarchical WBS Levels, such as: Project NEXT areas (Level 1), WBS elements (Level 2), work packages and deliverables (Level 3) and the detail control level (Level 4) to which the individual schedule activities are assigned their WBS code.
- D. Activities in the Baseline Schedule shall be assigned Project NEXT specific activity codes.
- E. The Baseline Schedule shall include all major activities of the Work in sufficient detail to enable the Concessionaire to monitor and evaluate design and construction progress from the Limited Notice to Proceed Date until Final Completion.
- F. The Baseline Schedule shall include separate activities for major submittals proposed by the Design-Builder, together with appropriate activities for reviews or approvals, provided that such review and/or approval times shall be no less than the time provided for such reviews in the Contract Documents.
- G. The Baseline Schedule shall be broken down into work packages and deliverables generally completed in not less than one but no more than 30 calendar days, or as mutually agreed (unless such deliverable is a procurement or other non-construction activity), and with dollar value (price) of each appropriate lowest level element of the WBS identified. The total cost loaded into the Baseline Schedule shall be equal to the total of the NEXT Design-Build Contract amount.
- H. The Work shall be broken down in sufficient details to identify the phase, stage, feature, type of Work, deliverable, and specific location in which the Work occurs, including as applicable:
 - 1. Project NEXT milestones, including the anticipated issuance of any Notices to Proceed, the commencement of design work and the commencement of construction activities, the NEXT Service Commencement Date, and the NEXT Final Completion Date;
 - 2. Administrative activities such as key submittals, notifications, and reviews;
 - 3. Design activities showing all Work required to complete each stage of design and deliverable;
 - 4. Public involvement activities;

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5. Environmental and permitting activities;
 6. ROW acquisition activities showing all parcels;
 7. Utility relocations and adjustments, including all specific types and locations;
 8. Procurement, fabrication, and delivery activities of materials;
 9. Construction start-up activities such as mobilization, staging areas, surveying, clearing and grubbing, and construction access;
 10. Maintenance of Traffic (MOT) activities, including major traffic pattern shifts;
 11. Construction activities broken down by phase stage, feature, type of work, and specific location, as applicable;
 12. Demolition dates for existing bridges and completion dates for: a) the replacement bridges at Old Dominion Drive, Georgetown Pike, Live Oak Drive and the 495 General Purpose lanes over the Dulles Toll Road ramp, b) commencement and completion dates for the widening and rehabilitation of the existing 495 General Purpose lane bridges over Scott’s Run, c) rehabilitation of the George Washington Memorial Parkway bridges, d) commencement and completion dates for any new Express Lanes fly-over ramps, and e) Lewinsville Road bridge and approach sidewalk modifications.
 13. Traffic Management System (TMS) infrastructure construction, procurement of equipment, device installation, systems commissioning, integrations, testing, and in-service equipment Burn Period prior to Final Completion; and
 14. Other necessary miscellaneous activities that consume time, for example, installation and removal of temporary systems or structures such as shoring, load tests, curing, demolition, testing and acceptance periods, including all activities necessary for the complete testing and inspection of all Work as necessary to achieve proper activation and use of the Work, punch list, clean-up, and demobilization.
- I. Activity calendars shall be assigned using project-level calendars. Use of global calendars is not allowed and shall be cause for rejecting the Project NEXT Schedule. Activity codes shall be defined and assigned to the individual activities to allow for filtering, grouping, and sorting of activities by project phase, responsibility, area, phase, stage, feature, work type, change orders, and other major work category, as applicable. Activity codes shall be assigned using project-level activity codes. Use of global activity codes is not allowed and shall be cause for rejecting the Project NEXT Schedule.
- J. The Design-Builder shall develop a weather calendar identifying normal adverse weather for each month of the Project and apply that weather calendar to activities subject to adverse weather. The Design-Builder shall provide data to substantiate its calculation of normal adverse weather for review and approval.
- K. Constraints shall be used sparingly and only on a case-by-case basis. The use of constraints on activities other than those specified in the Design-Build Contract must be approved by the Concessionaire. Constraints such as “Mandatory Start” or “Mandatory

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Finish” that violate network logic are not allowed and shall be cause for rejecting the Project NEXT Schedule. If the NEXT Design-Build Contract includes a specified “start-no-earlier than” milestone, then the NEXT Design-Build Contract milestone activity shall be constrained with a “Start On or After” constraint, with a date equal to the date specified in the NEXT Design-Build Contract. If the NEXT Design-Build Contract includes a specified Intermediate Milestone or Final Completion milestone, then the NEXT Design-Build Contract intermediate completion milestone activity or Final Completion milestone activity shall be constrained with a “Finish On or Before” constraint, with a date equal to the date specified in the NEXT Design-Build Contract.

- L. The Project NEXT Schedule software settings shall be defined according to the following Primavera (P6) settings:
1. Schedule dates shall be shown in the “Month-Day-Year” format.
 2. Duration type for all activities shall be specified as “Fixed Duration & Units.”
 3. Percent Complete type for all activities shall be specified as “Physical % Complete.”
 4. The ‘Drive activity dates by default” checkbox in the Project NEXT Details Resources tab shall be marked.
 5. The “Link Budget and At Completion Cost for not started activities” checkbox in the Project Details Calculation tab shall be marked.
 6. The “Reset Remaining Cost and Units to Original” in the Project Details Calculation tab shall be specified.
 7. The “Subtract Actual from At Completion” under “When updating actual units or costs” in the Project Details Calculation tab shall be specified.
 8. The “Update units when costs changes on resource assignments” checkbox in the Project Details Calculation tab shall be marked.
 9. The “Link Actual and Actual This Period Units and Cost” checkbox in the Project Details Calculation tab shall be marked.
 10. Specify “Retained Logic” in the Scheduling Options dialog box for scheduling progressed activities.
 11. Specify “Longest Path” in the Scheduling Options dialog box for defining critical activities.
 12. Specify “Finish Float = Late Finish – Early Finish” in the Scheduling Options dialog box as the schedule calculation option to compute total float.
- M. The Project NEXT Schedule shall use “Stored Period Performance” with Financial Periods to commence on the first day of a month and end on the last day of a month.
- N. The Project NEXT Schedule shall be calculated using the precedence diagram network logic method and the CPM. The use of Primavera P6 resource-leveling to determine sequence, order, or timing of the activities is not allowed and shall be cause for rejecting any Project NEXT Schedule.

1.4.5 Monthly Progress Reports and Project Schedule Updates

- A. The Project NEXT Schedule will be current, reflecting actual progress at the time of submittal and will be kept current and submitted as a component of the Monthly Progress Report (further described below).
- B. The Design-Builder's Monthly Progress Report shall include the following:
 - 1. Document control certification sheet (verification that all field documentation is being maintained);
 - 2. Description of specific construction activities and deliverables occurring during the previous month (reporting period) and description of activities that were either planned to have started or finished within update period that were not either started or completed during update period and an explanation for the variance between the planned and actual performance;
 - 3. Description of specific construction activities and deliverables planned for the next two reporting periods;
 - 4. Progress narrative that describes, at a minimum, the overall progress for the preceding month, a critical path analysis, a discussion of problems encountered and proposed solutions thereof, any pending delay analysis or TIAs, and float. With each submission of the Project NEXT Schedule, the Design-Builder also shall include:
 - a. An electronic working copy of the Project NEXT Schedule (in .xer file format). Each submission shall have a unique file name to indicate the type and order of submission;
 - b. A narrative progress report of the Project NEXT Schedule that describes, at a minimum, the Design-Builder's plan of operation for meeting any interim milestones, the NEXT Service Commencement Date and the NEXT Final Completion Date, an evaluation of the critical path, a discussion of Project NEXT specific issues encountered since the last submission as such issues relate to the schedule, proposed solutions thereof, work calendars, constraints, delays experienced, and the status of any submitted or pending Time Impact Analyses, float consumption and reasons for such consumption, documentation of any logic changes, duration changes, resource changes or other relevant changes;
 - c. Time-scaled logic diagram indicating the critical path, early start and early finish dates, total float, sorted and grouped by the WBS;
 - d. Tabular schedule reports grouped by WBS and sorted by Start indicating for each WBS, activity, the activity number, description, original duration, remaining duration, physical percentage completion, cost percentage complete, original budgeted cost, cost this period, cost to date, and cost to complete;
 - 5. A comparison of actual and planned progress, including: (1) illustrating schedule variance graphically by plotting and budgeted cost of work performed (BCWP) and the budgeted cost of work scheduled (BCWS), and (2) reporting the scheduled performance index (SPI), defined as the ratio of BCWP divided by BCWS;

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6. Identification of activities requiring Concessionaire, VDOT, or FHWA or other third-party approvals, input or assistance, to the extent reasonably known;
 7. Action items/outstanding issues;
 8. A work breakdown structure Level 3, 4 or greater design and construction schedule;
 9. Project NEXT cost summary;
 10. Quality management reporting, as defined within the Design-Builder's QMSP, including quality inspection reports and daily inspection reports;
 11. A statement by the Design-Builder that the Baseline Schedule is the only schedule being executed to perform the Work;
 12. Nonconformance reports and resolution reports, Deficiency, Field Design Change, Notice of Design Change, and Variance reports;
 13. Right of way acquisition activities;
 14. Environmental permitting and compliance activities;
 15. Utility relocation activities;
 16. Disadvantage Business Enterprise (DBE), Small, Women-owned, and Minority-owned Business (SWaM) and on the job training quarterly usage;
 17. Safety activities, including discussion on Incidents and monthly metrics as required;
 18. Sustainability reporting related to the use, re-use, and savings of energy, materials, and environmental resources;
 19. Digital photographs with descriptions of the progress of Project NEXT;
 20. A summary of any outstanding potential issues, potential change orders, any delays and the measures adopted (or to be adopted) to overcome such issues;
 21. Details of any aspect of the Work that may jeopardize the completion and measures being (or to be) adopted to overcome such aspect and a list of approvals needed to adopt such measures; and
 22. A summary of complaints, property damage claims, and OCIP insurance claims.
- C. The Monthly Progress Report shall describe the work performed since the previous update, as well as the Design-Builder's plan for accomplishing the remaining Work. It shall describe the current status of the Project NEXT and any deviations from scheduled performance, as well as the causes and effects of the deviations. It shall also describe any progress deficiencies or schedule slippages, as well as any actions taken or proposed to avoid or mitigate the progress deficiencies or schedule slippages.
- D. Monthly Progress Reports shall have a reporting period ending on the last day of each calendar month, shall be submitted on or before the 15th of the month following the reporting period and shall be consistent with the invoice submitted for the same period.

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- E. The Concessionaire will notify the Design-Builder of any comments within five days of receipt of an acceptable submission of a Monthly Progress Report. If the Concessionaire requests that the Monthly Progress Report needs a specific revision, the Design-Builder shall make the requested changes within five (5) days after receiving the Concessionaire's request or such other time frame as mutually agreed between the parties.
- F. Project NEXT Schedule Updates:
1. The Design-Builder shall update the Project NEXT Schedule no less than monthly to reflect actual progress to date and to forecast progress going forward (the "Project NEXT Schedule Updates"). The Project NEXT Schedule Update shall be submitted as an attachment to the Monthly Progress Report. The Data Date used to calculate the schedule shall be the first day following the last day of the reporting period. Project NEXT Schedule Updates shall comply in all respects with the schedule requirements set forth in this section.
 2. The Design-Builder shall submit two versions of each Schedule Update. The first submission shall be a status-only update that captures the Design-Builder's progress in isolation (i.e. actual starts and actual finishes, percentage complete and applicable updates to cost loading). The second submission shall include any proposed adjustments as necessary to account for items such as sequence changes and faster or slower than anticipated production.
 3. The Approved NEXT Initial Baseline Schedule will be the basis for Project NEXT Schedule Updates until such time as the Baseline Schedule is approved. Thereafter, the Baseline Schedule shall be the basis for Project NEXT Schedule Updates.
 4. Project NEXT Schedule Updates shall depict activities that have started, are on-going, or completed as of the new data date; show actual start dates for activities that have started; and actual finish dates for completed activities.
 5. Project NEXT Schedule Updates shall depict percent complete for in progress activities. Activity percent complete for work-in-place shall be based on the amount of work completed relative to the total amount of work planned for the activity.
 6. Project NEXT Schedule Updates shall depict remaining duration for on-going activities. Remaining duration for unfinished activities shall be based on the amount of time required to complete the remaining work as of the new data date.
 7. Activity relationships for the remaining activities shall be modified as necessary to correct out-of-sequence progress for on-going activities or to reflect the Design-Builder's current plan for completing the remaining Work.
 8. All changes to the Project NEXT Schedule shall be documented in detail in the Monthly Progress Report. Such changes include, but are not limited to, additional, revised or deleted activities, durations, calendar assignments, or logic ties.
 9. The Project NEXT Schedule Update submitted with the last Monthly Progress Report will be identified by the Design-Builder as the As-Built Schedule.

1.4.6 Weekly Reporting

- A. During the performance of the Work, the Design-Builder shall provide a weekly report, which shall include the following:
 - 1. Specific design and construction schedule activities using the same WBS coding included in the Baseline Schedule, including locations for the week concluding and the upcoming three-week period;
 - 2. Rolling 3-week forward-looking inspection notice, which shall include the fabrication schedule and planned construction activities; and
 - 3. MOT weekly update, regarding any scheduled lane closures and identification of work areas for the ensuing two weeks.

1.4.7 Revisions To Baseline Schedule

- A. If the Concessionaire believes in its reasonable discretion that the Baseline Schedule needs a specific revision either in logic, activity duration, WBS, manpower, or cost, the Concessionaire will request in writing that the Design-Builder make such revisions. The Design-Builder shall give due consideration suggested revisions and, upon consultation with the Concessionaire, if determined appropriate, make such revisions within ten (10) days after receiving the Concessionaire's request or such other timeframe as mutually agreed between the parties. Once approved, this update shall then become the Baseline Schedule. At no time shall the Design-Builder continue to reflect an item of non-concurrence from the Concessionaire in the updates to the Baseline Schedule, provided that if an item of non-concurrence has been referred to dispute resolution, then the Design-Builder shall continue to perform its Work in accordance with the then current Baseline Schedule in effect until such time as the dispute is resolved and an updated Baseline Schedule is approved.
- B. In the event of a delay for which the Concessionaire grants relief from the NEXT Final Completion Date to the Design-Builder, the Baseline Schedule will be revised accordingly.
- C. The Design-Builder shall archive copies (including .xer files) of all approved Project NEXT Schedules, including Monthly Schedule Updates.

1.4.8 Project Recovery Schedule

- A. Whenever the Monthly Progress Report shows either the Service Commencement Date or the NEXT Final Completion Date has 30 days or more of negative float, if requested, the Design-Builder shall submit within fifteen (15) days, a Project NEXT Recovery Schedule for approval. Project NEXT Recovery Schedule submittals shall include a list of all activities changed, added or deleted along with all logic changes, and an accompanying narrative explaining the nature of the changes.
- B. Once a Project NEXT Recovery Schedule is reviewed and approved, it shall become the Baseline Schedule and be used as the basis for subsequent Monthly Progress Reports.

1.4.9 Time Impact Analysis (Prospective)

- A. In conjunction with the submission of a proposed change, the Design-Builder shall submit any proposed schedule impact (a time impact analysis or TIA) it claims to the Critical Path, if any, that the proposed change will create, in the TIA format, as prescribed in AACE Recommended Practice 52R-06 and submitted as outlined herein. Failure to submit a TIA in conjunction with the submission of a proposed change shall be tacit agreement that the proposed change does not impact the time of performance.
1. The TIA shall be based on the date on which the alleged delay is claimed to have occurred, or, in the event of a proposed change, the date on which the implementation of such change is proposed to be commenced.
 2. The TIA shall show the current status of the Work using the current Baseline Schedule. The Concessionaire, at its sole discretion, may request that the current Baseline Schedule be updated to reflect the progress on the day immediately prior to a claimed delay event. The time computation of all affected activities shall be detailed in the TIA along with a demonstration of steps used to mitigate impacts. Cost of mitigation measures shall be fully documented within the TIA, if applicable.
 3. Each TIA shall include a Fragmentary Network (“fragnet”) demonstrating how the Design-Builder proposes to incorporate the impact into the Baseline 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 to the existing schedule to demonstrate the influence of impacts to the schedule. The Design-Builder understands it has a duty to mitigate any and all alleged delay events, whether prospective or retrospective, and such analysis will take advantage of the factual events leading to the alleged delay impacts; and shall take into consideration all possible mitigation methods, techniques, and available resources, including but not limited to logic changes, resource allocations, activity durations, and consideration of calendar changes. The fragnet shall identify the predecessors to the new activities and demonstrate the impacts to successor activities. The Design-Builder shall include a narrative report describing the effects of new activities and relationships to milestones and the NEXT Final Completion Date with each TIA.
 4. The Design-Builder shall not be entitled to any extension of the Term automatically as the result of an activity delay. The Design-Builder recognizes that certain events will not affect the existing critical activities or cause non-critical activities to become critical, thereby not causing any effect on the NEXT Final Completion Date.
 5. Two copies of each TIA report together with an electronic file (in .xer file format) of the Project NEXT Schedule impact analysis shall be submitted.
 6. Upon approval, a copy of the TIA will be returned to the Design-Builder and incorporated into the next update to the Baseline Schedule. The TIA will be reviewed in accordance with AACE International Recommended Practice No. 52R-06 “Time Impact Analysis As Applied in Construction.”

7. A TIA will be approved or disapproved within twenty-eight (28) days following receipt thereof, unless subsequent meetings or negotiations are necessary. The approved TIA related to an approved Change shall be incorporated into, and attached to the applicable Work Order. A disapproved TIA will be returned to the Design-Builder with appropriate comments for revisions or the basis for denying the alleged delay.

1.4.10 Delay Claim Analysis (Non-Prospective)

- A. In the event of a claimed delay that the Design-Builder alleges has impacted the Critical Path of the Project NEXT, the Design-Builder shall prepare a delay claim using a retrospective observational analysis format as prescribed by the AACE 29R-03 Recommended Practice for Forensic Schedule Analysis. Such analysis will take advantage of the factual events leading to the alleged delay impacts; and shall take into consideration all possible mitigation methods, techniques, and available resources; and minimize any prospective analysis or conclusions. The Concessionaire will approve or reject such claim within twenty-eight (28) days following receipt thereof, unless subsequent meetings or negotiations are necessary. A rejected claim will be returned to the Design-Builder with appropriate comments for revisions or the Concessionaire's basis for denying the alleged delay.

1.5 Standards and Specifications

1.5.1 General Requirements

- A. The Work shall conform to all applicable Standards and Specifications set forth in Attachment 1.5a. Where the Design-Builder's design requires methods or procedures not covered by the attached list of Standards and Specifications, the Design-Builder shall obtain approval before using such methods or procedures, not to be unreasonably withheld or delayed.
- B. All Work shall comply with the NEXT Contract Documents and these Technical Requirements, including all applicable Attachments. The Design-Builder may submit a written request for the use of non-VDOT standards only if specific VDOT standards do not exist. The Design-Builder is responsible for demonstrating that any non-VDOT that is proposed conforms to applicable AASHTO Standards.
- C. When a provision of "Division I – General Provisions" of the Road and Bridge Specification is applicable, Part 5 of the Contract Documents (NEXT Division I Amendments) shall apply.

1.5.2 Design Criteria

- A. The Design Criteria established for Project NEXT are provided in Attachment 1.5b. The Design-Builder shall comply with these functional classifications, design speeds, and other design criteria specified in Attachment 1.5b.
- B. Attachment 1.5c identifies Design Exceptions and Design Waivers to the established design criteria already approved for use on Project NEXT. The Design-Builder is

responsible for obtaining any other Design Exceptions or Waivers required to construct and operate the Project, including those identified in Attachment 1.5c and not yet obtained as of the RFP, unless the Design-Builder's final design eliminates the need for the specified Design Exception or Design Waiver. The Design-Builder is also required to obtain approval of any necessary modifications to previously-approved Design Exceptions and/or Design Waivers if the final design conditions warrant such modifications.

1.5.3 Interpretation of Standards and Specifications

- A. Standards for the Design-Builder's Work and order of precedence are as set forth below. The VDOT Road and Bridge Standards, and Road and Bridge Specifications including Supplemental Specifications, Special Provisions, Special Provision Copied Notes, and supplementary documents listed in Attachment 1.5a are all part of these Technical Requirements. A requirement occurring in one shall be as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete and compliant Project NEXT. In case of a discrepancy, the following order of priority will apply, with the highest governing item appearing first and the least governing item appearing last:
1. These Technical Requirements and Attachments
 2. Special Provision Copied Notes in Attachment 1.5a, Section B
 3. Special Provisions in Attachment 1.5a, Section B
 4. Supplemental Specifications in Attachment 1.5a, Section B
 5. Standards and Specifications listed in Attachment 1.5a, Section A
 6. Reference Documents listed in Attachment 1.5a, Section C
 7. Standard Drawings (calculated dimensions, unless obviously incorrect, will govern over scaled dimensions) in Attachment 1.5a, Section A
- B. Each party shall promptly notify the other party if it discovers an obvious and plain error or omission in the text of the Technical Requirements attributable to a word processing, administrative, or similar oversight. The parties will then coordinate to make such corrections as are necessary to restore the intent of the language.
- C. The standards, special provisions, and reference guides applicable for the Work shall be the version of those documents as listed in Attachment 1.5a or those in effect as of the issuance date of the RFP, including all supplements, errata, revisions and interims as of the issuance date of the final RFP Addendum. It is the responsibility of the Design-Builder to ensure that all relevant Standards and Specifications have been applied.

1.6 Right of Way

- A. For any pre-construction activities that require access to properties outside existing VDOT rights-of-way, the Design-Builder shall obtain legal rights of entry in accordance with the requirements of the Code of Virginia §33.2-1011 (Right to enter on land to

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ascertain its suitability for highway and other transportation purposes; damage resulting from such entry).

- B. New right of way (ROW) and easements anticipated to be needed for Project NEXT are shown on the RFP Conceptual Plans. The Design-Builder will confirm and finalize the right of way and easement requirements based on the Design-Builder's final design and construction methods. Additionally, the Design-Builder shall propose and obtain utility easements based on the Design-Builder's final design and construction methods. If the Design-Builder proposes changes that exceed the ROW limits shown on the RFP Conceptual Plans, then the Design-Builder must demonstrate that there are no reasonable alternatives to acquiring the additional right of way and any such changes shall be subject to approval. The Design-Builder shall also be responsible for any time or cost impacts associated with any National Environmental Policy Act (NEPA) Document re-evaluations and VDOT Design Public Hearings required due to the revised ROW limits.
- C. The Design-Builder shall provide acquisition services required for the acquisition of all property rights or interests (e.g., fee ROW and permanent, temporary, and utility easements) necessary for Project NEXT, with the exception of the replacement property required for project impacts to Scott's Run Nature Preserve as defined in Section 3.3.9 and Attachment 3.3.
- D. The Design Builder shall provide certain right of way (ROW) acquisition services for the Project. ROW acquisition services shall include the preparation of ROW plans, title examinations, appraisal, appraisal review, negotiation, relocation assistance and advisory services, closings, and legal services. The Design-Builder shall coordinate and determine required right of way for utility relocations and coordinate preparation of all required easement agreements, right of way plans and documentation for acquisition and vacation of existing property rights. All appraisers and acquisition firms shall be selected from VDOT's prequalified appraisers, review appraisers and right of way contracting consultants lists (listed on VDOT's website). VDOT's Right of Way and Utility Division State Right of Way Manager for Special Projects will retain authority for approving just compensation, relocation benefits, and settlements. VDOT's Right of Way and Utility Division State Right of Way Manager for Special Projects must issue a Notice to Commence Right of Way acquisition prior to any offers being made to acquire property. VDOT's Right of Way and Utility Division State Right of Way Manager for Special Projects must also issue a Notice to Commence Construction once the property has been acquired prior to commencing construction on the property. The required right of way plans and documentation will be reviewed by VDOT and, as required, FHWA.
- E. Right of way costs shall be handled in accordance with Section 2.1.6 of Part 4 (NEXT General Conditions).
- F. Prior to preparing any Right of Way Plans required for Project NEXT, the Design-Builder shall conduct a workshop(s) with the Concessionaire and VDOT to review and confirm the specific parcels to be acquired, the form of property rights to be obtained, and the detailed schedule for acquisition activities. Periodic updates (at least bi-weekly) tracking the status of the acquisition activities for each parcel shall be provided by the Design-Builder until acquisition of all required parcels is complete.

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- G. The Design-Builder shall adhere to the requirements set forth in the Right of Way Manual of Instructions, Chapter 10.
- H. The Design-Builder shall be responsible for preparing a Limited Access Line Changes Request and for obtaining the Commonwealth Transportation Board (CTB) approval for such changes. The CTB must approve the Limited Access Establishment request prior to obtaining design approvals and prior to Right of Way Plan approvals.
1. The approximate location of proposed limited access line changes are shown on the RFP Conceptual Plans. The Design-Builder shall finalize the location of all limited access lines with its design, and shall prepare a Limited Access Line Changes Request as described in the VDOT Road Design Manual, Chapter 2E. The request (including exhibits/maps, a CTB Decision Brief, agenda narrative, and a completed Limited Access Line Change Checklist) seeking CTB action shall be submitted to the VDOT Project Manager for review and comment ninety (90) calendar days prior to the scheduled CTB meeting. VDOT will provide comments to the Design-Builder on the Limited Access Line Changes Request, prepare additional information as may be required for the CTB meeting, and place this item on the agenda for the CTB meeting. The Design-Builder shall address any comments on the initial request and resubmit the revised request to the VDOT Project Manager sixty (60) calendar days prior the CTB meeting. The Design-Builder's Approved for Construction and As-Built plans shall show the approved limited access lines and date of designation per the Road Design Manual. The Design-Builder shall be responsible for any schedule delays and associated costs for the establishment of the Limited Access Line Changes.
 2. The time required for preparing the Limited Access Line Changes request shall be included in the Design-Builder's Baseline Schedule and all associated costs shall be included in the Contract Price. Any schedule impact to the Project as a result of any delay in submittal, resolution of review comments, and approval of the Limited Access Line Changes Request is the responsibility of the Design-Builder.
 3. The impact of Limited Access on a property must be considered by the appraiser and may create damage(s) to the property (-ies) that would result in a monetary compensation. For rights of way within the proposed limited access lines, the Design-Builder shall acquire in the name of the Commonwealth.
- I. The Design-Builder shall modify the existing Dominion Power easement in the vicinity of Scott's Run Nature Preserve based its final design in this area.
- J. The Design-Builder shall not be responsible for any property acquisition or associated acquisition services for the Scott's Run Nature Preserve Section 6(f) replacement parcel as defined in Section 3.3.9 and Attachment 3.3.
- K. The Design-Builder shall carry out its right of way acquisition responsibilities in accordance with the following requirements:
1. The Design-Builder shall acquire property in accordance with all applicable federal and state laws and regulations, including but not limited to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (the

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“Uniform Act), and Titles 25.1 and 33.2 of the 1950 Code of Virginia, as amended. The acquisition of property shall follow the guidelines as established by VDOT and other state and federal guidelines that are required and VDOT’s Right of Way Manual of Instructions. All acquisitions shall be subject to FHWA approval and completed in accordance with the requirements in 23 CFR 635.309 and 23 CFR 635.709

2. The Design-Builder shall submit a Project-specific ROW Acquisition and Relocation Plan for review and approval in accordance with the requirements in Attachment 1.3.
3. The Design-Builder shall submit, as part of the ROW Acquisition and Relocation Plan, procedures for handling ROW acquisitions and relocations for approval before beginning ROW activities. These procedures must show the Design-Builder’s methods, including the appropriate steps and workflow required for title examinations, appraisals, and review of appraisals, negotiations, acquisition, and relocation. The Concessionaire shall have a period of twenty-eight (28) days to review and either approve or refuse said documents, submittals including its review and approval of just compensation, relocation benefits, and administrative settlements.
4. The Design-Builder shall have access to, and use VDOT’s ROW and Utilities Management System (RUMS) to manage and track the acquisition process, including easements. All entries made into RUMS shall be made within 5 business days of the contact occurring to accurately reflect current project status. VDOT’s standard forms and documents, as found in RUMS, shall be used. Any changes to the forms and documents must be approved by VDOT and the Office of Attorney General. The Concessionaire will coordinate with VDOT to provide training and technical assistance to the Design-Builder in the use of RUMS.
5. The Design-Builder shall provide a current title examination for each parcel at the time of the initial offer to the landowner. Each title examination report shall be prepared by a VDOT-approved title company, in accordance with VDOT’s Right of Way Manual of Instructions, and shall include title insurance commitment. Should the Design-Builder select a law firm to certify title examinations, the certifying attorney shall provide evidence of professional liability insurance. The Concessionaire reserves the right to determine if the professional liability insurance coverage is sufficient.
6. The Design-Builder shall prepare appraisals and appraisal reviews in accordance with VDOT’s appraisal guidelines. The appraiser shall be on VDOT’s approved fee appraiser list.
7. The Design-Builder shall provide appraisal reviews complying with technical review guidelines of VDOT’s appraisal guidelines. The reviewer shall be on VDOT’s approved fee appraiser list. The Concessionaire will review the Design-Builder’s appraisal waiver, appraisal, and appraisal review for each parcel, and shall have the decision of final approval of each appraisal and just compensation offer.

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8. The Design-Builder shall make all reasonable efforts to contact the landowner or the landowner's representative to discuss its offer to purchase the property. The Design-Builder may not employ the use of Rights of Entry for construction purposes until the Design-Builder has made a bonafide offer to the landowner to acquire the property.
9. VDOT shall make direct payments to property owners for negotiated settlements and relocation benefits and make deposits with the appropriate court for condemnation cases. Payment documentation is to be prepared and submitted with the Acquisition Report (Form RW-24). The Design-Builder shall be responsible for disbursement of payments to the property owner, providing indefeasible title to VDOT, and filing of any necessary Virginia and federal tax forms related to such payments.
10. The Design-Builder shall prepare, obtain execution of, and record documents conveying title to such properties to the Commonwealth of Virginia and deliver all executed and recorded general warranty deeds. For all property purchased in conjunction with the Project NEXT, title will be acquired in fee simple, except that, with prior written approval, permanent easements may be acquired in lieu of fee simple interest for the construction, maintenance, and use of items such as noise barriers, retaining walls, storm drainage structures, and earthen slopes. All property shall be conveyed to "Commonwealth of Virginia, Grantee" by a VDOT -approved general or special warranty deed, free and clear of all liens and encumbrances except encumbrances expressly permitted in writing by VDOT in advance.
11. All easements, except for private utility company easements, shall be acquired in the name of "Commonwealth of Virginia, Grantee." Private utility company easements will be acquired in the name of each utility company, unless they are acquired by eminent domain, in which case they will be acquired in the name of the Commonwealth of Virginia.
12. The Design-Builder shall use its best efforts to conclude negotiations with landowners amicably. VDOT shall make the ultimate determination in each case as to whether settlement is appropriate or whether the filing of a condemnation action is necessary. The Design-Builder shall not request the filing of a Certificate of Take until the landowner has been given a reasonable amount of time to consider the offer or terminate the negotiations. If, despite the Design-Builder's best efforts, it is unable to reach a settlement with any landowners, as a last resort VDOT will handle any necessary condemnation proceedings subject to the following. Prior to VDOT filing a condemnation proceeding, the Design-Builder shall prepare or cause to be prepared all necessary paperwork and supporting documentation required for the proceeding and it shall deliver that documentation to VDOT, including the notice of filing the Certificate of Take or Deposit. VDOT will review the submitted documentation for compliance with VDOT's rules, regulations, policies, and when approved, will then file the condemnation proceeding(s) and handle such proceeding(s) in accordance with VDOT's Right of Way Manual of Instructions. VDOT shall not process a filing of a Certificate of Take or Deposit until the Design-Builder has demonstrated that all required efforts to settle amicably with

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landowners have been completed, nor solely to accommodate or accelerate the Design-Builder's construction schedule.

13. The Office of Attorney General, Commonwealth of Virginia, shall act as VDOT's legal counsel and will assign cases to fee counsel and review and approve their billing. Support and testimony for condemnations shall be provided by the Design-Builder, as required.
 14. The Design-Builder shall be responsible for all contacts with landowners for ROW or construction items, prior to initiation of condemnation proceedings. The Design-Builder shall provide documentation of all contact with property owners (including participants and organizations), a summary of discussions, agreed upon items, follow-up activities, and copies of items distributed, including but not limited to appropriate and timely documentation in the RUMS.
 15. Upon completion of all activities related to a specific parcel, the Design-Builder will upload all final and approved documentation for that parcel to the Project's Electronic Document Management System.
 16. The Design-Builder is responsible for conducting required environmental site assessments for each property acquisition in accordance with the requirements of Section 3.3.5. The Design-Builder shall exercise reasonable care in determining whether a property to be acquired for rights of way may contain concealed or hidden wastes or other materials or hazards requiring remedial action or treatment. When there is reason to believe that such materials may be present, the Design-Builder shall notify VDOT within three (3) calendar days. The Design-Builder shall not proceed with acquiring such property until receiving written notification from VDOT.
 17. During the acquisition process and until the VDOT record retention deadline has expired after the latter of Final Completion or the Commonwealth has indefeasible title to the property, all Project NEXT documents and records not previously delivered, including design and engineering costs, construction costs, costs of acquisition of ROW, and all documents and records necessary to determine compliance with the laws relating to ROW Acquisition and the costs of relocation of Utilities shall be maintained and made available by Design-Builder for inspection or audit.
- L. The Design-Builder shall be responsible, at its sole expense, for demolishing and disposing of all existing buildings from the ROW and permanent and temporary easements.
- M. The Design Builder shall exercise care to minimize impacts and damages to property, businesses, and residences, including noise, vibrations, temporary traffic patterns, and clearing of tree buffers. The Design Builder shall address public, business, and government comments in coordination with VDOT within 21 days of receipt; however, the responsibility to coordinate, address and/or respond to the comments shall be the Design Builder's. Where requested, the Design Builder shall provide stakeout and marking of existing property lines and impacts..

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- N. If the Design-Builder and/or its sub-consultant(s) fails to strictly follow the Uniform Act and its implementing regulations found in 49 CFR Part 24, Titles 25.1 and 33.2, or the State and Federal guidelines in the performance of the acquisition and/or relocation processes or services, or fails to obtain or create any mandatory written documentation in their right of way parcel file, or if any such failures result in an action for inverse condemnation, trespass, nuisance, interference with use and enjoyment of property or similar taking of or harm to real property, the Design-Builder shall be responsible for any and all costs, expenses or damages, including attorneys' and expert witnesses' fees, as well as any additional monies paid to the landowners to reach a settlement or to pay for a court award.

1.7 Utilities**1.7.1 General Requirements**

- A. Project NEXT is a VDOT-sponsored project and the Design-Builder shall enjoy all of the benefits and responsibilities of VDOT as it pertains to prior rights, statutory rights, or any other right relating to utility relocations, subject to VDOT's ability to assign those rights.
- B. The Design-Builder shall submit, for review and approval, a Utilities Plan in accordance with Attachment 1.3 requirements. The Utilities Plan will define and detail the utility coordination, adjustment, and relocation activities during the design and construction of the Project.
- C. The Design-Builder shall coordinate and conduct a preliminary utility review meeting with all affected utility owners to assess and explain the impact of the Project NEXT. The Concessionaire and VDOT representatives shall be included in this meeting.
- D. The Design-Builder shall schedule and conduct Utility Field Inspections in accordance with the procedures set forth in the VDOT's Utility Manual. The Design-Builder shall provide meeting minutes for each Utility Field Inspection.
- E. Separate from the Utilities Plan, the Design-Builder shall prepare and submit a preliminary Utilities Report within sixty (60) days of issuance of Work NTP that includes a listing of all known utilities located within the Project NEXT limits and a conflict evaluation and cost responsibility determination for each utility. This report shall include copies of easements, plans, or other supporting documentation that substantiates any compensable rights of the utility owner.
- F. The Design-Builder shall be responsible for all efforts, costs and scheduling necessary for any utility-related aspects of the Work. This includes, but is not limited to: utility coordination, utility designations, utility locates (test holes), conflict evaluations, cost responsibility determination, utility relocation designs, utility relocations and adjustments, utility reimbursements, determination of existing utility easements (including VDOT maintenance easements), the inclusion of such easements on plans, and replacement land rights acquisition, and coordination of any utility betterments. Costs for any utility betterment(s) (excluding the Project NEXT Work on Concessionaire and

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VDOT's roadside equipment, communications and power cables and conduits, and VDOT leased telecommunications) shall not be included in the Design-Builder's cost, but shall be reimbursed directly to the Design-Builder from the utility owner through agreement with the requesting utility owner.

- G. The Design-Builder shall be responsible for coordinating the Project NEXT construction with all utilities that may be affected (including the Concessionaire and VDOT's roadside equipment, communications and power cables and conduits, and VDOT leased telecommunications). The Design-Builder shall be responsible for coordinating the work of its Contractors and the various utilities. The resolution of any conflicts between utilities and the construction of the Project NEXT shall be the responsibility of the Design-Builder. No additional compensation or time will be granted for any delays, inconveniences, or damage sustained by the Design-Builder or its subcontractors due to interference from utilities or the operation of relocating utilities.
- H. Any additional work resulting due to changes in utility owners' requirements shall be at the Design-Builder's risk. The Design-Builder is responsible to identify all Utility Owners within Project NEXT limits and to coordinate with them.
- I. If the Design-Builder desires the temporary or permanent adjustment of utilities (including the Concessionaire and VDOT's communications and power cables and conduits) for its own benefit, it shall conduct all negotiations with the utility owners and pay all costs in connection with the adjustment.
- J. The Design-Builder shall initiate early coordination with all utilities (including the Concessionaire and VDOT's roadside equipment, communications and power cables and conduits, and VDOT lease telecommunications) located within the Project NEXT limits. The Design-Builder is responsible for identifying the owner, type, size, height and number of bridge-attached cables, overhead cables, number of underground cable/conduits, pipes, services, and horizontal and vertical (depth) location of underground utilities to include service connections and laterals with the utility owners.
- K. The Design-Builder shall verify the prior rights of each utility owner's facilities if claimed by a utility owner. If there is a dispute over prior rights with a utility, the Design-Builder shall be responsible for resolving the dispute.
- L. The Design-Builder shall identify and acquire any replacement utility easements or required right of way needs of all utilities necessary for relocation due to conflicts with the Project NEXT. The Design-Builder shall coordinate with the utility owners to obtain temporary construction easements or agreements.
- M. The Design-Builder shall provide the roadway and bridge design plans to all utility owners as soon as the plans are of sufficient detail such that the utility owners can fully understand the Project NEXT impacts. The utility owners will use the Design-Builder's design plan for preparing relocation plans and estimates. If a party other than the Utility Owner prepares relocation plans, the plans shall contain a concurrence box where the Utility Owner signs and accepts the relocation plans as shown.
- N. The Design-Builder shall obtain the following from each utility that is located within the Project NEXT limits as appropriate:

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1. Relocation plans including letter of "no cost" where the utility does not have a compensable right;
 2. Utility agreements including cost estimate and relocation plans where the Utility has a compensable right;
 3. Utility easement forms to be executed by the landowner, if necessary;
 4. Letters of "no conflict" where the utility's facilities will not be impacted by the Project NEXT; and/or
 5. Bridge attachment agreements between VDOT and the utility owner, if necessary.
- O. The Design-Builder is to use a two-party agreement, similar to the Master Utility Agreement (MUA) utilized by VDOT (provided for in VDOT's Utility Manual) to establish the general framework for addressing the utility issues within the Project NEXT affecting a Utility Owner. The two-party agreement between the Design-Builder and the Utility company will set forth the terms and conditions under which the Utility work will be performed, and will adhere to VDOT's Utility Manual. Included in the two party agreement will be the statement (with reference to the Concession Agreement) that this work is being performed as a VDOT project. All agreements relative to utility relocation are to be between the Design-Builder and the specific utility owner. This includes the agreements for authorization to relocate facilities, as well as any reimbursement terms/agreements. In addition, a written monthly utility status update shall be provided to document the status of the coordination.
- P. The Design-Builder shall review all relocation plans to ensure that relocations comply with VDOT Utilities Manual of Instruction, the Utility Relocation Policies and Procedures, VDOT's Land Use Permit Regulations, these Technical Requirements and any pertinent Special Provisions. The Design-Builder shall also ensure that there are no conflicts with the proposed roadway improvements, and ensure that there are no conflicts between each of the utility owner's relocation plans. The Design-Builder shall prepare and submit all relocation plans. The Design-Builder is expected to assemble the information included in the relocation plans in a final and complete format and in such a manner that the Concessionaire may approve the submittals with minimal review. The Design-Builder shall meet with VDOT's Regional Utilities Manager within thirty (30) days of Limited Notice to Proceed to gain a full understanding of what is required with each submittal. The Design-Builder shall receive necessary written approvals prior to authorizing Utilities to commence relocation construction, and in turn, the Utility Owners shall not begin their relocation work until authorized by the Design-Builder. Each relocation plan submitted must be accompanied by a certification from the Design-Builder stating that the proposed relocation will not conflict with the proposed roadway improvement and will not conflict with another Utility Owner's relocation plan.
- Q. The Design-Builder shall be responsible for new Utility service connections, including full coordination with the Utility Owners, acquisition of easements and payment of connection fees. The Design-Builder shall also be responsible for paying the monthly Utility bills associated with new service panels, up to and including the NEXT Service Commencement Date. Service accounts for any Express Lanes service panels shall be

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transferred to the Concessionaire (or VDOT for any VDOT service panels) upon achievement of Service Commencement. A detailed list of service accounts that will be transferred to either the Concessionaire or VDOT shall be provided to the Concessionaire and VDOT for review and confirmation before the transfer is made with each Utility company.

- R. The Concessionaire, in coordination with VDOT, may, at its discretion, provide limited assistance in negotiations with Utility Owners and will provide available VDOT documents concerning prior rights in a timely manner as requested by the Design-Builder. In any case, neither the Concessionaire nor VDOT shall incur any liability in providing such assistance and shall not be required to initiate or participate in any legal action other than as a witness or to produce documents.
- S. The Design-Builder shall make all reasonable efforts to design the Project NEXT to avoid conflicts with Utilities, and minimize impacts where conflicts cannot be avoided. The Design-Builder shall Protect In-Place impacted utilities, if possible. The Design-Builder shall be responsible for ensuring that Utility service interruptions are minimized.
- T. The Design-Builder shall ensure the Utility Owners submits as-built drawings and Land Use Permit applications upon completion of their respective relocation and (or) adjustments.
- U. The Design-Builder shall be responsible for ensuring the appropriate abandonment or removal of all abandoned Utilities (including the Concessionaire and VDOT's roadside equipment, communications and power cables and conduits, and VDOT leased telecommunications) within the Project NEXT limits.
- V. At the time that the Design-Builder notifies the Concessionaire that the Design-Builder deems the Project NEXT to have reached Final Completion, the Design-Builder shall certify that all Utilities have been identified and conflicts have been resolved and that those Utilities with compensable rights or other claims related to relocation or coordination with the Project NEXT have been relocated and their claims and compensable rights have been satisfied or will be satisfied by the Design-Builder.
- W. The Design-Builder shall accurately show the final location of all Utilities (including the Concessionaire and VDOT's roadside equipment, communications and power cables and conduits, and VDOT leased communications) on the As-Built Plans in accordance with Section 3.18 of these Technical Requirements.
- X. Underground utility data provided with the RFP was obtained and depicted in accordance with "CI/ASCE 38-02, Standard Guidelines for the Collection and Depiction of Subsurface Utility Data", and is S.U.E. Quality Level C. Surveys were performed to locate existing utility surface features (i.e., manholes, handholes, etc.) where found, and this information was correlated with information obtained from utility records (S.U.E. Quality Level D info). Utility information was obtained for the Project area using the following sources:
 - 1. G.I.S. data available from utility owners;
 - 2. Mapping available from utility owners; and

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3. VDOT plans from adjacent projects (or past projects) depicting utility information. It is possible that utilities exist within the Project area that are not depicted in the RFP Documents.

1.7.2 Design-Builder’s Responsibility for Utility Property and Services

- A. At points where the Design-Builder’s operations are on or adjacent to the properties of any utility (including railroads, transit properties, and the Concessionaire and VDOT’s field devices, communications and power cables and conduits, and VDOT leased telecommunications), and damage to which might result in expense, loss, or inconvenience, Work shall not commence until arrangements necessary for the protection thereof have been completed. The Design-Builder shall cooperate with owners of utilities so that:
 1. Removal and adjustment operations may progress in a timely, responsible, and reasonable manner, and
 2. Duplication of adjustment work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted.
- B. The Design-Builder shall be responsible for ensuring the proper relocation of any cellular telephone towers or equipment required for the construction and operation of Project NEXT, including necessary coordination with the cellular provider and VDOT. The responsibilities, timing and costs for any cell tower modifications or relocations will be administered in accordance with terms of the existing lease agreements or permits with VDOT.
- C. If any utility service (including utilities owned or operated by the Concessionaire or VDOT) is interrupted as a result of accidental breakage or of being exposed or unsupported, the Design-Builder shall promptly notify the proper authority, cease all construction operations until repairs are completed and the system is fully operational, and shall cooperate fully with the authority in the restoration of service. If utility service is interrupted, repair work shall be continuous until service is restored. The Design-Builder will be responsible for all costs necessary for such repair and any associated time impacts to Project NEXT. To assist with expediting the restoration of services impacted by the Design-Builder during construction operations, the Design-Builder shall submit an Unexpected Outage Resolution Process in advance of initiating work near existing utilities. The Unexpected Outage Resolution Process shall include at least a description of the process to be used to identify determination of responsibility and party responsible for mitigating the outage and restoring the service, timeline for restoration, flow chart of the overall process, and contact information identifying key personnel from the project parties that will be immediately engaged upon a utility strike or unexpected utility outage.
- D. The Design-Builder shall comply with all requirements of the Virginia Underground Utility Damage Prevention Act (the Miss Utility law).
- E. The Concessionaire’s and VDOT’s utilities, including roadway lighting cable and conduit, traffic management systems cable and conduit, as well as Concessionaire and VDOT-owned fiber optic lines, are located within the Project NEXT limits and are not

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marked by the Miss Utility. The Design-Builder is responsible for field marking of the Concessionaire's and VDOT's utilities. For VDOT facilities, the Design-Builder may either elect to use at its own discretion and cost, VDOT's Utility Marking System (www.vdotutilitymarking.virginia.gov) or a qualified utility locating service provider familiar with VDOT-owned utilities. For the Concessionaire's facilities, the Design-Builder must use a qualified utility locating service provided nominated by the Concessionaire and familiar with the Concessionaire-owned utilities. It is the Design-Builder's sole responsibility to have these utilities marked (or re-marked), and maintain such markings throughout the life of the Project NEXT. The Design-Builder will be responsible for all cost necessary for these utility markings.

- F. The Design-Builder shall exercise care to prevent damage or disruption to any existing Concessionaire utilities and associated devices. Any strikes or outages caused by the Design-Builder and/or its subcontractor(s) shall be reported to the Concessionaire immediately and repaired immediately. The Design-Builder shall be responsible for repairs or damages to these utilities or devices caused by its actions or those of its subcontractors.

1.7.3 Dominion Virginia Power Transmission Lines

- A. For all work in the vicinity of the Dominion Virginia Power (DVP) overhead transmission lines within the Project NEXT limits, the Design-Builder shall seek to minimize impacts to existing Dominion assets and protect the existing DVP easement.
- B. Any changes to the design shown in the RFP Conceptual Plans related to the DVP assets or the existing DVP easement shall be submitted to DVP for review and approval. The Design-Builder shall verify DVP acceptance of such designs prior to submitting any associated final design packages for approval. The Design-Builder is also responsible for obtaining an updated DVP Letter of Consent for any encroachments into the existing DVP easement and an updated DVP License Agreement for any use of the DVP Swinks Mill Substation property.
- C. Work within the DVP easement or adjacent to DVP assets shall also be subject to the following conditions and restrictions:
 - 1. Full and proper access shall be maintained to the Swinks Mill Substation at all times during construction.
 - 2. The shared use path connection to Spencer Road shall not impair or impede use of the entrance drive to the Swinks Mill Substation. The shared use path may be co-located with the DVP entrance drive, but widening and reconstruction of a portion of the entrance drive may be required to meet DVP requirements.
 - 3. Lights or signs over 10 feet in height shall not be permitted within the DVP easement.
 - 4. Details for excavations within 50 feet vicinity of DVP assets must be approved by DVP prior to initiating any ground disturbance activities.
 - 5. All piles or piers within 50 feet of any DVP transmission tower shall be vertically drilled and not placed towards the transmission structure(s).

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6. A minimum of 20 feet of separation is required between all construction equipment and the DVP transmission lines.
7. Required outages must be coordinated in advance with DVP in accordance with its policies and procedures.
8. Final noise wall heights adjacent to existing DVP Structures 2029/38 and 2029/39 shall be reviewed and approved by DVP to confirm adequate vertical clearances.
9. Existing vertical clearances are to be maintained between existing DVP Structures 2108/54 and 2108/53 at Old Dominion Drive. Any reductions in vertical clearances (higher roadway profile, taller signs, etc.) shall be reviewed and approved by DVP.
10. Existing vertical clearances are to be maintained between existing DVP Structures 2029/44 and 2029/43 at Georgetown Pike. Any reductions in vertical clearances (higher roadway profile, taller signs, etc.) shall be reviewed and approved by DVP.
11. Proposed traffic signals at Georgetown Pike are to have a minimum horizontal offset of 30 feet from the centerline of DVP Transmission Line 2029. If this offset cannot be met, vertical clearances shall be reviewed and approved by DVP.
12. Placement of additional fill material around the base of existing guy supported transmission towers must be coordinated in advance with DVP to establish required measures for corrosion protection of the tower base material and tower grounding components.

1.7.4 Restoration of Work Performed by Others

- A. The Concessionaire or VDOT may construct or reconstruct any Utilities within the limits of the Project NEXT or grant a permit for the same at any time.
- B. If authorized, the Design-Builder shall allow any person, firm, or corporation to make an opening in the roadway within the limits of the Project NEXT upon presentation of a duly executed permit from VDOT or any municipality for sections within its jurisdiction. Any such roadway shall be restored to the pre-existing condition at the completion of the work by the entity performing the work.

1.8 Work Restrictions**1.8.1 Work Hours**

- A. The Design-Builder is advised that its general operations may proceed seven days a week, 24 hours a day, subject to the limitations conditions noted in the Technical Requirements and applicable lane closure restrictions detailed in Section 1.8.2.
- B. The Design-Builder shall be responsible for obtain any variance or waiver from applicable noise or lighting restrictions for work outside hours allowed by local jurisdictions.

1.8.2 Temporary Roadway Closures

- A. Lane and Shoulder Closures

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1. Allowable lane closures for temporary lane and/or shoulder closures shall be in accordance with the tables below. All lane closure requests shall be reviewed and approved by the Concessionaire (for the Express Lanes) or VDOT (for the General Purpose lanes).
2. The Design-Builder shall restore all lanes of traffic per the times specified in the the “Allowable Lane Closure Hours” tables below. Restoration of traffic shall mean the completion of all construction work, the removal of all traffic control devices, signs, workers, materials, and equipment from the roadway.
3. The Concessionaire reserves the right to monitor traffic conditions affected by the Work and impose additional temporary restrictions (such as terminating a lane closure early or adjusting the allowable lane closure hours on a limited basis), as may be necessary to ensure safe traffic operations within the Project limits.
4. The Design-Builder may seek changes or extensions to the Allowable Lane Closure Hours on a case-by-case in accordance with the requirements of Section 1.8.5.

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Allowable Lane Closure Hours

INTERSTATE 495 (BELTWAY)					
WEEKDAY		Inner Loop			
		Single-Lane Closures or Shoulder	Two-Lane Closures	Multiple-Lane Closures	Complete Road Closure
Segment 1	A. L. Bridge to Springfield Interchange	10:00AM to 3:00PM	10:00PM to 5:00AM	11:00PM to 5:00AM	12:00AM to 5:00AM
		9:30PM to 5:00AM			
Segment 2	Springfield Interchange to W.W. Bridge	10:00AM to 3:00PM	10:00PM to 5:00AM	11:00PM to 5:00AM	12:00AM to 5:00AM
		9:30PM to 5:00AM			
All lanes open at 12:00 noon on Friday					
WEEKDAY		Outer Loop			
		Single-Lane Closures or Shoulder	Two-Lane Closures	Multiple-Lane Closures	Complete Road Closure
Segment 1	A. L. Bridge to Springfield Interchange	9:30AM to 2:30PM	10:00PM to 5:00AM	11:00PM to 5:00AM	12:00AM to 5:00AM
		9:30PM to 5:00AM			
Segment 2	Springfield Interchange to W.W. Bridge	10:00AM to 3:00PM	10:00PM to 5:00AM	11:00PM to 5:00AM	12:00AM to 5:00AM
		9:30PM to 5:00AM			
All lanes open at 12:00 noon on Friday					
WEEKEND		Inner/Outer Loop			Complete Road Closure
		Single-Lane Closures or Shoulder	Multiple-Lane Closures		
Friday to Saturday		10:00PM to 8:00AM	11:00PM to 7:00AM		12:00AM to 5:00AM
Saturday to Sunday		10:00PM to 9:00AM	11:00PM to 8:00AM		12:00AM to 5:00AM
Sunday to Monday		9:30PM to 5:00AM	11:00PM to 5:00AM		12:00AM to 5:00AM

EXPRESS LANES		
	Single-Lane Closures or Shoulder	Complete Road Closure**
WEEKDAY	9:30PM (Sunday to Thursday) to 4:00AM (Monday to Friday)	11:00PM to 4:00AM
WEEKEND	11:00PM (Friday to Saturday) to 9:00AM (Saturday to Sunday)	11:00PM to 4:00AM

** Complete Road Closure on Express Lanes limited to 30 minutes or less.

ROUTE 267 CONNECTOR				
WEEKDAY	Eastbound		Westbound	
	Single-Lane Closures or Shoulder	Complete Road Closure	Single-Lane Closures or Shoulder	Complete Road Closure
Monday to Friday	11:00AM to 3:00PM	12:00AM to 4:00AM	9:30AM to 3:00PM	12:00AM to 4:00AM
	9:30PM to 5:00AM		9:00PM to 5:00AM	
All lanes open at 12:00 noon on Friday				

Eastbound/Westbound		
WEEKEND	Single-Lane Closures or Shoulder	Complete Road Closure
Friday to Saturday	10:00PM to 8:00AM	12:00AM to 5:00AM
Saturday to Sunday	11:00PM to 8:00AM	12:00AM to 5:00AM
Sunday to Monday	9:00PM to 5:00AM	12:00AM to 4:00AM

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Single-Lane Closures* or Shoulder					
ARTERIAL	WEEKDAY		WEEKEND		
	Monday to Thursday	Friday	Friday to Saturday	Saturday to Sunday	Sunday to Monday
Major Arterials**	9:30AM to 3:00PM	9:30AM to 2:00 PM	10:00PM to 9:00AM	10:00PM to 8:00AM	10:00PM to 5:00AM
	10:00PM to 5:00AM				
All Other Roadways	9:00AM to 3:30PM	9:00AM to 2:00 PM	10:00PM to 9:00AM	9:00PM to 9:00AM	10:00PM to 5:00AM
	9:00PM to 5:00AM				

Multiple-Lane Closures					
ARTERIAL	WEEKDAY		WEEKEND		
	Monday to Thursday	Friday	Friday to Saturday	Saturday to Sunday	Sunday to Monday
Major Arterials**	10:00PM to 5:00AM	Not allowed until 11:00PM	11:00PM to 5:00AM	11:00PM to 6:00AM	11:00PM to 5:00AM
All Other Roadways	9:00PM to 5:00AM	Not allowed until 10:00PM	10:00PM to 6:00AM	10:00PM to 6:00AM	10:00PM to 5:00AM

*Single-lane closures only permitted for multiple-lane roadways.

**Major Arterials defined as Primary Roads, high volume Secondary Roads, and all other routes that connect directly to Interstates.

Notes:

1. Complete Road Closures: 30 minutes maximum or an approved time frame to facilitate the lifting and placing of bridge beams, demolition and removal of bridge elements, and erection or removal of overhead sign panels and other structures. Complete roadway closures of more than 30 minutes may be permitted; subject to the approval of any required maintenance of traffic, traffic control, and/or detour plans.
2. Complete Road Closures: Following a 30 minute closure, subsequent 30 minute closures are not permitted until traffic has returned to free flow conditions and all traffic stopped from the previous closure has passed the construction site
3. Limited Access Highways are defined as high speed high volume roadways with limited access, such as Dulles Toll Road, Dulles Airport Access Road, Dulles Connector Road and the George Washington Memorial Parkway.
4. Major Arterials are defined as Primary Roads, high volume Secondary Roads, and all other routes that connect directly to Interstates, such as Rte. 123, Rte. 694, Rte. 738 and Rte. 193.
5. Single-lane closures are only permitted for multiple-lane roadways.
6. Long-term closures of the shoulders adjacent to the general purpose lanes are allowable pursuant to the applicable provisions of these Technical Requirements.
7. Some roadway closures will require coordination and permit(s) with the agency having jurisdiction over the roadway. These allowable hours shall be applicable to both stationary and mobile lane closures, as well as shoulder closures.

B. Lane Closure Request Procedure

1. Multi-lane closures of I-495 for any Work will require coordination with appropriate Governmental Authorities, stakeholders and public notice. The Design-Builder shall provide a minimum of three (3) weeks advance notice. This advance notice will allow the Concessionaire and Design-Builder to coordinate on a public outreach campaign and/or advertising to reach affected motorists and target audiences. Alternate dates can be advertised in the event of inclement weather.
2. Total closures of I-495 for any surface, overhead, or underground work will require coordination with the Concessionaire, VDOT and appropriate Governmental

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Authorities, and stakeholders. The Design-Builder shall provide a minimum of 30 days advance notice of such anticipated closures. This advance notice will allow the Concessionaire and Design-Builder to coordinate on a public outreach campaign and/or advertising to reach affected motorists and target audiences. Alternate dates can be advertised in the event of inclement weather.

3. Following such notice, a coordination meeting shall be held between the Design-Builder, the Concessionaire, and VDOT to review and finalize the plan for such closures.
4. The Design-Builder shall submit all lane and/or shoulder closure requests to the Concessionaire representative and VDOT Project Manager for coordination purposes (for determination of conflicts with other projects, for instance) at least ten (10) days in advance of the proposed lane and/or shoulder closures, stating the location, purpose, date, time, and duration of the closure. The Design-Builder shall coordinate construction activities and lane closures that affect scheduled transit service with the respective transit agencies.
5. The Design-Builder shall be responsible for entering all scheduled lane closures into VDOT's Lane Closure Advisory Management System (LCAMS) and VA Traffic at least ten (10) days prior to the actual lane closure. The Design-Builder shall also be responsible for coordinating and eliminating all LCAMS conflicts related to the Design-Builder's scheduled lane closures no later than close of business Thursday the week prior to the closure. The Design-Builder shall confirm at least twenty-four (24) hours before any scheduled lane and/or shoulder closure (72 hours for a complete road closure) and shall include a written reiteration of the proposed tasks and a listing of materials, labor, and equipment to be utilized, in order for the VDOT Public Safety and Transportation Operations Center (PSTOC) to post the information on the VDOT website and VA511 system and the Concessionaire to post on the Express Lanes website.
6. The Design-Builder must contact the VDOT Northern Region Transportation Operations Center (703-877-3449) 15 minutes prior to executing all lane and/or shoulder closures and re-contact the VDOT TOC within 15 minutes of the work being completed and lane and/or shoulder closures removal.
7. For all 495 Express Lanes closures, the Design-Builder is required to coordinate directly with the Concessionaire and comply with the current Permit to Work processes in place for the Express Lanes, including the use of electronic forms and submittals. An approved Permit to Work will be required prior to commencing any work within the 495 Express Lanes, or work impacting any 495 Express Lanes facilities or equipment. All Permit to Work requests shall be submitted a minimum of ten (10) business days prior to the intended work start date. Notification of the Design-Builder commencing and completing work in the Express Lanes shall be in accordance with the approved Authority to Work permit issued by the Concessionaire. Failure to comply with the terms of an issued Authority to Work permit or working within the active Express Lanes without such a permit will result

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in immediate suspension of the Design-Builder until the proper authorization is provided.

- C. The Design-Builder shall provide the required advance notification via variable message and required static signing for lane closures. Once a closing is in place, Work shall begin immediately and shall progress on a continuous basis to completion or to a designated time.
- D. The closure may be delayed if excessive traffic backup or queuing is already present at the scheduled start of Work. Traffic backups must dissipate before any scheduled lane closures or successive closings can be implemented.
- E. The minimum clear distance between two separate lane closings, that is, from the last traffic cone of the first closing to the first cone of the second closing in the same roadway, shall be one mile.
- F. The Concessionaire reserves the right to monitor traffic conditions affected by the Work and to make necessary restrictions as may be warranted or as emergency situations dictate. Queues in excess of 3 miles or delays over 1 hour will be cause to cease the closure and to re-evaluate approval of similar closures in the future.

1.8.3 Lane Closure Types

- A. All lane and shoulder closures shall be identified as one of the following types:
 - 1. Type 1 – A lane closure resulting in a significant impact on traffic, such as stopping traffic completely, closing two or more lanes, any lane closures in an existing reversible facility, closing an exit or entrance ramp at freeway interchanges or changing traffic patterns. This type of closure would require extensive media and stakeholder notification 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 four-lane roadway during off-peak traffic hours.
 - 3. Type 3 – A lane closure that would close a shoulder (right or left) on a roadway or ramp.

1.8.4 Lane Closure Liquidated Damages

- A. Lane closure liquidated damages will be assessed against the Design-Builder if all lanes are not open to traffic during the times required by Section 1.8.2 or in an approved request for temporary lane closure. The liquidated damages will be assessed per the formula in the table below and continue until all lanes are opened as determined by the Concessionaire and/or VDOT.

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Lane Closure Liquidated Damages

Elapsed Time (min)	I-495 and all Ramps (includes General Purpose Lanes and Express Lanes)	Other Limited Access Highways and Major Arterials	All Other Roads
1-5, or any portion thereof	\$0	\$0	\$0
Every additional minute or any portion thereof after initial 5 minutes stated above	\$1,000 for the sixth minute plus \$1,000 per each additional minute	\$1,000 for the sixth minute plus \$500 per each additional minute	\$500 for the sixth minute plus \$500 per each additional minute

Notes:

1. If a Non-Permitted Closure occurs, the Concessionaire will notify the Design-Builder thereof and of the amount of associated Lane Closure Liquidated Damages in writing within 48 hours of the Non-Permitted Closure.
2. If there are no additional Non-Permitted Closures occurring within 90 days, the Concessionaire shall refrain charging of the Lane Closure Liquidated Damages for the prior Non-Permitted Closures. Otherwise, the Design-Builder shall pay all Lane Closure Liquidated Damages within 30 days of the date on which last written notice of Lane Closure Liquidated Damages is given to the Design-Builder for violating having two (2) or more Non-Permitted Closure occurrences within 90 days.
3. Once there is a clean period of 90 days without a Non-Permitted Closure occurrence, the new 90 days period will start for future Lane Closure Liquidated Damages. All Lane Closure Liquidated Damages charges will be capped at \$100,000 per Non-Permitted Closure.

- B. In addition to the assessed liquidated damages for failure to restore traffic lanes, the Design-Builder will not be allowed further lane closures until the reason for the failure are evaluated and the Design-Builder can provide assurance that the causes have been corrected. A formal submission as to the reasons for the failure to restore traffic lanes within the contract lane closure restrictions and the proposed corrective measures must to be provided within two (2) days of the occurrence. The Concessionaire will respond to the adequacy of the submission within two (2) working days of receipt. No modification of the Contract Price or Contract time(s) will be granted or considered for these days.
- C. The Concessionaire may, at its sole discretion, choose not to assess liquidated damages for failure to open traffic if such cause is not related to or caused by the Design-Builder's operations.

1.8.5 Design-Builder Request for Additional Lane Closures

- A. The Design-Builder may submit a request to work outside the stated lane closure hours by providing adequate justification (including traffic analysis) demonstrating the viability of the request. Closures of longer durations than those listed in Section 1.8.2 will require a review of plans, implementation of detours, and public outreach.
- B. Any request for deviation from the allowable lane closure hours must be submitted a minimum of fourteen (14) days in advance of the work.

1.8.6 Night Work

- A. In areas where Work is to be performed during the hours of dusk or darkness, the Design-Builder shall furnish, place, and maintain lighting facilities capable of providing light of sufficient intensity to facilitate good workmanship and proper inspection at all times. The lights shall be arranged so as not to interfere with or impede traffic approaching the work site(s) from either direction or produce undue glare to property owners.
- B. Lighting of work site(s) may be accomplished using any combination of portable floodlights, standard equipment lights, existing street lights, and temporary street lights that will provide the proper illumination. The Design-Builder shall provide a light meter to demonstrate that the minimum light intensity is being maintained
- C. The Design-Builder shall furnish and place warning signs to alert approaching motorists of lighted construction area(s). These warning signs shall be four feet (4') x four feet (4'). The Design-Builder's vehicles used on Project NEXT shall be provided with amber flashing lights that shall be in operation while in the work area. The Design-Builder's equipment shall be provided with a minimum of three square feet of reflective sheeting that is visible to approaching motorists. The Design-Builder shall provide his personnel with proper Personal Protective Equipment (PPE), which shall be worn at all times while the workers are within the work area.
- D. The Design-Builder shall provide sufficient fuel, spare lamps, generators, and other necessary equipment to maintain the lighting of the work site. The Design-Builder shall utilize padding or shielding or locate mechanical and electrical equipment to minimize noise generated by lighting operations as directed. Noise generated by portable generators shall comply with all applicable Law.

1.8.7 Holidays

- A. Moving/mobile, short duration, short-term stationary, or intermediate-term stationary temporary traffic control zone lane closures on mainline lanes, shoulders, or ramps shall not be performed during the following Holiday time periods without the written permission of the Concessionaire. Additionally, a long-term stationary temporary traffic control zone shall not be initially put in place, adjusted, or removed during the following Holiday time periods without the written permission of the Concessionaire:
 - **January 1:** From noon on the preceding day until noon on the following day, except as indicated in Section 1.8.7.B below.
 - **Inauguration Day:** From 3:30 p.m. on the preceding day until 9:30 a.m. on the following day.
 - **Martin Luther King, Jr. Day:** From noon on the preceding Friday to noon on the following Tuesday.
 - **Presidents Day:** From noon on the preceding Friday to noon on the following Tuesday.
 - **Easter:** From noon on the preceding Friday to 9:30 a.m. on the following Monday.

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- **Memorial Day:** From noon on the preceding Friday to noon on the following Tuesday.
 - **July 4:** From noon on the preceding day until noon on the following day, except as indicated in Section 1.8.7.B below.
 - **Labor Day:** From noon on the preceding Friday to noon on the following Tuesday
 - **September 11:** No daytime closures.
 - **Columbus Day:** From noon on the preceding Friday to noon on the following Tuesday.
 - **Election Day** (the Tuesday following the first Monday in November): No daytime closures.
 - **Veterans Day:** From noon. on the preceding day until noon on the following day, except as indicated in Section 1.8.7.B below.
 - **Thanksgiving Day:** From noon on the Wednesday preceding Thanksgiving Day until noon on the following Monday.
 - **Christmas Day:** From noon on the preceding day until noon on the following day, except as indicated in Section 1.8.10.B below.
- B. If the Holiday occurs on a Friday or Saturday, no lane closures will be permitted from 5:00 a.m. on the preceding Thursday to Noon on the following Monday. If the Holiday occurs on a Sunday or Monday, no lane closures will be permitted from 5:00 a.m. on the preceding Friday to Noon on the following Tuesday.

1.8.8 Use of Explosives

- A. The Design-Builder shall obtain approval for use of explosives on the Project. Explosives shall be stored and used in a secure manner. Prior to prosecuting the Work, the Design-Builder shall conduct an on-site review of the Work involved and develop a plan of operations for performing excavating work. Where feasible, the Design-Builder shall explore other means of loosening and/or reducing the size of the excavation without blasting. When blasting becomes necessary, the Design-Builder's plan of operations shall include a blasting plan detailing the blasting techniques to be used during excavation operations requiring the use of explosives. Both plans shall be submitted for review prior to commencing blasting operations.
- B. Explosives shall be purchased, transported, stored, used, and disposed of by a Virginia Certified Blaster in possession of a current criminal history record check and commercial driver's license with hazardous materials endorsement and a valid medical examiner's certificate.
- C. The Design-Builder shall be responsible for damage resulting from the use of explosives. The Design-Builder shall notify each property and Utility Owner having a building, structure, or other installation above or below ground in proximity to the site of the Work of its intention to use explosives. Notice shall be given sufficiently in advance of the start of blasting operations. The review of the Design-Builder's plan of operations,

blasting plan, and notification of property owners shall in no way relieve the Design-Builder of its responsibility for damage resulting from its blasting operations

1.8.9 Miscellaneous Work Restrictions

- A. Dulles Toll Road/Dulles Airport Access Road. The Design-Builder shall follow all applicable Metropolitan Washington Airports Authority (MWAA) rules, regulations, and policies when working on the either the Dulles Toll Road or the Dulles Airport Access Road, including but not limited to: additional lane closure restrictions on the mainlines and approach roadways and access to work permitting process. Additional information on MWAA-specific requirements are provided in Section 1.11.4.
- B. NEXT Work in Maryland. The Design-Builder shall follow all applicable Maryland Department of Transportation – State Highway Administration (MDOT-SHA) rules, regulations, and policies when working on I-495 in Maryland, including but not limited to: lane closure restrictions and access to work permitting processes. Additional information on MDOT-SHA-specific requirements are provided in Section 1.11.5.
- C. George Washington Memorial Parkway. The Design-Builder shall follow all applicable NPS rules, regulations, and policies when working on the George Washington Memorial Parkway, including but not limited to: additional lane closure restrictions and access to work permitting processes. Additional information on NPS-specific requirements are provided in Section 1.11.6.
- D. Langley Swim and Tennis Club (728 Live Oak Drive, McLean, VA 22101). The Design-Builder shall not perform any Work within the Langley Swim and Tennis Club parking lot limits, inclusive of any paved areas of the parking lot and/or entrances, for the time period between May 1 through October 31 that would result in the loss of any parking space in the Langley Swim and Tennis Club parking lot, or impact Langley Swim and Tennis Club driveway access from Live Oak Drive.

1.9 Maintenance of Traffic

1.9.1 General Requirements

- A. VDOT will develop and administer an overall Transportation Management Plan for Project NEXT corridor that focuses on broader strategies and solutions to facilitate mobility and safety during the construction period.
- B. The Design-Builder shall be responsible for a preparing and implementing a Project-wide Maintenance of Traffic (MOT) Plan for Project NEXT in accordance with Attachment 1.3 and construction phase or location-specific maintenance of traffic and traffic control plans. All stages and phases of construction, including installation and testing of the Traffic Management System (TMS), shall be covered by the Project-wide MOT Plan and specific maintenance of traffic and traffic control plans.
- C. The Design-Builder is responsible for the safety of the work zone. The Design-Builder shall comply with all applicable requirements for maintenance of traffic and work zone

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safety, including Section 512 of the VDOT Road and Bridge Specifications and the Virginia Work Area Protection Manual.

- D. The Design-Builder shall ensure safe and efficient traffic management during construction, including provisions for the movement of people, goods, and services through and around the Project NEXT Site while minimizing impacts to pedestrians, bicyclists, local residents, businesses, and commuters.
- E. The Design-Builder shall provide a designated MOT Manager to perform the following:
 - 1. Coordinate implementation of the Project-wide MOT Plan;
 - 2. Oversee the design and implementation of the construction phase or location-specific maintenance of traffic and traffic control plans for all planned Work;
 - 3. Provide a single point of contact to address maintenance of traffic and work zone safety issues;
 - 4. Coordinate maintenance of traffic and traffic control activities with the public/community outreach staff and the Concessionaire;
 - 5. Provide portable message signs and police presence as required by the Virginia Work Area Protection Manual and these Technical Requirements; and
 - 6. Coordinate maintenance of traffic and traffic control activities with adjacent projects.
- F. The MOT Manager shall be a Professional Engineer licensed in the Commonwealth of Virginia with demonstrated maintenance of traffic and traffic control implementation experience. The MOT Manager shall be Advanced Work Zone Safety certified and have completed the necessary training on the proper practices and methods for the maintenance of traffic and traffic control measure installation, maintenance and removal. Any other Design-Builder personnel responsible for inspection, installation or removal of any maintenance of traffic or temporary traffic control measures shall have the Advanced Work Zone Safety certification.
- G. The Design-Builder shall conduct daily and weekly maintenance of traffic inspections to ensure all traffic controls, devices and traffic patterns, including pavement markings, are in compliance with the approved plans. Design-Builder shall provide a weekly report that summarizes the results of these inspections and corrective actions taken to address any identified deficiencies.

1.9.2 Maintenance of Traffic and Traffic Control Plans

- A. The Design-Builder shall prepare all necessary construction phase or location-specific maintenance of traffic and traffic control plans, including plans depicting the sequencing of the work. Approval of such plans is required prior to the initiation of construction, a detour, or a traffic shift. All maintenance of traffic and traffic control plans or documents shall signed and sealed by a qualified Professional Engineer. Any temporary traffic controls or barriers shall be shown on the AFC Documents.

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- B. Preliminary roll plans showing the Design-Builder's intended maintenance of traffic and construction sequencing shall be prepared and submitted for review and comment prior to initiating final design.
- C. Any proposed use of taper, lane widths, signage or other element that does not meet the requirements of the Virginia Work Area Protection Manual and/or MUTCD must be approved.
- D. Temporary drainage design shall be provided with each phase of the traffic control plans.
- E. All maintenance of traffic and traffic control plans affecting and adjacent to MWAA facilities (Dulles Toll Road and Dulles Airport Access Road) are subject to review and approval by MWAA.
- F. All maintenance of traffic and traffic control plans affecting and adjacent to the George Washington Memorial Parkway are subject to review and approval by the National Park Service (NPS) and/or FHWA Eastern Lands Division.
- G. All maintenance of traffic and traffic control plans affecting and adjacent to I-495 in Maryland are subject to review and approval by the MDOT-SHA.

1.9.3 Traffic Analyses

- A. The Design-Builder shall prepare traffic analyses and modeling for all construction phases and stages, exclusive of short-term closures, to determine traffic impacts and appropriate control measures. The scope of the traffic analyses and the assumptions to be used will vary depending on the magnitude of the closure, detour or construction activity and are subject to approval. The Design-Builder shall use analytical/deterministic (HCM-based) or traffic simulation/optimization tools for the analyses. Traffic analyses and modeling shall also be required for all construction activities requiring a detour or any lane closures.
- B. If additional traffic counts are required, it will be the responsibility of the Design-Builder to collect such data. The timing, type and duration of such traffic counts shall be confirmed prior to completion.
- C. Additionally, for local roads with signalized intersections, signal timing plan reviews will be required; The Design-Builder shall note that any proposed detour utilizing local neighborhood streets will require coordination with the applicable locality, as appropriate, and are subject to the terms and conditions of their approvals, where required.

1.9.4 Maintenance of Traffic During Construction

- A. The Design-Builder shall maintain the following lane configurations for roadways within the Project limits:
 - 1. I-495: Four lanes (minimum of 11 feet each) in each direction with at least one full and one reduced shoulder in each direction. Existing ramps and/or auxiliary lanes to be retained, except for the existing I-495 northbound shoulder use lane which is not required to be maintained during construction. A full shoulder is considered to

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be a minimum of 10 feet wide plus any additional width necessary for stopping sight distance and other applicable requirements. A reduced shoulder is considered to be a shoulder that is reduced below a width that is sufficient for a legal vehicle or truck to safely access or the vehicle width is not contained within the limits of the shoulder striping, but is of sufficient width necessary for stopping sight distance and other applicable requirements.

- a. In constrained areas of bridge construction where there is not sufficient available width to provide both a full and reduced shoulder, and where pull-off areas are provided in accordance with the Virginia Work Area Protection Manual at the beginning and end of the constrained area, two reduced shoulders will be permitted for a maximum distance of 1,000 feet.
 - b. I-495 NB Bridge over Dulles Toll Road Ramps E1 and G3: With appropriate operational justification and supporting traffic analysis, the Design-Builder may propose to use three lanes (minimum of 11 feet each), reduced shoulders, and temporary detour of existing I-495 NB General Purpose lane-to-WB Dulles Toll Road ramp traffic in order to permit construction of the bridge in two phases. The reduction to three lanes in this area shall be limited to a maximum distance of 0.5 miles. Any proposed concepts and supporting justification shall be submitted for review and approval a minimum of six weeks prior to submission of any associated maintenance of traffic plans.
2. Arterial Roadways (Old Dominion Drive, Georgetown Pike, Balls Hill Road, and Live Oak Drive): Existing number of through lanes and all turning movements.
 3. George Washington Memorial Parkway: Existing number of lanes in accordance with NPS requirements for shoulders and lane widths.
 4. Dulles Toll Road: Existing number of lanes in accordance with MWAA requirements for shoulders and lane widths.
- B. Construction signs and pavement markings (temporary) shall be installed, maintained, adjusted, and removed by the Design-Builder throughout the duration of the Project.
 - C. Work zone information shall be shared with VDOT's Northern Region Operations Advanced Traffic Management System (ATMS) and any other regional ATMS.
 - D. The Design-Builder shall provide attenuator trucks in accordance with the Virginia Work Area Protection Manual. Only TL-3, Type I Re-Directive Impact Attenuator shall be used on interstates, limited access highways, major arterials, and its associated ramps unless otherwise approved. TL-3, Type II Non-Redirective Impact Attenuator may only be used with movable barrier.
 - E. The Design-Builder shall be responsible for coordinating directly with the Virginia State Police and/or other authorized law enforcement agencies to provide uniformed law enforcement officer with a marked law enforcement vehicles equipped with a blue flashing lights during any operations involving lane closures and/or rolling lane closures, during all night time closures for work within or adjacent to travel lanes, and any other operation as required by the Virginia Work Area Protection Manual. All costs for such services shall be the Design-Builder's responsibility.

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- F. Certified flaggers shall be provided in sufficient number and locations as necessary for control and protection of vehicular and pedestrian traffic in accordance with the requirements of the Virginia Work Area Protection Manual. Flaggers shall be able to communicate to the traveling public in English while performing the job duty as a flagger at the flagger station. Flaggers shall use sign paddles to regulate traffic. Flagger certification cards shall be carried by flaggers while performing flagging duties. Flaggers found not to be in possession of their certification card shall be removed from the flagging site and operations requiring flagging will be suspended. Further, flaggers performing duties improperly will have their certifications revoked.
- G. The Design-Builder shall confirm the location of any new emergency crossovers between the Express Lanes and General Purpose lanes with law enforcement and emergency services and shall maintain any existing emergency crossover access during construction.
- H. Construction signs and pavement markings (temporary) shall be installed, maintained, adjusted, and removed by the Design-Builder throughout the duration of Project NEXT. These items shall be shown on and coordinated with the Sign Sequencing Plan defined in Section 3.9.3 of these Technical Requirements.
- I. Long-term closures of the shoulders adjacent to the general purpose lanes are allowable if the required shoulders per Section 1.9.4.A are provided and the closure is separated by an approved concrete barrier configuration. Where concrete barriers are used to close the shoulder, the Design-Builder shall provide pull-off areas in accordance with the Virginia Work Area Protection Manual.
- J. The Design-Builder shall schedule construction operations so that approved continuous access is provided for all roads and properties. Connections or entrances shall not be disturbed by the Design-Builder until necessary. Once connections or entrances have been disturbed, they shall be maintained and completed as follows:
1. Connections that had an original paved surface shall be brought to a grade that will smoothly and safely accommodate vehicular traffic through the intersection, using pavement. Connections that had an original unpaved surface shall be brought to a grade that will smoothly and safely accommodate vehicular traffic through the intersection, using either the required material or a temporary aggregate stabilization course that shall be placed as soon as practicable after connections are disturbed.
 2. Mainline connections shall have all lanes open during construction. If there are delays in prosecution of work for other connections, connections that were originally paved shall have at least two lanes maintained with a temporary paved surface. Those that were not originally paved shall be maintained with a temporary aggregate stabilization course.
 3. Mainline access/egress connections shall have all lanes open during construction unless otherwise agreed with the Concessionaire. Other entrances shall be graded concurrently with the roadway with which they intersect. Once an entrance has been disturbed, it shall be completed as soon as is practicable, including placing the required base and surface course or stabilization. If the entrance must be

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constructed in stages, such as when there is a substantial change in the elevation of the roadway with which it intersects, the surface shall be covered with a temporary aggregate stabilization course or other suitable salvaged material until the entrance can be completed and the required base and surface or stabilization course can be placed.

- K. Connections with roads and public and private entrances shall be kept in a reasonably smooth condition at all times. Stabilization or surfacing material shall be applied to connections and entrances.
- L. If the Design-Builder elects to complete the rough grading operations for the entire Project NEXT or exceeds the length of one full day's surfacing operations, the rough grade shall be machined to a uniform slope from the top edge of the existing pavement to the ditch line.
- M. When the surface is to be widened on both sides of the existing pavement, construction operations involving grading or paving shall not be conducted simultaneously directly opposite each other and the surface of pavement shall be kept free from soil and other materials that might be hazardous to traffic. Prior to opening of new pavement to traffic, shoulders shall be roughly dressed for a distance of three feet from the edge of the paved surface.
- N. Where the Design-Builder places obstructions such as suction or discharge pipes, pump hoses, steel plates or any other obstruction that must be crossed by vehicular traffic, they shall be bridged in accordance with approved plans. Traffic shall be protected by the display of warning devices both day and night. If operations or obstructions placed by the Design-Builder damage an existing traveled roadway, the Design-Builder shall cease operations and repair damages.
- O. Where existing hydraulic cement concrete pavement is to be patched on an active travel lane, the operation of breaking and excavating old pavement shall extend for a distance of not more than one-quarter mile. Patching shall be coordinated with excavating so that an area of not more than one-eighth mile in which excavated patches are located shall be left at the end of any day's work. Necessary precautions shall be taken to protect traffic during patching operations.
- P. If the Design-Builder fails to remedy unsatisfactory maintenance, thus not complying with these Technical Requirements within a mutually agreed upon time after receipt of a written notice, the Concessionaire may proceed to engage other forces, equipment, and material to provide such maintenance. The Design-Builder shall reimburse the Concessionaire for the costs of any Concessionaire-provided maintenance.

1.9.5 Detours and Temporary Roadways

- A. Detour plans shall be developed by the Design-Builder and presented for approval. The Design-Builder shall coordinate detour plans with local, state and federal agencies (as applicable) and submit and update in advance of any planned detour activity. The Design-Builder shall be responsible for all planning, consultation and coordination with affected parties, and the design, implementation and monitoring, and maintenance of detours.

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- B. The Design-Builder shall be responsible for design and construction of any additional improvements that may be needed on alternate routes based on the traffic analyses and coordination with the Concessionaire.
- C. Temporary roadways, diversion channels, sediment and erosion control features or bridges required by the Technical Requirements will be planned, designed and provided by the Design-Builder.
- D. The Design-Builder shall construct, maintain, and remove temporary structures and approaches necessary for use by traffic. After new structures have been opened to traffic, temporary structures and approaches shall be removed. The proposed design of temporary structures shall be submitted for approval prior to construction or installation.
- E. All existing sidewalks, shared-use paths, and associated entrances, intersections or access points that will be affected by the work zone or by temporary traffic control measures shall be maintained to provide safe and continuous access or a safe and convenient alternate must be provided by the Design-Builder. In no event shall sidewalks or shared use paths be closed without approved alternative facilities in place.

1.10 Quality

1.10.1 General Requirements

- A. The Design-Builder shall develop, implement, and maintain a quality management system that includes a Quality Management System Plan (QMSP) that meets the applicable Standards and Specifications set forth in Attachment 1.5a, including VDOT Minimum Requirements for Quality Assurance & Quality Control on Design-Build & Public-Private Transportation Act Projects (QA/QC Guide). Where appropriate, the QMSP shall also incorporate requirements from VDOT Manual of Instructions for Materials Division, applicable design manuals, Construction Manual, Instructional Informational Memoranda, Maintenance Manual, Survey Manual, Right of Way Manual, Utility Relocation Manual, and Inspection Manual, as well as the Road and Bridge Specifications, Road and Bridge Standards, MUTCD, and Virginia Work Area Protection Manual.
- B. The QMSP shall describe the system, policies, and procedures that address the Work required, delivering the Project and providing documented evidence that the Work is performed in accordance with the Contract Documents.
- C. The Design-Builder, subcontractors, suppliers and consultants shall adhere to the QMSP.
- D. Neither the Design-Builder nor any of its subcontractors, suppliers or consultants, shall be delegated quality management responsibility in any manner such that the Design-Builder is relieved of any responsibility or liability for the performance of those entities. At all times, contractual and otherwise, and by all means, the Design-Builder shall be contractually responsible for the quality compliance of the Project no matter the provider of services or supplier of material.

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- E. The Design-Builder shall review and report its compliance with all PDPs, in accordance with the schedule in Attachment 1.3, as part of their quality management system.
- F. The Design-Builder and its subcontractors, suppliers, or consultants shall ensure that their quality records are available to enable them to monitor and establish whether the Design-Builder's obligations under the Contract are met.

1.10.2 Design Quality Management

- A. The Design-Builder is responsible for design quality in accordance with the QA/QC Guide. The Design Manager shall be responsible for establishing and overseeing a QA/QC program for all pertinent disciplines involved in the design of the Project, including review of design, working plans, shop drawings, specifications, and constructability of the Project. This individual shall be responsible for all of the design, inclusive of QA/QC activities. Members of the Design QA/QC team are responsible for review of all design elements to ensure the development of the plans and specifications are in accordance with the requirements of the Contract. Design QA should be performed by one or more member(s) of the lead design team that are independent of the Design QC. The Project design control plan will provide the Concessionaire assurance that the design plans and submittals will meet all contract requirements. The Quality Assurance Manager (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 and the Design QA/QC Plan.
- B. Appendix 2 of the QA/QC Guide provides minimum requirements that shall be met for development of the Design QA/QC Plan.

1.10.3 Construction Quality Management

- A. The Design-Builder shall develop, execute, and maintain a Construction QA/QC Plan for the full duration of the Construction Period in accordance with the QA/QC Guide. The Design-Builder shall have the overall responsibility for both the QA/QC activities and shall be responsible for all QA activities and QA sampling and testing for all materials used and work performed on the Project. These QA functions shall be performed by an independent firm that has no involvement in the construction and QC program and activities. There shall be a clear separation between QA and construction, including separation between QA inspection and testing operations and construction QC inspection and testing operations, including testing laboratories. Two independent, AASHTO Material Reference Laboratory-certified testing laboratories will be required, one for QA testing and one for QC testing.
- B. The Quality Assurance Manager shall also mean the Lead Quality Manager.
- C. The QAM shall have the responsibility to enforce the Contract Document requirements when deficient materials or unsatisfactory finished products fail to conform. The QAM, in accordance with his or her assignment, shall be responsible to observe the construction in progress and to ensure the QA/QC testing and inspection is being performed.
- D. The Design-Builder shall establish and maintain a Quality Assurance Auditing and Non-conformance Recovery Plan (AR Plan) for uniform reporting, controlling, correction and

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disposition, and resolution of non-conformance (including disputed non-conforming items) issues that may arise on the Project. The Design-Builder's AR Plan shall establish a process for review and disposition of non-conforming workmanship, material, equipment, or other construction and design elements of the Work, including the submittal of the design review process for field changes. All deficiencies (hereinafter referred to as a Non-Conformance), including those pertaining to rules, regulations, and permit requirements, shall be documented by the QAM. An NCR referenced by a unique number shall be forwarded within seven (7) days of discovery of the non-conformance. Non-conformance procedures are provided in the QA/QC Guide.

- E. The Design-Builder shall also be responsible for providing QA/QC testing for all materials manufactured off-site.
- F. The Design-Builder may use VDOT's resources for the following construction quality control activities where VDOT routinely provides these services:
 - 1. Off-site programmatic inspection, including supplier plant acceptance inspections;
 - 2. Off-site programmatic testing, including supplier plant acceptance testing; and
 - 3. Items on the VDOT's pre-approved list.
- G. Any inspections by Concessionaire or VDOT representatives shall not relieve the Design-Builder of any obligation to furnish acceptable materials and to provide acceptable designs and complete construction in accordance with the Contract Documents.
- H. The Concessionaire shall be reimbursed by the Design-Builder for all expenses associated with off-site plant inspections if a non-conforming condition causes the need for any additional Concessionaire off-site plant inspection.
- I. The QAM shall establish quantities prior to commencing construction, and provide the Concessionaire a total number of QC, QA Independent Assurance (IA) and Independent Verification Sampling and Testing (IVST), Owner's (the Concessionaire) Independent Assurance (OIA), and Owner's Independent Verification Sampling and Testing (OVST) required as a result of the quantities and the sampling and testing requirements as set forth in Table A-3 and A-4 of the QA/QC Guide. The Concessionaire will make the final determination of the actual number of OIA and OVST tests to be performed.
- J. The QAM shall be responsible for the QA inspection, witnessing and testing of all materials and equipment used and work performed on the Project to include observing the Contractor's QC activities, maintaining the Materials Notebook, documentation of all materials, sources of materials and method of verification used to demonstrate compliance with the Contract. The QAM shall be vested with the authority and responsibility to stop any work not being performed according to the Contract. The construction QA and QC inspection personnel shall perform all of the construction inspection and sampling and testing work. This includes the documentation of construction activities and acceptance of manufactured materials. The Design-Builder's Quality Assurance firm shall have a presence onsite during any and all construction operations to ensure all construction work and QC activities are being performed.

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- K. The QAM shall assign, at a minimum, one Lead QA Inspector for Construction to the Project prior to the start of construction. This individual must be on the site full-time for the duration of all construction of the Project, shall be responsible to observe construction as it is being performed, to include all QC activities to ensure inspection and testing, and correction of any non-conformities of the Work are being performed. The Lead QA Inspector for Construction shall be supported by other QA inspectors under his/her direction to ensure at any time all construction operations and QC activities are being observed. The Lead QA Inspector for Construction shall report directly to the QAM.
- L. In addition to the Lead QA Inspector for Construction, the QAM shall assign the following additional Lead QA Inspectors, who shall report to the QAM:
1. Lead QA Inspector for Electrical and Traffic Management Systems;
 2. Lead QA Inspector for MOT; and
 3. Lead QA Inspector for Environmental Compliance.
- M. All sampling and testing shall be performed by a laboratory that is accredited in the applicable AASHTO procedures by the AASHTO Accreditation Program (AAP). For test methods not accredited by AAP, the laboratory must comply with AASHTO R18 (most current Edition) and must be approved. Two independent testing laboratories will be required, one for QA testing and one for QC testing. The entity(ies) performing QA operations, inspections, sampling, and laboratory testing and the entity(ies) performing QC operations, inspections, sampling, and laboratory testing shall be unique and independent from one another.
- N. The Design-Builder shall not perform destructive sampling or testing of the work without written authorization. Unauthorized destructive sampling or testing will cause the work to be considered unacceptable. In the event the Design-Builder is granted authorization to perform destructive sampling or testing, the Design-Builder shall obtain the approval for the method and location of each test prior to beginning such sampling or testing. In addition, destructive sampling and testing shall be performed in the presence of the Concessionaire.
- O. All construction QA/QC personnel shall hold current materials certifications for the types of materials testing that they are assigned to perform in accordance with the QA/QC Guide and for the safety and use of nuclear testing equipment as required by the Road and Bridge Specifications. The QA programs shall be performed under the direction of the QAM. The QC programs shall be performed under the direction of the Design-Builder's Construction Manager. The Concessionaire shall have the right to order the removal of any construction QA/QC personnel, including the QAM and the Design-Builder's Construction Manager for poor performance at the Concessionaire's sole discretion. The QA/QC plans shall include procedures for rapid reporting of any non-compliances and shall include the process for implementing any necessary remedial actions.
- P. All electrical and TMS testing will be performed in accordance with applicable electrical and communications standards and documented to meet the design details, standards, and system requirements.

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- Q. As applicable, the Design-Builder shall provide, prior to Service Commencement or Final Completion, a complete set of Project records that include, but are not limited to, the following:
1. Project correspondence;
 2. Project diaries;
 3. Test reports;
 4. Invoices;
 5. Materials books;
 6. Certified survey records;
 7. DBE and SWaM records;
 8. Right of way records;
 9. Utility records;
 10. Warranties;
 11. As-built drawings; and
 12. Special tools.

1.10.4 Materials Supply and Quality Requirements

- A. The QMSP shall describe procedures for ensuring that materials used throughout the Work conform to the requirements of the Contract Documents. Unless otherwise specified in the Technical Requirements or subject to mutual agreement, materials, equipment, and components that are to be incorporated into the finished Work shall be new. As part of the AFC Documents, the Design-Builder shall submit statements of the known origin, composition, and manufacture of all materials to be used in the Work, including optional or alternate items, using VDOT's Form C-25.
- B. All materials or equipment (excluding the equipment maintained and operated by the Design-Builder) physically installed, which will become part of the completed Work, whether it is permanent or temporary, must conform to the requirements of the Contract Documents, and shall be furnished with valid test data required to document the quality of the material or equipment at least two weeks prior to delivery. The Design-Builder shall change the source of supply and furnish material or equipment from other approved sources, if the requirements are not met, and shall notify the Concessionaire of this change, and provide the same identifying information noted in this section, at least two weeks prior to delivery. Materials shall not contain Hazardous Waste or be furnished from a source containing toxic, hazardous or regulated solid wastes.

1.10.5 Inspection of Work

- A. The Design-Builder is responsible for continuous quality control and quality assurance in accordance with the QMSP. All stages, materials, and details of the Work, including

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machines and plant equipment used in processing or placing materials, are subject to independent inspection by the Concessionaire, VDOT and/or authorized third-parties.

- B. If materials are used or Work is performed without following the QMSP or relevant procedures, the Design-Builder may be required to remove and replace non-conforming Work or material at no additional cost. The Design-Builder shall abide by the QMSP in terms of correcting defective, deficient, or non-conforming Work. Any such defective, deficient, or non-conforming Work that is not completely replaced or otherwise remains in place, must be accepted prior to the addition of any new Work being constructed on or adjacent to the defective, deficient, or non-conforming Work, unless otherwise mutually agreed by all parties. Approval or disapproval of non-conforming Work shall be given within fourteen (14) days of submittal, or as otherwise mutually agreed. The Concessionaire shall reduce the payment due to the Design-Builder if the Concessionaire elects to accept any non-conforming Work.
- C. If an inspection reveals that Work has not been properly performed, the Design-Builder shall promptly inform the Concessionaire of the schedule for correcting such Work and the time when an inspection of the corrected Work can be made.

1.10.6 Removal of Unacceptable or Unauthorized Work

- A. No Work shall be done until the Design-Builder establishes the applicable right of way, lines and grades. Work that is done beyond the lines shown on the plans, unless otherwise agreed, will be considered unauthorized. Such Work shall be subject to review and may be ordered removed or replaced.
- B. Any Work by the Design-Builder that does not conform to the Technical Requirements, must be promptly identified by the responsible party, as identified in the QMSP. Work will be considered unacceptable if it: (a) does not conform to the requirements of the Contract; (b) is performed contrary to the instructions of the Concessionaire; or (c) is performed without the authorization of the Concessionaire. Unacceptable work shall be remedied or removed immediately unless otherwise determined, and replaced in an acceptable manner at the Design-Builder's expense. Full payment will not be made for any defective, deficient, or non-conforming Work, until such time the Work is satisfactorily completed and accepted. The Concessionaire may elect, in its sole discretion, to accept otherwise unacceptable work at a reduced price and with a warranty extended to five (5) years for the subject portion of the Work.
- C. If the Design-Builder fails to comply promptly with any order of the Concessionaire or the Quality Assurance Manager made under the provisions of the QMSP, the Concessionaire or the Quality Assurance Manager will have the authority to cause unacceptable or unauthorized Work to be remedied, or removed and replaced. If the Design-Builder fails to exercise the appropriate management of the Work with regards to the remedy of defective, deficient, or non-conforming Work, or the prevention of such defective, deficient, or non-conforming Work from re-occurring, the Concessionaire shall have the right to stop or suspend the affected Work until such time the defective, deficient, or non-conforming Work is remedied, and if necessary remedied by other means at the Design-Builder's expense.

1.11 Third Parties and Permitting

1.11.1 Permitting

- A. The Design-Builder shall obtain permits, approvals, and coordinate with any relevant Governmental Authorities and other entities necessary to complete Project NEXT. All Governmental Approvals applicable to the Work will be the responsibility of the Design-Builder, with the exception of those Governmental Approvals for which the Concessionaire or VDOT is responsible per the Contract Documents. The Design-Builder shall provide copies of all permits and permit modifications upon receipt.
- B. The Design-Builder will be responsible for all costs associated with compliance with any ordinance and Law or any violations of Law attributed to the activities of the Design-Builder.
- C. If any work is performed on property owned or controlled by a governmental authority or agency, the Design-Builder shall follow any entity-specific permitting requirements as specified in Sections 1.11 of these Technical Requirements.

1.11.2 Third Parties

- A. If any portion of Project NEXT is located within the limits of a municipality or locality, military installation, or other federally owned property, the Design-Builder shall cooperate with the appropriate officials and agents in the prosecution of the Work to the same extent as with the Concessionaire.
- B. The Design-Builder shall coordinate its activities with municipalities and localities, MWAA, NPS, MDOT-SHA and other contractors working in the area. As required by the Contract Documents, the Design-Builder's work program and schedule shall consider and coordinate with the work of other contractors involved with adjacent work, including maintenance, in the corridor.
- C. If other separate contracts are awarded by the Concessionaire or by other Governmental Authorities, including projects under the PPTA, affect the Design-Builder's Work, including work related to abutting or connecting roadways and maintenance work, the Design-Builder shall coordinate its work with the work being performed by the other contractors. The Concessionaire will contractually require its separate contractors to cooperate with, and coordinate their activities with, the Design-Builder.
- D. The Design-Builder shall be responsible for contacting other contractors regarding their anticipated schedules to complete the associated projects or key milestones of the associated projects.
- E. The Design-Builder shall not impede the access or progress of such work by other contractors, but shall cooperate and coordinate with other contractors for the timely completion of all construction activities. This shall include attendance at coordination meetings deemed necessary or advantageous to properly schedule and sequence the respective work.

1.11.3 Fire Hydrants

- A. No Work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.
- B. When the Design-Builder's Work requires the disconnection of "in service" fire hydrants, the Design-Builder shall notify the locality's fire department or communications center at least 48 hours prior to disconnection. In addition, the Design-Builder shall notify the locality's fire department or communications center no later than 24 hours after reconnection of such hydrants.

1.11.4 Metropolitan Washington Airport Authority Permitting

- A. Designs for Work on Dulles Toll Road and Dulles Airport Access Road facilities may be subject to additional coordination, review and comment, and approval by MWAA representatives. If required by MWAA, the Design-Builder shall prepare separate design submittals for Work on Dulles Toll Road and Dulles Airport Access Road facilities at least at the preliminary, interim and final stages to secure the MWAA's approval.
- B. The Design-Builder shall support and attend technical and coordination meetings with the Concessionaire and MWAA representatives as required, including but not limited to design, access, security, and construction coordination related meetings. The Design-Builder shall prepare the necessary documents for review in advance of these meetings and prepare and provide meeting minutes within 48 hours of such meetings.
- C. Construction activities within the Dulles Toll Road or Dulles Airport Access Road limits, including lane closures, require permits and/or prior approval from MWAA. Additional details on MWAA-specific permitting requirements are provided in Attachment 1.11a.

1.11.5 Maryland State Highway Administration Permitting

- A. Designs for Work on I-495 in Maryland may be subject to additional coordination, review and comment, and approval by MDOT-SHA representatives. If required, the Design-Builder shall prepare separate design submittals for Work on in Maryland and along George Washington Memorial Parkway facilities at least at the preliminary, interim and final stages to secure the MDOT-SHA approval.
 - 1. The Design-Builder shall follow all applicable MDOT-SHA design standards, specifications, special provisions and other requirements, which are available at: <https://www.roads.maryland.gov/mdotsha/pages/Index.aspx?PageId=65>
Additional MDOT-SHA requirements specific to maintenance of traffic, access to work permitting processes and lighting design are provided in Attachment 11.1.b.
 - 2. In addition to the applicable requirements in Section 1.7 (Utilities), the Design-Builder shall work directly with Pepco to establish any proposed points of service for electric power required for NEXT Work in Maryland.
 - 3. Lane closure permit applications and contact information can be found at <https://www.roads.maryland.gov/OOC/Traffic-Control-Permit-Application.pdf>.

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4. Design-Builder Requests for Information from MDOT-SHA, including requests for MDOT-SHA As-Builts, Inspection Reports, or technical studies are to be directed to the MDOT P3 office. Direct inquires may be sent to Bryan Townsend at BTownsend3.consultant@mdot.maryland.gov.
- B. The Design-Builder shall support and attend technical and coordination meetings with the Concessionaire and MDOT-SHA representatives throughout the Construction Period, including but not limited to design, access, security, and construction coordination related meetings. The Design-Builder shall prepare the necessary documents for review in advance of these meetings and prepare and provide meeting minutes within 48 hours of such meetings.
- C. VDOT will be responsible for obtaining the access permit required by MDOT-SHA for Work to be performed in Maryland associated with Project NEXT. The Design-Builder shall submit to MDOT-SHA the design of elements to be constructed in Maryland, along with the proposed maintenance of traffic and traffic control plans for such work. Upon MDOT-SHA review (and revision, if necessary), and approval of the plans, the Design-Builder shall notify the Concessionaire and VDOT no less than 90 days prior to the planned execution of the work in Maryland. The Design-Builder will be notified once the permit has been obtained Work is authorized to be performed in Maryland.

1.11.6 National Park Service Permitting

- A. Designs for Work on George Washington Memorial Parkway facilities may be subject to additional coordination, review and comment, and approval by NPS representatives. If applicable, the Design-Builder shall prepare separate design submittals for Work on George Washington Memorial Parkway facilities at least at the preliminary, interim and final stages to secure the NPS approval.
- B. The Design-Builder shall support and attend technical and coordination meetings with the Concessionaire and NPS representatives as required, including but not limited to design, access, security, and construction coordination related meetings. The Design-Builder shall prepare the necessary documents for review in advance of these meetings and prepare and provide meeting minutes within 48 hours of such meetings.

1.11.7 Fairfax County Park Authority Permitting

- A. Designs for Work on Scott's Run Nature Preserve or other Fairfax County Park Authority (FCPA) facilities may be subject to additional coordination, review and comment, and approval by FCPA representatives. If applicable, the Design-Builder shall prepare separate design submittals for Work on Scott's Run Nature Preserve property at least at the preliminary, interim and final stages to secure the FCPA approval.
- B. The Design-Builder shall support and attend technical and coordination meetings with the Concessionaire and FCPA representatives as required, including but not limited to design, access, security, and construction coordination related meetings. The Design-Builder shall prepare the necessary documents for review in advance of these meetings and prepare and provide meeting minutes within 48 hours of such meetings.

1.12 Emergency Services

- A. The Design-Builder shall comply with the Concessionaire requirements for participation in industry and statutory initiatives regarding emergency management.
- B. The Design-Builder's response to emergencies and extraordinary circumstances as part of Project NEXT will be consistent with regional or VDOT emergency evacuation plans and shall ensure that:
 - 1. Safety of motorists, pedestrians and workforce personnel shall be the primary objective for all decisions and actions;
 - 2. Clearance of a travel lane for emergency response vehicles shall be by the most expedient route whether General Purpose lanes or Express Lanes (in such circumstances, the decision of VDOT or the emergency services in charge shall govern);
 - 3. Military vehicles acting in an emergency response capacity or in defense of the sovereign homeland of the United States of America shall be given free and unrestricted access to the Express Lanes;
 - 4. If the U.S. Secret Service, in coordination with the Virginia State Police, determines movements of the President of the United States require use of the Express Lanes, the Design-Builder shall cooperate and comply fully with respect to Work activities, lane closures and traffic management;
 - 5. VDOT reserves the right, by direction of the Northern Virginia District Administrators or the Northern Regional Operations (NRO) Director, to assume and exercise control of the Express Lanes in part and/or in their entirety, including all applicable systems and field devices via available interfaces; and
 - 6. The Design-Builder will, as needed, participate in emergency management exercises conducted by the Concessionaire, VDOT, or other Governmental Authorities.
- C. During special events that have significant impact on traffic flow, the Design-Builder shall designate a responsible party in charge to work with VDOT's NRO Special Events and Incident Management Coordinator to develop traffic management plans for the event.
- D. Should the Design-Builder fail to respond to an emergency or extraordinary circumstance in a timely manner, the Concessionaire shall have the right to take necessary and appropriate action to handle such emergency or extraordinary circumstance.

1.13 Safety

- A. The Concessionaire and the Design-Builder recognize that in every circumstance, activity, and decision related to Project NEXT, the safety of the public and Design-Builder, Concessionaire, and VDOT personnel is the primary concern. Ensuring and maintaining safety on Project NEXT is paramount.
- B. The Design-Builder's designated Safety Manager shall be responsible for overall Project health and safety programs and shall have the necessary expertise and experience

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required to ensure compliance with applicable laws, the Design-Builder's safety program, and the Concessionaire's safety requirements. If for any reason, including a request from the Concessionaire related to performance, the approved Safety Manager must be replaced during the Contract term, the Design-Builder shall provide notice of such and seek formal approval of the replacement. The Design-Builder shall ensure this function is maintained during any transition period.

- C. The Design-Builder shall comply with the Virginia Occupational Safety and Health Standards adopted under the Code of Virginia and the duties imposed under the Code. Any violation of the requirements or duties that is brought to the attention of the Design-Builder or any other person shall be immediately corrected.
- D. Compliance with current construction safety and health standards and the Safety aspects of these Technical Requirements is a condition of the NEXT Design-Build Contract, and shall be made a condition of each subcontract entered into by the Design-Builder. The Design-Builder and any Contractor shall not require any worker employed in performance of the NEXT Work to place themselves in surroundings or under working conditions that are unsanitary, hazardous, or dangerous to their health or safety, as determined under construction safety and health standards promulgated by the U.S. Secretary of Labor in accordance with the requirements of Section 107 of the Contract Work Hours and Safety Standards Act.
- E. The Design-Builder shall comply with the safety requirements listed below, the Health, Safety, and Environment Requirements included in Attachment 1.13 and the policies and procedures included in the Design-Builder's approved Health, Safety and Security Plan.
 - 1. The Design-Builder shall ensure that the Health, Safety and Security Plan and associated policies and procedures are provided to all relevant personnel before such personnel are permitted access to the Project NEXT site or perform any Project NEXT Work.
 - 2. The Design-Builder shall ensure that all required safety training is properly conducted in a timely manner. At a minimum, foremen and above assigned to the Project shall have CPR, First Aid, and OSHA-10 certification, or demonstrate completion of necessary training and achievement of such certifications within 90 days of assignment to the Project.
 - 3. Specialized training (e.g., work zone safety, confined space, erosion and sediment control, energized lines, etc.) shall be provided to all relevant personnel if such training is required.
 - 4. Hard hats and appropriate safety footwear (steel or composite toe) as per OSHA 1926.100 and ASTM F 2413 (Specification for Performance Requirements for Protective Footwear) shall be worn while participating in or observing all types of field Work when outside of a building or outside the cab of a vehicle, and exposed to, participating in or supervising construction.
 - 5. Respiratory protective equipment shall be worn whenever an individual is exposed to any item listed in the OSHA standards as needing such protection unless it is shown that the employee is protected by engineering controls.

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6. Adequate eye protection (safety glasses as per ANSI/ISEA Z87.1-2010 (Z87+) - Standard for Occupational and Educational Eye and Face Protection Devices) shall be worn in the proximity of grinding, breaking of rock and/or concrete, while using brush chippers, striking metal against metal, or when working in situations where the eyesight may be in jeopardy.
 7. A Class 3 high visibility shirt, vest, or jacket as per ANSI/ISEA 107-2004 (Standard for High-Visibility Safety Apparel and Headwear) shall be required and properly worn at all times on the Project Site or when on or near any roadway, whether or not protected by a concrete or steel barrier. In addition, Class 3 pants are required whenever not protected by a concrete or steel barrier. Note: These must be worn over any other clothing such as rain coats.
 8. Standards and guidelines of the current Virginia Work Area Protection Manual shall be used when setting, reviewing, maintaining, and removing traffic controls.
 9. Flaggers shall be certified in accordance with the Virginia Flagger Certification Program.
 10. No person shall be permitted to position themselves under any raised load or between hinge points of equipment without first taking steps to support the load by the placing of safety bar or blocking.
 11. All Federal, State and local regulations pertaining to explosives shall be strictly followed.
 12. All electrical tools shall be adequately grounded or double insulated. Ground Fault Circuit Interrupter (GFCI) protection must be installed in accordance with the National Electrical Code (NEC) and current Virginia Occupational Safety and Health agency (VOSH). If extension cords are used, they shall be free of defects and designed for their environment and intended use.
 13. No person shall enter a confined space without training, permits, and authorization.
 14. Fall protection shall be required whenever an employee is exposed to a fall six feet or greater.
 15. Hearing protection as per ANSI/ISEA S12.68-2007 for hearing protection must be carried at all times and must be worn when working near areas where excessive noise is being generated.
 16. When working near hot areas, such as road asphaltting, long sleeve cotton shirts and pants must be worn whether night or day.
 17. All damaged or worn PPE must be replaced immediately. No person may undertake any task using or wearing faulty PPE.
- F. If the Design-Builders' actions (or that of its subcontractors or suppliers) create an unsafe environment for the Design-Builder's workers, Concessionaire or VDOT personnel, or the travelling public, upon notification, the Design-Builder shall immediately stop operations in that location to identify the cause(s) and resolve the safety issues. All reports of unsafe behavior received by the Design-Builder will be promptly investigated

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and, where necessary, changes made to the personnel, construction methods or work zone protections.

- G. If required by the Design-Builder's or any subcontractor's performance, or as requested, the Design-Builder shall conduct root cause analyses to determine those factors that are contributing to safety-related incidents and/or trends that are negatively affecting the performance of the work, the health and safety of workers, or the travelling public. In each instance, the Design-Builder shall identify and implement appropriate corrective actions.

H. Safety Reporting

1. The Design-Builder shall submit, on a monthly basis, a Safety Statistics Report that shall, at a minimum, include the following information:
 - a. Number and Rate of First Aid Cases;
 - b. Number and Rate of Recordable Cases;
 - c. Number and Rate of Lost Work Day Cases;
 - d. Number of Days Away from Work;
 - e. Number of Field Work Hours;
 - f. Number of Near-Miss Incidents;
 - g. Number of Utility Hits;
 - h. Number of Investigation Reports;
 - i. Number of Property Damage Claims; and
 - j. Number of Field Personnel.

This information shall be provided for Direct Hire, Subcontract, and Total Labor on the Project. Information shall be provided for Current Month, Year-to-Date, and Project-to-Date.

2. For any First Aid, Near Miss, Injury, Illness, or Property Damage Incident involving the Design-Builder (including subcontractors, consultants and suppliers), within 24-hours of the incident, the Design-Builder shall provide a detailed Report of Incident that shall include time and date, brief description, classification type, location of injury. Within one week of the incident, the Design-Builder shall provide any update of the 24-hour report and an analysis of the root cause of the incident.
3. The Design-Builder shall submit, on a monthly basis, a Safety Corrective Actions Register showing all actions for the month (not just from incident sources, i.e. audits and inspections), their corrective action type (e.g. elimination, administration, isolation, engineering) and their status (open or closed).

I. Safety Leadership Team

1. The Design-Builder shall participate in and support the Safety Leadership Team established for the Project NEXT. The Safety Leadership Team will operate under a charter to provide strategic direction for continuing improvement of the Project's safety performance.

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2. The Safety Leadership Team shall be chaired by the Design-Builder's NEXT Safety Manager and shall include senior representatives from the Design-Builder, Concessionaire, and VDOT.
3. The Safety Leadership team shall meet on at least a monthly basis to review the following performance metrics:
 - Safety performance goals, to assure they are suitable and remain suitable for the entire project;
 - Analyses of trends or incidents, near misses, hazards, observations, and implement appropriate corrective actions;
 - Status of corrective actions and Safety Leadership Team actions;
 - Effectiveness of hazard and risk controls; and
 - Innovative ideas and actions to improve Safety performance.
4. The Safety Leadership team shall undertake regular site visits and establish a Project safety observation program that encourages all parties to make and record safety observations (both positive and areas for improvement) with a view to discussing trends at the monthly meetings.

1.14 Adjacent Project Coordination

- A. The timing and scope of Project NEXT may overlap with other active VDOT, Concessionaire, or third-party projects in the vicinity of the Project limits. The Design-Builder shall coordinate and interface with the respective project teams and their associated consultants and contractors throughout the duration of the project to ensure that the respective projects are safely and properly coordinated and scheduled.
- B. In addition, VDOT conducts annual structural and bridge inspection/maintenance, regular roadway maintenance and paving maintenance that may include work within the Project NEXT limits. Similar maintenance activities may be conducted by MWAA or NPS. The Design-Builder shall cooperate and provide the necessary access to the VDOT, MWAA, or NPS forces to complete these activities. Existing projects that have been awarded for construction and any emergency maintenance projects and their respective contractors shall have priority in scheduling activities in any areas where planned work overlaps.

1.15 Sustainability**1.15.1 General**

- A. Sustainability requirements shall be integrated by the Design-Builder into design and construction of the Project. In general, sustainability shall address practices in the following categories:

Execution Version

1. Energy use;
 2. Land and Water use;
 3. Materials use; and
 4. Environmental quality.
- B. The Concessionaire has established a goal to achieve a Silver Award rating as recognized by the Envision™ Sustainable Infrastructure Rating System of the Institute for Sustainable Infrastructure (ISI). The Design-Builder shall register the Project with the ISI and achieve at least a Silver Award rating for the Project.
- C. The Design-Builder shall provide a qualified Sustainability Coordinator to manage the development of a Sustainability Plan and coordinate implementation of the Plan. This individual shall be an ISI credentialed Envision Sustainability Professional with experience in linear infrastructure projects and a full understanding of the sustainability design and construction processes and programs.
- D. The Design-Builder shall comply with the Concessionaire's monthly sustainability reporting requirements and include such reporting in the Monthly Progress Report.

1.15.2 Energy Use

- A. The Design-Builder shall identify and implement an energy use and emissions strategy that identifies processes and methods to:
1. Avoid or reduce energy use;
 2. Improve energy efficiency;
 3. Source low carbon energy (onsite); and
 4. Source low carbon energy (offsite).

1.15.3 Land and Water Use

- A. The Design-Builder shall identify and implement initiatives to reduce the construction footprint of the Work (permanent and temporary).
- B. The Design-Builder shall minimize total water consumption and potable water consumptions by:
1. Using water efficient controls, fixtures, and fittings;
 2. Collecting, treating, and reusing process water;
 3. Using recycled water or treated water;
 4. Rainwater reuse;
 5. Using water from recycled water networks; and
 6. Collecting, treating and reusing groundwater and stormwater.

Execution Version

- C. The Design-Builder shall meter and record water consumed within temporary facilities and used within the construction site, including, but not limited to, major plant and processing equipment.

1.15.4 Materials Use**A. Waste and Materials**

1. The Design-Builder shall reduce materials use through materials avoidance and reduction strategies and minimize construction materials volumes through design refinement, construction planning and construction methods.
2. The Design-Builder shall reuse construction and demolition waste where practicable.
3. The Design-Builder shall source all lumber products used in the Work (permanent and temporary) from either re-used lumber, post-consumer recycled lumber or from Forest Stewardship Council (FSC) certified lumber suppliers where practicable.
4. The Design-Builder shall avoid the production of hazardous waste.
5. The Design-Builder shall ensure that at least 90% of inert and non-hazardous construction waste, excluding spoil, and at least 90% of office waste is recycled or alternatively beneficially reused.
6. The Design-Builder shall negotiate and implement packaging take back arrangements with suppliers where practicable.
7. The Design-Builder shall select compostable or reusable temporary erosion control devices where practicable.
8. The Design-Builder shall provide recycling facilities within the Construction Site.
9. The Design-Builder shall mulch all cleared vegetation (excluding weeds). The mulch shall be reused on site to the maximum extent possible and any remaining mulch shall be sent to an offsite compost facility.

B. Spoil Management

1. The Design-Builder shall identify and implement initiatives to both reduce spoil quantities, which will be generated during the performance of the Work, and maximize the beneficial reuse of spoil.
2. The Design-Builder shall ensure that the environmental and social impacts of spoil transfer and reuse are effectively managed and minimized.

1.15.5 Environmental Quality

- A. The Design-Builder shall identify and implement initiatives for biodiversity enhancement and enhancing habitat connectivity.
- B. The Design-Builder shall minimize clearance of vegetation during construction of the Work.
- C. The Design-Builder shall undertake any revegetation work as soon as practicable.

Execution Version

- D. The Design-Builder shall identify and implement pollution control initiatives and target zero pollution incidents.

1.15.6 Sustainable Procurement

- A. The Design-Builder shall develop, implement, and maintain procurement processes for informing subcontractors regarding sustainable procurement requirements for purchase of materials, goods, and services.

1.15.7 Sustainability Plan

- A. The Design-Builder shall prepare and submit a project-specific Sustainability Plan within sixty (60) days after Limited Notice to Proceed.
- B. The Design-Builder's Sustainability Plan shall include the following elements:
 - 1. Introduction and Basis;
 - 2. Goals;
 - 3. Sustainability Commitments – list all sustainability elements (mandatory, voluntary, or optional);
 - 4. Implementation Process and Responsibilities;
 - 5. Monitoring Implementation, Measurement, Reporting and Verification; and
 - 6. References.

The Sustainability Plan shall also be consistent with, or include as a component, the Envision Guidance Manual, Envision Credit Cover Sheets, and Envision Pre-Assessment Checklist.

- C. The Design-Builder's Sustainability Plan shall include mandatory and voluntary elements for sustainability on the Project and include a process for identifying and submitting additional cost-effective sustainability opportunities as the Project progresses.
- D. Capture of existing regulatory standards, local government policies and programs, and project requirements that reflect sustainability elements.
- E. The Design-Builder's progress reporting on each criteria element shall be provided on a monthly basis in a tabulated format, list the following for each criteria element:
 - 1. Basis of the Criteria (Code/Document Reference);
 - 2. Detailed description of the Sustainability Criteria Element/commitment;
 - 3. Benefits: Functional, Maintenance, Cost, Schedule, and Life Cycle; and
 - 4. Environmental Benefits – Short and Long Term Implementation Method/Status/verification, including reasons for non-implementation.

2 Public Information and Communications

2.1 Public Information

2.1.1 General Requirements

The Design-Builder, in collaboration with the Concessionaire, shall develop the required process and procedures for public and stakeholder outreach, media relations, and public information during the Work period in the form of a Communications, Public Outreach, and Community Engagement Plan (hereafter ‘Communications Plan’), which will be consistent with the NEXT Technical Requirements, including the requirements in Attachment 1.3. These processes and procedures will acknowledge that there are differing responsibilities for Concessionaire, Design-Builder, and VDOT during the Work period.

2.1.2 Interface and Liaison with the Concessionaire and VDOT

- A. Management protocols shall be developed between the Design-Builder’s Project NEXT communications team, the Concessionaire, and VDOT. These protocols shall address:
 - 1. Regime for regular reporting communications activities, current and outstanding community issues, and recent media activity;
 - 2. Media interfaces, providing clarity of responsibility in relation to media comment on particular aspects of Project NEXT;
 - 3. Stakeholder relations, including Design-Builder’s responsibilities for briefing and providing information to stakeholders on Project NEXT progress and construction milestones;
 - 4. Requirements for the Concessionaire’s review and comment on Project NEXT communications, and public outreach materials;
 - 5. Processes for managing communications surrounding emergency management and recovery operations; and
 - 6. Requirements for interface and liaison with VDOT on public and stakeholder outreach, media relations and public information matters.
- B. Meetings and public interface required by federal and state law will be conducted in accordance with the current version of VDOT’s Public Involvement Manual. The Design-Builder shall conduct additional meetings, public interface, and marketing activities in accordance with the approved Communications Plan.
- C. The Design-Builder shall collaborate with the Concessionaire in the development of all communications and marketing strategies to ensure they are consistent with both parties’ values, needs, and goals. The Design-Builder shall provide the Concessionaire with advance copies of project-related communications materials for review and approval prior to dissemination. The Concessionaire will provide any comments in a timely fashion.

Execution Version

- D. The Concessionaire reserves the right to review and comment on any public communications materials prepared by the Design-Builder related to Project NEXT, including publicity and branding materials.

2.1.3 Project Communications Team

- A. The Design-Builder shall establish a Project NEXT communications team through which all communication and public outreach activities on Project NEXT on behalf of the Design-Builder will be coordinated. The project communications team will include representatives from the Concessionaire, Design-Builder, and VDOT.
- B. The Project NEXT communications team will include:
 - 1. the Concessionaire’s Public Affairs Manager and adequate support staff and/or consultants, who shall have responsibility for coordinating delivery of the Communications Plan. The Public Affairs Manager will manage the relationship with VDOT’s communication team and reporting on all communications and outreach activities;
 - 2. a Design-Builder’s Public Information Manager and adequate support staff and/or consultants, who shall have responsibility for coordinating the Design-Builder’s community outreach and public information activities during the Work period. The Public Information Manager will report to the Design-Builder’s Project Manager but also will support the broader Project NEXT communications team.
- C. The Project NEXT communications team to develop and agree upon team protocols for communication between team members, incorporating measures related to notification and approval timeframes, media interface, and preparation of Project NEXT communication materials.
- D. The Design-Builder shall within thirty (30) days of the Notice of Intent to Award the Design-Build Contract, identify and submit for approval, the individual that will be designated as the Design-Builder’s Public Information Manager, including a summary of relevant qualifications and experience.
 - 1. This individual shall be responsible for overall administration and management of the comprehensive design-build phase communications and public engagement program in coordination with communications representatives from VDOT and the Concessionaire. The individual shall have the necessary expertise and experience required to develop and manage communications programs to mitigate relevant project risks and provide stakeholders with necessary information. The designated Public Information Manager shall be an individual who is dedicated to the Project and is required to be available to the Project on an as-needed basis immediately upon Contract Award and for the duration of construction operations, including pre-construction activities. The individual shall be employed or engaged as a consultant directly by the Design-Builder entity. The Public Information Manager shall be experienced in developing and executing communications programs for design-build projects of a similar size, scope and complexity as the Project. This individual shall attend any required public outreach, public meetings, and participate in all construction-related communications activities on behalf of the Design-Builder.

2. If for any reason, including a request from the Concessionaire related to performance, the approved Public Information Manager must be replaced during the Contract term, the Design-Builder shall provide notice of such within fourteen (14) days and seek formal approval of the replacement. The Design-Builder shall ensure this function is maintained during any transition period.

2.1.4 Design-Builder’s Communications Plan

- A. The Design-Builder shall deliver an integrated Communications Plan for the Work period that:
 1. provides an effective framework for communication between the Design-Builder, Concessionaire, VDOT, travelers, residents and stakeholders;
 2. effectively engages and educates the community in the design and construction of Project NEXT to minimize negative impacts and maximize positive outcomes;
 3. builds a strong and effective relationship with stakeholders and the community within the Project area during the Work period; and
 4. identifies and manages risks associated with Project NEXT.
- B. The Communications Plan, consistent with the Concessionaire’s goals for Project NEXT, shall be presented for review, comment, and acceptance and will form the basis for all Design-Builder communication activities during the design and construction of Project NEXT.
- C. The Communications Plan shall provide a detailed outline of communication tools and strategies to be employed during each phase of the Work period.
- D. The Communications Plan shall contain a crisis communications plan and procedures for timely identification and notification of a crisis, coordination with the Concessionaire, and responsiveness to the media. VDOT will serve as the official spokesperson for matters related to construction crisis communications.

2.1.5 Public Engagement and Awareness

- A. The Design-Builder shall develop and implement a notification program intended to provide information to motorists and stakeholders to facilitate the MOT during ongoing construction activities. This shall include packaging of all MOT information, such as anticipated delays and lane closures, and sharing such information with the Project NEXT communications team on a regular basis throughout the Work period, to facilitate communication with the media, stakeholders, and the broader community. The Design-Builder may need to create graphics to support the program around construction activities.
- B. The Design-Builder shall support the Concessionaire’s development of a public engagement and awareness program to fit within the context of the broader Communications Plan for Project NEXT. The Design-Builder shall provide design information or graphics as requested to support the Concessionaire’s efforts related to:
 1. Education about dynamic pricing;

Execution Version

2. Information on requirements for using HOT Lanes, including HOV eligibility and transponder requirements;
3. Plans for the opening of Project NEXT to traffic and communications that will facilitate a safe and smooth Service Commencement; and
4. Education about driver information systems in use on the HOT Lanes, so motorists understand on-road sources of information and lane controls signals.

2.1.6 Stakeholder Outreach and Information

- A. The Design-Builder's and the Concessionaire's communications team shall maintain an open dialogue with the stakeholders and communities surrounding Project NEXT with the objective of building a long-term relationship based on trust and respect. The Design-Builder shall work with the communities to identify specific concerns and strategies for mitigation.
- B. The Design-Builder shall participate in any Project NEXT public hearings, citizen information meetings, and informational briefings in collaboration with the Concessionaire and VDOT. The Design-Builder shall be responsible for the preparation and production of all materials necessary for such meetings or hearings, including roll plots, static visuals, and fact sheet handouts, as well as provide the necessary support staff members to participate and answer questions as required.
- C. The Design-Builder's Public Information Manager shall be the designated point of contact for the stakeholders to ask questions and share concerns and information during the Work period. The Public Information Manager shall respond to inquiries or forward them to the Concessionaire and/or VDOT (as appropriate) within 24 hours.
- D. The Design-Builder's communication team will be responsible for informing direct-impact residents of relevant upcoming field or construction activities that will or have the potential to be disruptive to the community. These activities include:
 1. anything requiring access to neighborhood common area or resident property for any reason;
 2. any work conducted in VDOT right of way related to noise barrier construction, demolition, vegetation removal, closure of local streets, and earthwork;
 3. outreach, communication and coordination related to the noise barrier balloting process; and
 4. communications tactics that may be required by the Design-Builder may include:
 - a. Door to door outreach,
 - b. Direct Mail,
 - c. Automated dialer campaigns,
 - d. Broad e-mail campaigns,
 - e. Mail campaigns,
 - f. Geo-targeted social media campaigns, and
 - g. Staffing community events to answer questions from the general public.

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- E. The Design-Builder shall join the Concessionaire and VDOT at all informal and formal meetings and briefings with affected stakeholders, including:
1. communication with property owners in direct impact areas;
 2. businesses, non-profit organizations and chambers of commerce;
 3. local, regional, state and federal transit and transportation groups, including operators and groups advancing the interests of bicyclists and pedestrians;
 4. homeowner associations, citizen’s associations, civic associations, rotary and social organizations, groups of renters and other local community members; and
 5. schools, churches and environmental or other interest groups.
- F. The Design-Builder shall also:
1. Develop and maintain a comprehensive stakeholder database to track and manage stakeholder communication;
 2. Support the Concessionaire’s efforts in developing and maintaining Project NEXT website or webpage; ensuring that the website shall, at a minimum, contain a graphical Project NEXT overview, maps and graphics, contact information, plan of work for the coming month, overall Project NEXT schedule, a frequently asked questions area, and updated Project NEXT photos. The Design-Builder shall use a professional photographer to capture project progress during corridor-wide photo shoots on a regular (not less than quarterly) basis. The Design-Builder will coordinate with the Concessionaire to create a photo shot list for the photographer. The website shall be updated as necessary throughout the duration of the Work period;
 3. Develop, in collaboration with the Concessionaire, a proactive program of stakeholder engagements to brief local stakeholders on Project NEXT’s progress, features, and benefits;
 4. Where possible, afford stakeholders the opportunity to provide input to project planning and development;
 5. Develop tailored marketing and communications material for relevant stakeholder groups; and
 6. Establish partnerships with local groups and organizations where there is mutual benefit in supporting Project NEXT.

2.2 Media Relations

2.2.1 Media Outreach

- A. While there will be some overlap between the Parties on some communications and outreach activities during the Work period, the Concessionaire and VDOT will serve as the primary sources to the news media and community stakeholders on specific lane closures, delays, detours, and other construction-related impacts associated with Project NEXT. The Design-Builder’s communications team will put processes in place to ensure

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close coordination with VDOT and the Concessionaire on media outreach activities, issues, and responses, and will promote consistency with the Communications Plan.

- B. The Design-Builder shall support and follow the media protocols developed by the Concessionaire and VDOT, including:
 - 1. Share any media inquiries directly with VDOT and the Concessionaire to allow VDOT and the Concessionaire to provide timely response to media inquiries regarding Project NEXT;
 - 2. Provide relevant Project NEXT information in support of the media in a timely fashion; and
 - 3. Assist the Concessionaire and VDOT in identifying media opportunities and implementing media events.

2.3 Project Marketing

2.3.1 Project Branding

All public communications on Project NEXT will be undertaken within the framework of a uniform project ‘brand’ to ensure consistency of the marketing and communications across all project phases. The branding will be developed by the Concessionaire. The Design-Builder shall follow the project branding guidelines when performing public communications.

2.3.2 Market Research and Analysis

The Concessionaire will design communication, marketing, and public outreach activities to respond to the issues, attitudes, and attributes of the communities and market segments relevant to Project NEXT. The Design-Builder shall support these efforts as requested.

2.4 Elected Official and Agency Outreach

- A. The Design-Builder and the Concessionaire will coordinate closely in outreach and communications to elected officials and other key stakeholders. The Project NEXT communications team will develop and agree upon a protocol to ensure consistent and effective communications to elected officials and key stakeholders related to Project NEXT.
- B. The Design-Builder shall support the Concessionaire and the VDOT as requested to implement the elected official and agency outreach plan by:
 - 1. Creating information materials such as letters, electronic newsletters, fact sheets, maps, graphics, FAQs and press releases as requested;
 - 2. Attending and/or delivering briefings and meetings with local, state and federal elected and appointed officials and their aides related to the design and construction of Project NEXT.

3 Design and Construction Requirements

3.1 General

- A. Project NEXT shall be designed and constructed pursuant to the Contract Documents, including the requirements, criteria, standards and specifications set forth in these Technical Requirements.
- B. Project NEXT shall be designed and constructed to accommodate the future roadways, ramps, and bridges shown in the *Future Project NEXT Phase 2 Concept Roll Plots* and *2045 Design Year Concept Geometry Roll Plots* provided in Attachment 1.0.
- C. The Work shall not preclude the local, state, and federal long-range transportation planning improvements and the ultimate planned roadways in the Metropolitan Washington Council of Government's approved Visualize 2045 Constrained Long-Range Plan (October 2018).
- D. All Design Documentation and Construction Documentation shall comply with the requirements of applicable Governmental Authorities.
- E. Where the Work to be performed does not meet minimum American Association of State Highway and Transportation Officials (AASHTO) Standards and Specifications, the Design-Builder shall submit a Design Exception, pursuant to VDOT's Instructional and Informational Memorandum on Design Exceptions, (using LD-440 format) for approval.
- F. Where the Work to be performed meets or exceeds minimum AASHTO design criteria, but does not meet VDOT's minimum Standards and Specifications, the Design-Builder shall submit a Design Waiver (using LD-448 format) for approval.
- G. The Design-Builder is responsible for design and construction of any mitigation measures identified in or required by the approved Design Exceptions and Design Waivers.
- H. The Design-Builder is solely responsible for acquiring all necessary approvals of Design Exceptions and Design Waivers listed in Attachment 1.5c but not obtained by the Concessionaire prior to Contract Award. If any element of an approved Design Exception or Design Waiver is changed during design or construction, the Design-Builder is required to resubmit the application package for re-evaluation and approval. Previously submitted Design Exceptions and Design Waivers are subject to re-evaluation, if additional information becomes available that was not known at the time of initial submittal or conditions change that were used in the analysis of the original Design Exception or Design Waiver and, in either case, if such additional information or changed conditions materially affect the premise on which the original Design Exception or Design Waiver at issue was based.
- I. The Design-Builder shall make all reasonable efforts to ensure that the condition of existing buildings, structures, roadways, sidewalks, paths, trails, signs, lighting, Concessionaire TMS and VDOT roadside and traffic signal equipment, or other property that is to remain is not adversely affected by the performance of the Work. Prior to commencing Work the Design-Builder shall perform property pre-condition surveys and

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monitor their condition during the Work period. The Design-Builder shall repair any damage caused by the Work to at least a condition comparable to that which existed immediately prior to the damage. The Concessionaire, VDOT and applicable third-parties shall be given the opportunity to witness any pre-condition surveys and/or monitoring and the Design-Builder shall make the results available before commencing any Work that may affect their property.

- J. The properties and quality of materials to be used in the Work shall conform to the specified values or range of values in the Standards and Specifications specified in the Technical Requirements. If permissible tolerances are exceeded or if consistent deviations from the plans or abrupt changes in grade occur, even though within the tolerances, the Design-Builder shall ensure that the affected areas are reconstructed to conform to the specified tolerance such that the Work is fit for its intended purpose.
- K. Project NEXT is considered part of the Strategic Highway Network (STRAHNET).
- L. All Design Documentation and Construction Documentation shall be in US Customary units.
- M. The Design-Builder shall ensure that areas used for the Work are subject to continual and un-interrupted removal of rubbish, scrap material, and debris. Work sites shall have a neat, safe and orderly appearance at all times. Prior to Final Completion the Design-Builder shall remove its construction equipment, materials and debris from Project NEXT Right of Way and other property used by or adjacent to Project NEXT.
- N. When removal of mailboxes and newspaper boxes is made necessary by construction operations, the Design-Builder shall place them in temporary locations so that access to the boxes will not be impaired. Prior to Final Completion, boxes shall be placed in their permanent locations as agreed with the Concessionaire, upgraded to current criteria, and left in as good condition as when found.
- O. The Design-Builder shall make all reasonable efforts to preserve property and improvements along the boundary lines of and adjacent to the Work unless the removal or destruction is absolutely required and consistent with the Construction Documentation. The Design-Builder shall use suitable precautions to prevent damage to such property. If property is damaged, the Design-Builder shall restore property to a condition similar or equal to that existing before such damage was done by repairing, rebuilding, or restoring, or making settlement with the property owner. Where property of third parties has been damaged and repaired by the Design-Builder, the Design-Builder shall obtain from the owner a release from any claim against the Concessionaire.

3.2 Not Used

3.3 Environmental

3.3.1 Environmental Documentation

- A. FHWA has issued a NEPA Document and NEPA Decision for Project NEXT. The Design-Builder shall comply with the environmental commitments set forth in the approved NEXT Environmental Assessment and the NEXT Finding of No Significant Impact (FONSI) and any additional environmental commitments resulting from the Design-Builder's changes to the design or construction limits shown in the RFP Conceptual Plans.
- B. (Not used.)
- C. The Design-Builder shall ensure that the environmental commitments and all conditions of regulatory approvals made in the NEPA Document and FONSI (NEPA Decision) applicable during the performance of the Work are followed or implemented.
- D. If the Design-Builder proposes changes to Project NEXT design and/or Project limits, the Design-Builder shall be responsible for preparation of any studies or information required for the re-evaluation of the NEPA Decision for Project NEXT and any associated Design Public Hearings. The Design-Builder shall also perform any right of way re-evaluation reviews needed to determine that the Right of Way to be acquired is in compliance with the NEPA Document and NEPA Decision. The Design-Builder shall perform all such studies and additional environmental investigations that result from such circumstances with no increase to the Contract Price nor extension of the Contract Time.
- E. Prior to right of way authorization for total and partial takes, the Design-Builder shall provide the Concessionaire with the approved right of way plans and the Re-evaluation for RW Authorization (EQ-201). The Design-Builder shall perform the right of way re-evaluation review to determine the Right of Way to be acquired is in compliance with the NEPA Document and NEPA Decision. For all acquisitions of Project NEXT Right of Way, if the Concessionaire determines that the plans are not consistent with the NEPA Document and NEPA Decision, the Design-Builder shall revise the plans until they are consistent; or the Design-Builder shall provide necessary studies and other information needed to support VDOT's completion and re-evaluation of the NEPA Document for FHWA approval. VDOT will provide copies of all right of way re-evaluation reviews to the FHWA for their review and approval.
- F. The Design-Builder shall update and finalize the Document Re-evaluation for Plans, Specifications, and Estimates (PS&E) Authorization (EQ-200), and update and finalize the Environmental Certification/Commitments Checklist (EQ-103) prior to the Work being released for construction. VDOT will perform the Environmental Certification review and PS&E re-evaluation review and determine if plans are consistent with the scope of the NEPA Document and the environmental commitments included in the NEPA Decision. If VDOT or FHWA determines that the plans are not consistent with the NEPA approvals, the Design-Builder shall revise the plans until they are consistent; or the Design-Builder shall provide necessary studies and other information needed to support completion and re-evaluation of the NEPA Document for FHWA approval.

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VDOT will provide copies of all Environmental Certification reviews and PS&E re-evaluation reviews to the FHWA.

- G. If the Project includes phased work, each phase will be clearly identified and provided in a manner that allows separate authorization of right of way acquisition and construction for each phase. The Design-Builder shall verify that the EQ-200, EQ-201, and EQ-103 forms have been updated and finalized prior to obtaining approval signatures for each title sheet submittal required for right of way acquisition and construction approval.
- H. The Design-Builder is responsible for compliance with applicable Law for potential staging and disposal areas outside the Project NEXT limits. The Design-Builder is also responsible for obtaining a property owner agreement for potential areas outside the existing right of way. Any such potential locations within the existing VDOT right of way, but outside the Project limits, will require the Design-Builder to obtain a Land Use Permit from VDOT.

3.3.2 Environmental Compliance

- A. The Design-Builder is responsible for compliance with all applicable state and federal environmental laws, regulations, and permits. If, at any time, the Design-Builder is deemed to not be in compliance, the Concessionaire has the authority to suspend work, in whole or in part, until such time as the deficiencies or non-compliant items have been corrected. Should any non-compliant item(s) be identified during construction, immediate (and continuous, if necessary) corrective action shall be taken by the Design-Builder to bring the item(s) back into compliance.
- B. The Design-Builder shall be responsible for compliance with pre-construction and construction-related environmental commitments and permit conditions. The Design-Builder shall assume all obligations and costs incurred by complying with the terms and conditions of the permits and certifications. The Design-Builder will be responsible for all costs, fines, penalties, and delays associated with any non-compliant items.
- C. The Design-Builder shall carry out environmental commitments during design and construction, as applicable, as identified in the NEPA Document and NEPA Decision, the final Document Re-evaluation for Right of Way Authorization (EQ-201) and PS&E Authorization (EQ-200), and the final Environmental Certification/Commitments Checklist (EQ-103). The Design-Builder shall provide supporting documentation verifying compliance with all environmental commitments.
- D. The Environmental Management Plan shall include tracking of Project NEXT environmental conditions, commitments, and approvals. The Design-Builder shall provide quarterly update of progress and compliance with NEPA Document and NEPA Decision commitments and any other environmental approvals.
- E. The Concessionaire reserves the right to perform quality assurance of the environmental monitoring of Project NEXT to determine whether the Design-Builder is complying with environmental commitments to Governmental Authorities and is performing activities in accordance with Law and applicable Technical Requirements.

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- F. The Design-Builder shall stipulate that any facility used in the performance of the NEXT Work is not listed on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20 (unless the Design-Builder confirms that Project NEXT is exempt under the Clean Air Act as amended (42 USC 1857, et seq., as amended by P.L. 91-604), the Federal Water Pollution Control Act as amended (33 USC 1251 et seq. as amended by P.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR, Part 15) during the term of the Project.

3.3.3 Water Quality Permits

- A. A Preliminary Jurisdictional Determination (PJD), dated January 15, 2020, was received for this project, and jurisdictional areas are present within the Project limits. The Design-Builder may use the PJD to support the acquisition of necessary water quality permits in accordance with applicable Law and regulations.
- B. The Design-Builder is responsible for any necessary field investigations delineations, coordination, determinations, applications, needed to identify or confirm impacts to jurisdictional streams and wetlands required for construction of Project NEXT.
- C. The Design-Builder is responsible for obtaining all water quality permits, including the development and implementation of avoidance and mitigation measures, required to construct the Project, including those necessary for utility relocations, borrow sites, disposal sites, staging and laydown areas, and access points. Should the Design-Builder propose design changes, permitting requirements may also change. The Design-Builder remains responsible for obtaining any and all necessary water quality permits and permit modifications required by the regulatory agencies
- D. The Design-Builder is responsible for the administration of required state and federal water quality permits and permit modifications required for construction of Project NEXT. The Design-Builder shall be responsible for compliance with pre-construction, construction-related and post-construction permit conditions.
- E. Compensation or stream restoration construction for impacts to streams and wetlands, including the purchase of wetland and stream credits, are the responsibility of the Design-Builder.
- F. The Design-Builder shall be listed as the “permittee” in all cases. These permits, and any permit modifications, are to be obtained by the Design-Builder and any conditions verified prior to commencing construction. Any fines or delays associated with water quality permit violations arising out of the performance of the Design-Builder’s obligations under such permits are the responsibility of the Design-Builder.
- G. The Design-Builder shall not be allowed to begin Work in jurisdictional areas until the permits are secured. Prior to beginning any Work in the jurisdictional areas covered by the water quality permits, the Design-Builder shall notify the Concessionaire, VDOT, and permitting agencies in writing, or obtain a waiver of any required notification period from regulatory agencies. The Design-Builder shall not proceed with Work covered by the water quality permits until the Concessionaire releases such work in writing.

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- H. The Design-Builder shall contemporaneously provide copies of all permits, documentation, and correspondence with regulatory agencies. Construction activities shall not impact regulated areas within the Project limits until all applicable water quality permits have been issued to the Design-Builder.
- I. At the conclusion of the Project, the Design-Builder shall notify the Concessionaire, VDOT, and the regulatory permitting agencies in writing of the completion of the work in the jurisdictional areas covered by the water quality permits. At the completion of the Project, the Design-Builder is required to transfer any Virginia Marine Resources Commission (VMRC) permit(s) to the Concessionaire.
- J. The Design-Builder shall conduct all operations near rivers, streams, or impoundments in accordance with applicable water quality permits and shall not conduct clearing or grubbing within 100 feet of the limits of ordinary high water or a delineated wetland, unless specifically authorized in the permits.
- K. The Design-Builder shall ensure that Project schedules accommodate any Special Provisions, Time of Year Restrictions (TOYR), and the duration of permit acquisition from the regulatory agencies. The Design-Builder shall be responsible for adhering to permit conditions and Special Provisions, as identified in the permit authorizations including but not limited to TOYR, avoidance and minimization recommendations, restoration of temporary impact areas, and countersinking culverts.

3.3.4 Water Pollution

- A. The Design-Builder shall exercise every reasonable precaution throughout the Term to prevent pollution of rivers, streams, and impoundments. Pollutants, such as chemicals, fuels, lubricants, bitumens, raw sewage, paints, sedimentation, and other harmful material, shall not be discharged into or alongside rivers, streams, or impoundments or into channels leading to them.
- B. The Environmental Management Plan shall include a contingency plan for reporting and immediate actions to be taken in the event of a dump, discharge, or spill. Construction discharge water shall be filtered to remove deleterious materials prior to discharge into state waters. During specified spawning seasons, discharges and construction activities in spawning areas of state waters shall be restricted so as not to disturb or inhibit aquatic species that are indigenous to the waters. Neither water nor other effluence shall be discharged onto wetlands or breeding or nesting areas of migratory waterfowl. When used extensively in wetlands, heavy equipment shall be placed on mats.
- C. Temporary construction fills and mats in wetlands and flood plains shall be constructed of approved non-erodible materials and shall be removed by the Design-Builder upon completion of any Work in wetlands or flood plains, unless specifically approved (in writing) to be left in place. The Design-Builder shall revegetate the disturbed area in accordance with Erosion and Sediment Control requirements and Water Quality Permits.
- D. If the Design-Builder dumps, discharges, or spills any oil or chemical that reaches or has the potential to reach a waterway, it shall immediately notify all appropriate jurisdictional state and federal agencies and shall take immediate actions to contain, remove, and

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properly dispose of the oil or chemical in accordance with the local, State and federal requirements.

- E. Excavated material shall be disposed of in approved areas above the mean high water mark shown on the plans in a manner that will prevent the return of solid or suspended materials to state waters. If the mark is not shown on the plans, the mean high water mark shall be considered the elevation of the top of stream banks.
- F. Constructing new bridge(s) and dismantling and removing existing bridge(s) shall be accomplished in a manner that will prevent the dumping or discharge of construction or disposable materials into rivers, streams, or impoundments in violation of Law. Construction operations in rivers, streams, or impoundments shall be restricted to those areas where channel changes are permitted and must be entered for the construction of structures. Rivers, streams, and impoundments shall be cleared of falsework, piling, debris, or other obstructions placed therein or caused by the performance of the Work.
- G. Stabilization of the streambed and banks shall occur immediately upon completion of the Work or during the Work if construction activities are suspended for more than 15 days. The Design-Builder shall prevent stream constriction that would reduce stream flows below the minimum, as defined by the State Water Control Board, during construction operations.
- H. If it is necessary to relocate an existing stream or drainage facility temporarily to facilitate construction, the Design-Builder shall design and provide temporary channels or culverts of adequate size to carry the normal flow of the stream or drainage facility. Prior to beginning the Work, the Design-Builder shall submit a temporary relocation design of streams or drainage facilities for review and approval. Temporary bridges or other structures shall be used to maintain existing stream crossings will be made. All costs for the temporary relocation of streams or drainage facilities shall be included in the Contract Price.

3.3.5 Hazardous Materials

- A. The Design-Builder shall perform any additional studies and investigations as necessary to constitute an appropriate level of due diligence and/or determine actions to ensure due care with respect to Hazardous Materials, including Known Pre-Existing Hazardous Materials Locations, at a minimum, as recommended in the NEXT Environmental Assessment *Hazardous Materials Technical Memorandum* (February 2020). The Design-Builder shall submit a summary of its findings for review and approval.
- B. The Design-Builder's Environmental Management Plan shall include a construction hazardous materials management plan, which shall include:
 - 1. Copies of any environmental site assessments undertaken;
 - 2. Detailed recommendations for further study or site evaluation, where such studies or evaluations are considered necessary to determine impacts to Project NEXT from identified or suspected contamination;
 - 3. Plans for management of any Hazardous Materials used or generated by the Design-Builder during the Work period, and

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4. For any property proposed for acquisition which contains, or could reasonably be expected to contain, a Hazardous Environmental Condition attributable to Known Pre-Existing Hazardous Materials, the appropriate plan for containment, management, mitigation, and/or remediation.
- C. The Design-Builder shall not acquire any property or property rights until all required Environmental Site Assessments (Phase I and Phase II) are complete and approved.
- D. Following the acquisition and vacation of properties and associated activities, the Design-Builder shall perform asbestos inspections of all structures to be demolished (including bridge structures) and if necessary, shall perform asbestos abatement and asbestos monitoring. The Design-Builder shall perform abatement of asbestos-containing materials and asbestos project monitoring in accordance with all Law, as well as the applicable Standards and Specifications set forth in Attachment 1.5a.
- E. The Design-Builder shall be responsible for the development of a Spill Prevention, Control, and Countermeasure Plan as required by regulation and for submission of any required plan(s) prior to start of construction. In the event of spills or releases of petroleum products and other hazardous liquids or solid materials, the Design-Builder shall take immediate action to contain and eliminate the spill release, including the deployment of environmental protection measures to prevent the migration of the spill into the waters of the United States and of worker exposure protection measures. The Design-Builder shall notify the Concessionaire 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.
- F. The Design-Builder shall manage solid waste, hazardous waste, and hazardous materials in accordance with all applicable federal and state environmental regulations and shall implement good housekeeping, waste minimization and pollution prevention practices.
- G. Unless a structure has been otherwise classified, the Design-Builder shall assume all coated structures are Type B.
- H. Asbestos inspection, abatement and project monitoring shall be performed by individuals and firms licensed by the Virginia Department of Professional and Occupational Regulation. Asbestos abatements shall not be performed by an asbestos contractor who has an employee/employer relationship with, or financial interest in, the laboratory utilized for asbestos sample analysis nor shall the asbestos contractor have an employee/employer relationship with, or financial interest in, the asbestos inspector and project designer working on the Project. Copies of all asbestos inspection, monitoring and disposal records shall be provided.
- I. For any asbestos waste and other non-hazardous waste, the Design-Builder shall have the signatory responsibility for the waste shipping manifest(s) and/or bill(s) of lading. For hazardous waste, the Design-Builder shall be considered the co-generator and shall be responsible for preparing the hazardous waste shipping manifest(s) for the VDOT's signature and as otherwise consistent with the signatory requirement under Section 411 of the VDOT Road and Bridge Specifications.

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- J. The Design-Builder shall retain copies of all property studies, documents prepared for containment, management, mitigation and/or remediation, asbestos-related records and any other construction-related Hazardous Materials records. A final copy of all such records shall be submitted within thirty (30) days after Final Completion.

3.3.6 Air Quality

- A. The Project has been assessed for potential air quality impacts and conformity with all applicable Federal and state air quality regulations and requirements. This project is located within an 8-Hour Ozone Nonattainment area and a volatile organic compounds (VOC) and nitrogen oxides (NOx) Emissions Control Area. As such, all reasonable precautions should be taken to limit the emissions of VOC and NOx during construction of the project. In addition, the following VDEQ air pollution regulations shall be adhered to during the construction of this project: 9 VAC 5-130-10 et seq. (Open Burning restrictions); 9 VAC 5-45-760 et seq. (Cutback Asphalt restrictions); and 9 VAC 5-50-60 et seq. (Fugitive Dust precautions).
- B. The Design-Builder shall comply with all applicable Federal and state regulatory requirements, the State Air Pollution Control Law and Rules of the State Air Pollution Control Board, including notifications required therein.
- C. Burning shall be performed in accordance with all applicable Law under the constant surveillance of watchpersons. Care shall be taken so that the burning of materials does not destroy or damage property or cause excessive air pollution. The Design-Builder shall not burn rubber tires, asphalt, used crankcase oil, or other materials that produce dense smoke. Burning shall not be initiated when atmospheric conditions are such that smoke will create a hazard to the motoring public or airport operations. Provisions shall be made for flagging vehicular traffic on affected roadways, if visibility is obstructed or impaired by smoke. At no time shall a fire be left unattended and all applicable open burning restrictions shall be followed.
- D. Asphalt mixing plants shall be designed, equipped, and operated so that the amount and quality of air pollutants emitted will conform to the Rules of the State Air Pollution Control Board. Emission standards for asbestos incorporated in the EPA's National Emission Standards for Hazardous Air Pollutants apply to the demolition or renovation of any institutional, commercial, or industrial building, structure, facility, installation, or portion thereof that contains friable asbestos.

3.3.7 Noise Mitigation

- A. Noise Barrier Requirements
1. The Design-Builder shall provide permanent noise mitigation in compliance with the *Virginia State Noise Abatement Policy* and the *VDOT Highway Traffic Noise Impact Analysis Guidance Manual* and applicable Standard and Specifications set forth in Attachment 1.5a.
 2. Three types of noise barriers will be required for Project NEXT for new and replacement walls. The Design-Builder's Technical and Price Proposals shall be based on the design and construction of the following surface area quantities:

Noise Barrier Quantities

Barrier Type	Barrier Quantity
Ground Mounted Noise Barriers	205,600 square feet
Retaining Wall Mounted Noise Barriers	260,900 square feet
Bridge Mounted Noise Barriers	6,200 square feet

3. These barrier quantities are considered to be the total square footage of the total noise absorption area (surface area of the exposed noise barrier wall and posts facing the roadway) above: a) the existing (or future) ground level (for ground-mounted barriers), b) the elevation of the earth retained by the retaining wall (for retaining wall-mounted barriers), or c) the top elevation of parapet or structural element supporting the noise barrier (for bridge-mounted barriers). The area of any retaining walls or bridge structures used to support the noise barrier panels are not to be included in the determination of final quantities constructed by the Design-Builder for the purposes of determining any quantity adjustments, nor are other and associated works, such as foundations, drainage, wall structural supports, and wall panel areas below finished grade. Based on the results of the Final Noise Abatement Design Report(s) (NADR) and the associated final design plans for noise barriers, if the total surface area of noise barriers (ground mounted, retaining wall mounted and/or bridge mounted) is different than these quantities, one of the following scenarios will apply:
 - a. If the total square foot quantity of each or any type of noise barrier constructed is less than the square foot quantities specified above, the Design-Builder shall credit the Concessionaire for the amount of quantity reduction multiplied by the unit price provided for that noise barrier type in the Design-Builder's Price Proposal.
 - b. If the total square foot quantity of each or any type of noise barriers constructed is more than the square foot quantities specified above, the Concessionaire will compensate the Design-Builder for the amount of quantity increase multiplied by the unit price provided for that noise barrier type in the Design-Builder's Price Proposal.
 - c. Once the final noise barrier quantities have been determined and verified, any credits and compensations provided in (a) and (b) above will be offset against each other such that one aggregate adjusting credit or compensation will be made to the Design-Builder or the Concessionaire for all three types of noise barriers.
4. The unit pricing for each type of noise barrier wall included in the Design-Builder's Price Proposal shall include all direct and incidental costs necessary to design and construct the noise barriers.

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- B. Potential Noise Barriers 12A2 and 13B/NSA26 (located in the vicinity of the I-495/Dulles Toll Road interchange) identified in the NEXT Environmental Assessment *Noise Technical Report* (February 2020) are not required for Project NEXT.
- C. Potential Noise Barriers C and Barrier 10 (in CNE C as identified in the NEXT Environmental Assessment *Noise Technical Report* (February 2020)) shall be evaluated as one continuous noise barrier to minimize the effects of flanking noise to the noise sensitive sites between the two barriers. In the event a continuous barrier is not found to be feasible and reasonable in this area, the barriers shall be evaluated separately as done in the preliminary noise analysis. The Design-Builder shall ensure that any noise barrier gap that remains between Barrier 10 (Extension) and Barrier C be filled in with noise barrier at least as high as the northernmost point of Barrier 10 (Extension) and/or the southernmost point of Barrier C. The gap noise barrier shall be excluded from the Final Design Noise Analysis and instead included in a separate Technical Memorandum and included for construction in all design plans.
- D. Final Design Noise Analysis
 1. The final barrier location(s) and dimension(s) will be determined during the final design noise analysis and development of the NADR(s). The Design-Builder shall re-analyze all noise sensitive receptors in the project area to confirm whether noise mitigation is required. Draft and Final versions of NADR shall be submitted for review and approval. All noise barriers should be named as presented in the *Noise Analysis Technical Report* (February 2020) prepared as part of the NEXT Environmental Assessment.
 2. The final design noise analysis and mitigation designs will be based on the specific environmental traffic data (ENTRADA) developed for the NEXT Environmental Assessment preliminary noise analysis. The Design-Builder shall be responsible for updating the previous ENTRADA for Design Year 2045 based on the Design-Builder's approved design. If required by the Design-Builder's final design, existing noise barriers will be replaced or relocated. The Design-Builder shall include the replacement of all existing noise walls in their NADR analyses.
 3. The Design-Builder shall field verify all dimensions of the existing noise barriers within the Project NEXT corridor to confirm the assumptions necessary for the final noise study modeling.
 4. If reflective panels for noise barrier walls are to be considered or proposed in any locations, the Draft and Final NADR shall consider any impacts from the use of such panels in determining the final noise barrier requirements.
 5. Upon approval of the Final NADR, VDOT shall prepare a concurrence letter outlining the results of the analysis for VDOT's Chief Engineer and FHWA. All noise barriers recommended for construction and concurred with by the Chief Engineer and FHWA are included in the scope of Project NEXT. Once concurrence is achieved, the Design-Builder shall prepare and mail letters by "certified return receipt" to benefitted receptors to ascertain the desire to have noise barriers

constructed as part of Project NEXT. In the event a sufficient number of benefitted receptors do not reply, a second mailing may be required.

E. Noise Barrier Wall Design and Construction

1. Prior to submitting a noise barrier wall plan for the Concessionaire's review, the Design-Builder shall have the noise consultant that completed the NADR review the plan set and certify that the proposed design meets the noise abatement requirements. This certification will be included in the plan set when it is submitted for review.
2. If deviations in the horizontal or vertical alignment of a noise barrier are proposed following concurrence from the Chief Engineer or FHWA, then the Design-Builder shall perform any additional noise analysis and provide the results for review and approval prior to construction (to include fabrication of any unique panels or posts). This will include a plan and profile view of the roadway with the alignments recommended barrier and the proposed design. A justification of the deviation will be included with the plan set. The revised NADR chapter for the noise barrier for which modification is requested will be submitted with this additional information. Written approval of the barrier deviation will be required before the Design-Builder can submit Final for Approval Documentation.
3. A key plan will be clearly labeled to show the location of the ground-mounted noise barriers, retaining wall noise barriers, and bridge-mounted noise barriers.
4. Plan view will provide the alignment of the noise barrier with the roadway plan view.
5. Profiles of the wall alignment will include the noise attenuation line and the existing and proposed elevation. If combo walls (i.e. noise barrier mounted on retaining wall) or bridge-mounted barriers are present along the alignment, different line patterns will be used to distinguish the each type of noise barrier wall being used.
6. Stations of the roadway and noise barrier will be included on both the plan and profile views.
7. Noise barrier walls shall be designed (including location, grading, and drainage) to provide maintenance access for personnel and equipment. The back of the noise barrier wall (including wall elements) shall be offset a minimum of one (1) foot from the existing VDOT right of way line. A ten (10) foot wide permanent maintenance area shall be provided behind the noise barrier wall, inclusive of the necessary right of way and permanent easement widths. Noise barriers shall be located a minimum of ten (10) feet from existing retaining walls or other existing elements to remain in order to accommodate the ten (10) foot maintenance area. If the 10-foot wide maintenance area behind the noise barriers cannot be feasibly provided, the 10-foot permanent easement may be reduced as approved, provided that the noise barriers can be maintained from the roadway side.

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8. A minimum 3 foot wide bench of a slope of 4:1 or flatter shall be provided at the front and back of the noise wall to allow for inspection and maintenance access. The bench shall be sloped away from the wall.
9. All new or replacement noise barriers in the vicinity of the Dominion Virginia Power overhead lines shall accommodate the sag requirements for these lines, or the Design-Builder shall relocate the barrier to avoid any conflicts.
10. The maximum height of new noise barriers mounted on structures (retaining walls or bridges) shall be limited to 30 feet. For continuous noise barriers that include a portion mounted on a structure, the full height required by the Final NADR shall be used for the ground-mounted section(s). The height of “in-kind” replacements for existing noise barriers shall meet or exceed the existing barrier top elevation.
11. For any noise barriers installed on top of MSE retaining walls, the Design-Builder shall meet the structural requirements in Section 3.15.3 and use approved lightweight barrier panels.
12. The color, texture, and finish of all noise barriers shall comply with the aesthetic treatment and color requirements in Section 3.11. Noise barriers shall include a sound absorptive finish on the roadway side. No absorptive finish is required on that portion of the base panels below ground and 6 inches above the ground line.
13. Lightweight noise barrier panels may be used in lieu of concrete panels on retaining walls and bridge structures, provided that all noise attenuation and absorption performance requirements identified in the Final NADR are met. VDOT-approved lightweight panels must be used.
14. The Design-Builder shall apply a VDOT-approved sealant to any noise barrier within 15 feet of a travel lane or shoulder to prevent deterioration of the vertical surfaces from snow removal brine and chemicals.
15. Use of access doors is not allowed unless approved. Access shall be provided via gaps and overlaps in the noise barriers with a 3:1 overlap to gap ratio. If the use of access doors is approved, the Design-Builder shall provide the plans for review and approval. Personnel access doors shall have:
 - a. A minimum inside frame dimension of 48-inches by 86-inches;
 - b. Stainless steel hardware, industrial grade pull handle;
 - c. A deadbolt lock with key on both sides;
 - d. Open away from I-495; and
 - e. A minimum 4-ft by 4-ft, 4-inch thick concrete pad on both sides of the door.
16. When a ground-mounted noise barrier is located within the clear zone, it shall be protected by a standard MB-7D concrete barrier with a four foot wide special design gravel dam using Aggregate Material No. 78 between the concrete barrier and the noise barrier according to the details in Chapter 2E of the Roadway Design Manual. This requirement shall not apply to noise barriers (including combo noise barrier/retaining walls) within the clear zone that are designed to resist minimum

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vehicular collision forces in accordance with the minimum requirements set forth in the applicable Standards and Specification listed in Attachment 1.5a.

17. Noise barrier design shall be coordinated with first responders to ensure access to fire hydrants and other emergency equipment, where feasible.
18. Noise barriers shall be designed and constructed in accordance with the soil parameters included in the final approved Geotechnical Engineering Report.
19. The Design-Builder shall begin construction of new noise barriers within sixty (60) days of the demolition of an existing noise barrier and/or cutting of trees that were acting as a screen for adjacent properties. The Design-Builder shall complete construction of any new noise barrier intended to replace an existing noise barrier and/or trees that were acting as a screen for adjacent properties within 240 days from the start of the demolition of the existing noise barrier or cutting of trees, whichever occurs first, unless otherwise approved. If the Design-Builder is unable to begin construction of a new noise barrier within 60 days of the demolition of an existing noise barrier and/or cutting of trees that were acting as a screen for adjacent properties, the Design-Builder shall provide temporary noise mitigation to noise sensitive receptors where the existing noise barriers and/or trees were removed.

F. Construction Noise

1. The Design-Builder's operations shall be performed so that exterior noise levels measured do not exceed 80 decibels. Noise-sensitive locations are locations where lowered noise levels are essential if the location is to serve its intended purpose, such as residences, hospitals, nursing homes, churches, schools, libraries, parks, and recreational areas.
2. The Design-Builder shall monitor its construction-related noise. If construction noise levels exceed 80 decibels at any noise-sensitive locations, the Design-Builder shall take necessary corrective or preventative actions before proceeding with construction operations at these locations.
3. The Design-Builder shall be responsible for costs associated with the abatement of construction noise and the delay of operations attributable to non-compliance with these requirements.
4. The Design-Builder is responsible for obtaining any required local government noise ordinance variances or waivers necessary to complete the Work, including those required for night-time operations or work that may adversely affect noise-sensitive locations. If the local government identifies a violation, the Design-Builder is responsible for all necessary corrective actions and associated costs, including penalties or fines.
5. Equipment shall in no way be altered so as to result in noise levels that are greater than those produced by the original equipment. When feasible, the Design-Builder shall establish haul routes that direct his vehicles away from developed areas and ensure that noise from hauling operations is kept to a minimum.

6. These requirements are not applicable if the noise produced by sources other than the Design-Builder's operation at the point of reception is greater than the noise from the Design-Builder's operation at the same point.

3.3.8 Cultural Resources

- A. In the event that a previously unidentified historic property (prehistoric or historic district, archaeological site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places) is discovered once construction has begun, the Design-Builder shall immediately halt all construction work in the area of the resource and in surrounding areas where additional subsurface remains can reasonably be expected to occur. Work in all other areas of Project NEXT may continue. The Design-Builder shall immediately notify the Concessionaire. The Concessionaire and VDOT, in cooperation with the Design-Builder, shall then address the discovery in accordance with one of the applicable processes described at 36 CFR 800.13. VDOT shall be responsible for conducting any technical studies needed to determine whether the resource is eligible for inclusion on the National Register of Historic Places and whether Project NEXT will affect the resource, and for implementing appropriate treatment as determined through FHWA's consultation with the Virginia State Historic Preservation Officer (SHPO). Pursuant to §10.1-2302 of the Code of Virginia, prior to conducting any archaeological investigations on state-controlled lands (including state-owned highway right of way), the Design-Builder must first obtain a permit from the Director of the Virginia Department of Historic Resources.
- B. In the event fossils, meteorites, or other articles of paleontological or rare mineralogical interest are discovered during construction, the Design-Builder shall immediately suspend work at the site of the discovery and notify the Concessionaire. The Concessionaire will immediately notify the proper Governmental Authorities charged with the responsibility of investigating and evaluating such finds. The Design-Builder shall cooperate and assist the Concessionaire in protecting, mapping, and removing the finds in consultation with the proper Governmental Authorities.
- C. Any archaeological remains, fossils, meteorites, or other articles of paleontological or rare mineralogical interest found on state-controlled lands (including state-owned highway right of way) are the property of the Commonwealth of Virginia. Articles recovered from other than state-controlled lands are the property of the landowner unless other agreement is reached with the owner.
- D. When the discovery of historic properties, fossils, meteorites, or other articles of paleontological or rare mineralogical interest delay the progress or performance of the Work, the Design-Builder shall notify the Concessionaire immediately.
- E. The Design-Builder shall consider historic properties to be design constraints and avoid impacting them. In addition, the Design-Builder shall notify the Concessionaire in advance of any other project-related activities, including but not limited to staging, borrow/disposal, and any temporary or permanent easements, proposed to be located on or within the view shed of historic properties. These activities, any changes to the design, alignment, right of way limits, or easements, or any additions to the Project, such as

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stormwater management facilities, stream or wetland mitigation sites, or noise barriers, will require review, and could require additional cultural resources studies and/or coordination with the VA SHPO. The Design-Builder is responsible for conducting all cultural resources studies necessitated by the proposed changes, in accordance with the Secretary of the Interior’s *Standards and Guidelines for Archeology and Historic Preservation*, and the Virginia Department of Historic Resources’ most current *Guidelines for Conducting Survey in Virginia*, while VDOT is responsible for coordinating both the studies and the proposed changes with the VA SHPO. The Design-Builder shall then carry out any additional cultural resources commitments that result from such coordination at its sole expense and at no additional cost to the Project.

3.3.9 Section 4(f) and Section 6(f) Resources

- A. Any use of Section 4(f) and Section 6(f) Resources on this Project is addressed in the Project NEXT Environmental Assessment and FONSI. One Section 4(f) resource, the George Washington Memorial Parkway, and one resource designated as both Section 4(f) and Section 6(f), Scott’s Run Nature Preserve are located within the Project limits.
- B. To address Section 4(f) and Section 106 impacts to the George Washington Memorial Parkway, the Design-Builder shall be responsible for the design and construction of the following mitigation measures: a) associated with the National Park Service Finding of No Significant Impact (NPS FONSI), and any b) “context-sensitive” designs required by NPS in the vicinity of the George Washington Memorial Parkway.
- C. To address Section 4(f) and Section 6(f) impacts to Scott’s Run Nature Preserve, the Design-Builder shall develop its design of Project NEXT to not preclude construction of a future replacement parcel (“Fairfax County Park Authority Replacement Parcel”) with proposed right of way limits as shown in Attachment 3.3. All construction activities associated with temporary construction easements are to be completed within six (6) months of the commencement of such activities to avoid any additional permanent use of Section 6(f) lands. The Design-Builder will be responsible for any additional Section 6(f) replacement lands required due to non-compliance with this requirement.
- D. The Design-Builder shall consider any Section 6(f) resources to be design constraints and avoid any further impacts to them beyond those identified in the RFP Conceptual Plans, including but not limited to staging, borrow/disposal, and permanent/utility easements. The Design-Builder shall be responsible for obtaining the appropriate approvals from Fairfax County Park Authority for any temporary construction easements required on Scott’s Run Nature Preserve property
- E. Any changes to the right of way limits or easements as shown on the RFP Conceptual Plans, proposed by the Design-Builder may require additional technical studies and analysis to be performed by the Design-Builder at the Design-Builder’s cost. The Design-Builder shall be responsible for notifying VDOT of plan revisions, right of way/easement changes, and providing any necessary studies and other necessary information to support the Design-Builder’s completion of any additional required Section 4(f), Section 6(f), or Section 106 documentation. VDOT will be responsible for the coordination of any Section 4(f), Section 6(f), or Section 106 documentation with

FHWA and other affected agencies. The Design-Builder shall then carry out any additional commitments that result from such coordination at its sole expense and no additional cost or time delays to the Project.

3.3.10 Threatened and Endangered Species

- A. The NEXT Environmental Assessment *Natural Resources Technical Report* (February 2020) identified those potential Threatened and Endangered (T&E) species where habitats may be present within the vicinity of the Project NEXT corridor. The Design-Builder is advised that new and updated T&E species information is continually added to agency databases and is responsible for updating these findings as necessary to complete any required T&E species coordination, consultation, or approvals.
- B. The Design-Builder shall be responsible for any coordination and consultation (including additional field surveys) to obtain updated information, requirements, and clearances from environmental and other regulatory agencies that provide T&E species oversight. The Design-Builder shall copy VDOT's District Environmental Manager on any submittals requesting concurrence from USFWS on effect determinations of federally-listed species. This additional T&E species coordination and consultation is also a standard component of the water quality permit acquisition process and may result in permit conditions for which the Design-Builder will be responsible. The Design-Builder is responsible for ensuring that all T&E species are correctly identified and impacts assessed, noting that more or fewer resources may be present than initially identified. Avoidance and minimization shall be implemented to the greatest extent possible. The Design-Builder shall provide copies of all documentation and correspondence with regulatory agencies.
- C. The Design-Builder shall take appropriate measures to minimize damage or destruction of any known habitat for T&E species.
- D. The Design-Builder shall obtain any required waiver(s) of time of year restrictions for the northern long-eared bat (*Myotis septentrionalis*) relying on the findings of the Programmatic Biological Opinion for Final 4(d) Rule on the Northern Long-Eared Bat and Activities Excepted from Take Prohibition.
- E. For any Endangered Species Act consultation conducted by the Design-Builder:
 1. The Concessionaire and VDOT's District Environmental Manager must review the USFWS Project Review Package and transmittal letter prior to submittal to USFWS for informal consultation and must be copied on any submittal by non-VDOT entities.
 2. For formal consultation, VDOT's District Environmental Manager must submit formal consultations through the FHWA. If formal consultation is required, the Design-Builder is responsible for developing or obtaining any necessary documentation to support its effect determination.

3.4 Geotechnical

3.4.1 Geotechnical Design

- A. The Design-Builder's Geotechnical Design Engineer shall be responsible for ensuring that all geotechnical investigations, analysis and recommendations that are necessary for the design and construction of Project NEXT are performed in accordance with these Technical Requirements. The Geotechnical Design Engineer shall coordinate with the Design Manager to ensure that all geotechnical design and construction considerations have been properly considered in the design and included in the work plans, specifications, copied notes, and constructability reviews for Project NEXT. This individual shall have a minimum fifteen (15) years of geotechnical engineering experience. The Geotechnical Design Engineer shall have experience and expertise working in the region and/or in areas of similar geologic settings with similar project features and be a Professional Engineer licensed in the Commonwealth of Virginia.
- B. The Concessionaire has prepared a Geotechnical and Pavement Data Report (GDR) provided in Attachment 3.4a. The Design-Builder shall confirm and supplement the GDR as required to support its design and proposed construction methods. The Design-Builder shall collect appropriate data for geotechnical evaluation of embankments, soil and rock cuts, culverts, bridge and wall structures, noise barriers, stormwater management facilities, minor structures, including drainage pipes, and any other earth-supported structures or elements of highway design and construction. The Design-Builder shall be responsible for obtaining any Governmental Approvals required for any borings needed in performance of the Design-Builder's geotechnical investigation for Project NEXT. The Design-Builder shall complete laboratory tests in accordance with pertinent VTM, ASTM or AASHTO standards and analyze the data to provide design and construction requirements. Soils and materials tests shall be performed by a laboratory accredited by AASHTO for each test it conducts for Project NEXT, unless otherwise approved.
- C. The Design-Builder shall provide records of all subsurface explorations and describe the soils encountered and their depth limits, in accordance with the requirements outlined in Chapter III of VDOT Manual of Instructions for Materials Division and conduct the investigation in accordance with an approved exploratory boring plan(s). Preliminary and final/design geotechnical investigations shall be performed to meet the minimum requirements set forth in the applicable Standards and Specification listed in Attachment 1.5a. The final geotechnical investigation plan(s) shall be in compliance with Chapter III of VDOT Manual of Instructions for Materials Division, the AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications, and VDOT Modifications; and Section 700.05 (c) of the VDOT Road and Bridge Specifications unless otherwise approved. The Design-Builder shall provide electronic copies of all subsurface explorations in accordance with the boring log template available on the website address included in Chapter III of VDOT Manual of Instructions for Materials Division. The electronic files shall be provided by a certified Professional Geologist or a suitably qualified registered Professional Engineer licensed in the Commonwealth, in gINT© software, before beginning of construction. Upon request, the Concessionaire

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will provide VDOT's gINT© and Microsoft Access file structures for the Geotechnical Database Management System.

- D. The Design-Builder shall incorporate reliability assessments in conjunction with standard geotechnical analysis methods as described in this section. An acceptable method for reliability evaluation is given by Duncan, J.M. (April 2000) *Factors of Safety and Reliability in Geotechnical Engineering*, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, Discussions and Closure August 2001. A suitable design will provide a probability of success equal to or greater than 99%.

Reliability assessments need not be performed in conjunction with analyses for structural foundations and external (bearing capacity, eccentric/overturning, sliding)/internal stability design of retaining walls, which shall be evaluated based on the required limit state in the AASHTO LRFD Bridge Design Specifications. Design-Builder shall address, however, the variability of soil parameters used in the analyses for structural foundations and retaining walls, as detailed in AASHTO LRFD Bridge Design Specifications Section C10.4.6.1.

The aspects of Project NEXT for which reliability assessments shall be made include: 1) the factors of safety for global stability, and 2) the settlement of embankment slopes, retaining walls, and any other major structures. The variability of the subsurface conditions shall be directly incorporated into the reliability assessments. Where not already required by the Technical Requirements, settlement monitoring shall be provided by the Design-Builder where the probability of success equal to or greater than 99% cannot be achieved for settlement evaluations. The Design-Builder may propose alternative methods for evaluating variability of subsurface conditions, reliability, and minimum factors of safety prior to submission of its design calculations and drawings. The Concessionaire may accept or reject such proposed methods.

- E. The Design-Builder shall provide geotechnical engineering reports and technical memoranda that summarize pertinent subsurface investigations, test, and engineering evaluations for all aspects of the Work. Technical specifications for construction methods that are not adequately addressed in the Standards and Specifications set forth in Attachment 1.5a shall be provided by the Design-Builder. The Design-Builder shall review the Construction Documentation to assure that they have appropriately incorporated the geotechnical components. The quality control-quality assurance documents shall document how each specific geotechnical recommendation or requirement is addressed in the Construction Documentation, and shall reference the drawings that incorporate the pertinent results. The results of the geotechnical investigation and laboratory results shall support the design and construction efforts to meet the requirements for the pavement design set forth in Attachments 1.5a and 1.5b and Section 3.8. The Design-Builder shall have the Geotechnical Engineering Design Report approved before beginning construction of the portion(s) of Project addressed in the report.
- F. The Design-Builder shall minimize differential settlements of the approach to a bridge for new construction and when applicable provide construction recommendations to

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address soil-structure interaction to accommodate the unique construction methods applied to Project NEXT.

- G. All geotechnical work related to the evaluation and design of total and differential settlement shall be completed to satisfy and post-construction performance requirements (i.e., settlement tolerances).
- H. The Design-Builder shall design and construct pavements, subgrades, and embankments to meet the required performance requirements and the following post-construction settlement tolerances:
 - 1. Total vertical settlement less than two inches over the initial 20-years, and less than one inch over the initial 20-years within one hundred (100) feet of bridge abutments;
 - 2. Settlement that will not impede positive drainage of the pavement surface, especially within the travel lanes, nor subject the roadway to flooding in area where it is applicable;
 - 3. Settlement that does not result in damage to adjacent or underlying structures, including utilities; and
 - 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.

Humps, depressions, and irregularities in all pavement sections exceeding the tolerances specified above will be subject to correction by the Design-Builder. The Design-Builder shall notify the Concessionaire for any non-conformance items

The Design-Builder shall consider settlement and design foundations (bridges, retaining walls, pipes and other structures) based upon Attachment 3.4b. Attachment 3.4b outlines two options for managing settlement of structures: (i) limit total settlement to ½” and subsequently limit the need for a refined analysis of the superstructure and substructure; or (ii) allow the Design-Builder to design the structure for its estimates of Elastic, Consolidation, and Secondary settlement (total settlement) and subsequently communicate the total and differential settlement in the general note to the Design Documentation. In either case, a general note shall be placed on the Design Documentation that communicates the amount of settlement evaluated and accommodated by the structure. Specific general note language, along with notes to the designer, are set forth in Attachment 3.4b.

- I. In either case defined in Attachment 3.4b, the total vertical and/or differential settlements of the proposed structures shall not exceed the performance tolerance noted above for pavements and bridge decking. In addition, angular distortion between adjacent foundations greater than 0.008 radians in simple span and 0.004 radians in continuous span structures is not permitted unless approved.

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- J. In the vicinity of existing structures, the Design-Builder shall analyze settlement and flexibility of the existing substructure elements due to changes in loading and shall minimize the impact on the existing structure. In any case, the total settlement of the existing ground shall be limited to ½ inch over 20 years within 100 feet of the structure. If the reduction of total settlement is not feasible, the Design-Builder shall develop an engineered solution that isolates any existing structure(s) from the adjoining settlement.
- K. The Design-Builder's qualified geotechnical engineer shall perform an inspection of all pavement subgrades and minor structure excavations immediately prior to placement of aggregate base, subbase, or bedding materials to identify excessively soft/loose or saturated soils that exhibit excessive pumping, weaving, or rutting under the weight of the construction equipment. Such soils are also considered unsuitable and must be removed or modified in place to provide adequate support for embankment, pavement subgrade or minor structures.

3.4.2 Slope Design

- A. Embankments and certain aspects of retaining wall design are not addressed by LRFD. Embankments and cut slopes shall be designed in accordance with Section 305 of the VDOT Manual of Instructions for Materials Division. Cut and fill slopes shall be no steeper than 2H:1V. Reinforced soil slopes steeper than 2H:1V will not be allowed on this Project. All cut and fill slopes shall be designed to be stable for the interim construction stages, for the end-of-construction condition, and for design-life conditions. Slopes in Potomac Formation clays and silts shall be designed using residual strength values as determined by laboratory testing, neglecting any cohesion. The Design-Builder is responsible for verifying the stability of all slopes, including those retained by structures.
- B. The following factors of safety are to be used with limit equilibrium methods of analysis to identify factors of safety for representative sections of all soil cut and soil embankment fill slopes and/or where slopes are supporting, or are supported by, retaining structures. The factors of safety listed are valid for subsurface investigations performed in accordance with Chapter III of VDOT Manual of Instructions for Materials Division or for site-specific investigation plans approved by VDOT's Materials Engineer. Approval of site-specific investigation plans with reduced boring frequency may require higher factors of safety. Circular failure surfaces shall be analyzed by methods such as the Modified Bishop, Simplified Janbu, or Spencer methods. In addition, block (i.e., wedge failure) analyses may be required to verify the minimum factor of safety. All slope stability analyses shall consider the effects of groundwater, external loads, tension cracks, and other pertinent factors as applicable. The factors of safety specified below are not applicable for rock cut slopes.

Minimum Factors of Safety for Soil Cut/Fill Slopes

Basis of Soil Slope Analysis Parameters	Factor of Safety	
	Involves Structure or Critical Slope ¹	Non-Critical Slope
In-situ or lab. tests and measurements ^{2,3}	1.5	1.3
No site specific tests	N/A ³	1.5

Notes:

1. A critical slope is defined as any slope that is greater than 25 ft. in height, any slope that affects or supports a structure or interstate roadway, or a slope where failure would result in significant cost for repair, or damage to, private property.
 2. Site specific in-situ tests include both groundwater measurements and SPT testing, but may also include CPT or DMT.
 3. Parameters for critical slopes involving structures must be based on specific laboratory testing.
 4. Problem soils (fissured or heavily over-consolidated soils), must be analyzed using shear strength parameters determined from appropriate laboratory strength tests.
 5. Problem soils shall be analyzed for short-term stability and long-term stability shall be analyzed using residual strength parameters obtained from laboratory shear testing. Residual shear strength parameters should be determined by drained direct shear tests using sufficient stress reversals to obtain large strains as discussed in the U.S. Army Corps of Engineers laboratory testing procedures EM-1110-2- 1906. Many reversals are required to reach residual strengths and some references suggest using a pre-split sample (Ref. Engineering properties of Clay Shales, Report No. 1 by W. Haley and B.N. MacIver).
 6. Construction plans shall specify use of soil types consistent with the parameters used in slope analyses.
- C. Potomac Formation clay/silts may be present within the limits of the proposed construction. Global and slope stability analyses of Potomac Formation clay/silts shall be analyzed using residual strength parameters for problem soils wherever they are encountered and/or mapped on local geologic/soils maps.

3.4.3 Pipe Installation Methods

- A. Culverts or utility pipes shall be installed by either conventional methods in accordance with Section 302.03 of VDOT’s Road and Bridge Specifications and VDOT’s IIM-LD-254 (Selection of Pipe Type), or Jack and Bore and/or by Micro-tunneling in accordance with the applicable Special Provisions. Trenchless technology other than these methods of installation is not permitted unless otherwise approved. The Design-BUILDER shall choose which of the methods of installation is best suited for the ground and site conditions where the work is to be performed and that will meet the design requirements of the proposed culverts or utility pipes.
- B. Any utility or storm drain installations that crosses the I-495 mainline travel lanes or ramps shall be installed using trenchless methods. Under no circumstance shall open trench installation of a utility or storm drain be allowable across any mainline travel lanes, shoulders, or ramps that are actively in use during full pipe installation (i.e. lane or ramp closures for pipe installation will not be permitted). Additional changes to traffic patterns utilized only for the installation of pipes using open cut methods shall not be

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permitted. The Design-Builder shall be responsible for requesting and receiving approval for any installations proposed to use the open cut method prior to plan submissions reflecting this work.

- C. The Design-Builder shall establish both the vertical and horizontal tolerances in support of the design. Such tolerances shall be noted on the construction plans. The design tolerance may be more stringent than what is called for in the both the Jack and Bore and Micro-Tunneling Special Provisions; however, under no circumstances shall the performance requirements and design tolerances used in design of either culverts or utility pipes exceed those specified in Road and Bridge Specifications and the applicable Special Provisions without approval. Performance requirements and tolerance stipulated in the Special Provision for Micro-Tunneling shall also apply to conventional tunneling methods.

3.4.4 Geotechnical Exploration Plan Submission and Approval

- A. The Design-Builder shall develop a Geotechnical Exploration Plan (GEP) to supplement information provided in the Geotechnical and Pavement Data Report (GDR) provided in the RFP. Additional explorations shall be performed, as determined necessary by the Design-Builder and to meet the minimum requirements of the Project.
- B. The exploration shall meet or exceed the minimum requirements stated in Chapter III of the VDOT Manual of Instructions for Materials Division, AASHTO LRFD Bridge Design Specifications, and AASHTO Manual on Subsurface Investigations. The Design-Builder shall determine the specific scope of the GEP (exploration locations, depths, etc.).
- C. No field exploration work for the Design-Builder's GEP can proceed without written approval.
- D. Any exploration work performed by the Design-Builder without written approval of the Concessionaire may not be considered part of the supplemental information required for final design.
- E. The Design-Builder's Geotechnical Engineer of Record shall submit the GEP for review and comment at least thirty (30) days before commencement of the work. This shall include at a minimum:
 - 1. An overview of the GEP and objectives;
 - 2. GEP phases and schedule;
 - 3. Number and depths of the proposed borings/cone penetrometer soundings or other proposed explorations, monitoring wells, and other field investigations to meet the minimum requirements of the Project;
 - 4. Drilling methodology;
 - 5. In-Situ Soil sampling types and frequency;
 - 6. Lab tests and quantities;
 - 7. Site access and restoration plans and right-of-entry permits;

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8. Maintenance of Traffic Plan, if required;
 9. Utility clearance procedure; and
 10. A hard copy and electronic .pdf file graphically presenting the GEP including proposed boring and sounding locations.
- F. Written comments on the Design-Builder's proposed GEP will be provided. A Comment Resolution Meeting shall be held after the receipt of the Design-Builder's responses. The Design-Builder shall be responsible for meeting coordination, meeting minutes, and distributing the final resolution for concurrence. The Design-Builder shall resubmit for review and final approval, the GEP that addresses all comments received on the GEP.
- G. Following completion of exploratory work, all as-performed boring/field testing locations shall be surveyed. The survey shall determine station and offset, elevation, and state plane coordinates, which shall be included on the boring logs with accuracy as stated in Chapter III of the VDOT Manual of Instructions for Materials Division. Following drilling and laboratory work, the Design-Builder shall retain all samples until Final Completion and shall provide such samples in accordance with Section 303.06 of Chapter III of the VDOT Manual of Instructions for Materials Division.
- H. 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 lab test results shall be included in the Geotechnical Engineering Report.

3.4.5 Unsuitable Materials

- A. Unsuitable Material is defined as material used as embankment fill, and in cut areas to a depth of at least three (3) feet below subgrade directly beneath pavements and at least two (2) feet beneath the bedding of minor structures and laterally at least two (2) feet beyond the outside edge of the pavement shoulders and bedding limits of the minor structures that meets one or more of the following criteria: classifies as CH, MH, OH and OL in accordance with the Unified Soil Classification System (USCS); contains more than five (5) percent by weight organic matter; exhibits a swell greater than five (5) percent as determined from the California Bearing Ratio (CBR) test using VTM-8; exhibits corrosive or aggressive soil properties as deemed by the Geotechnical Engineer of Record; exhibits strength, consolidation, durability of rock or any other characteristics that are deemed unsuitable by the Design-Builder's Geotechnical Design Engineer for use in the Work. All materials within the uppermost three (3) feet of a pavement subgrade that exhibits a CBR value less than that stipulated in the pavement design shall also be considered unsuitable.
- B. The anticipated locations and methods of treatment for unsuitable materials identified by the Design-Builder's Geotechnical Design Engineer shall be shown on the design plans and cross sections. Acceptable methods of treating unsuitable soils are: a) complete removal from 2 feet beyond the outside edge of shoulder on each side of the pavement or bedding limits of minor structures and replacement with structural fill; b) partial

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removal to at least 3 feet below final pavement subgrade or minor structure bedding elevation to within the limits noted in (a) and replacement with select fill, type I, minimum CBR 30 and geosynthetic material; c) raising grades with select fill and geosynthetic material to provide a minimum three (3) feet of separation between these soils and final pavement subgrade or minor structure bedding; and/or d) chemical stabilization of the soils to a minimum depth of 12 inches below final pavement subgrade. Highly plastic clays and elastic silts mapped as Potomac Formation or Iredell, Jackland or Jackland-Haymarket complex (problem soils) shall not be chemically stabilized. Unsuitable materials and methods of treatment shall be identified on the plans and cross-sections as required by VDOT's Road Design Manual.

- C. 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 shall also be considered unsuitable material. All unsuitable material shall be disposed of and/or treated as discussed in Section 106.04 of the VDOT Road and Bridge Specifications at no additional cost. Topsoil or other organic soils are also considered unsuitable for use in embankment fill other than as a cover for slopes for the purpose of establishing vegetative cover. When used as cover for slopes, the thickness of topsoil shall not exceed twelve (12) inches.

3.4.6 Corrosion Potential for Deep Foundations

- A. The Design-Builder shall evaluate the potential corrosive effects of the soils in all areas in which steel piles will be used. Steel piles in this context include but are not limited to H-piles, pipe piles, and permanent sheet piles. A series of four tests shall be performed for all soils being evaluated for corrosion potential. These four tests are AASHTO T 289 (pH), AASHTO T 288 (resistivity), AASHTO T 291 (chlorides) and AASHTO T 290 (sulfates). The minimum frequency of corrosion series testing shall be as follows:
1. At all substructure unit locations containing steel piles, perform the corrosion series testing every five feet below the proposed footing elevation to a depth of twenty feet below the proposed footing. If proposed fill will be placed below the footing, begin the testing protocol at the top of the existing ground.
 2. At alternating substructure unit locations (e.g., Abutment A, Pier 2, etc.), perform the corrosion series testing within each distinctly different stratum between a depth of twenty feet below the footing and the groundwater table. For single-span structures, perform this testing protocol at both abutments.
 3. At alternating substructure unit locations (e.g., Abutment A, Pier 2, etc.), perform the corrosion series testing within five feet of the groundwater surface. For single-span structures, perform this testing protocol at both abutments.
 4. For all other foundation applications containing steel piles, including retaining walls, corrosion series testing shall be performed at maximum 300 foot intervals

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along the footing length. The corrosion series testing shall be performed: every five feet below the proposed footing elevation to a depth of twenty feet below the proposed footing; within each distinctly different stratum between a depth of twenty feet below the footing and the groundwater table; and within five feet of the groundwater surface.

- B. Once test values are determined, the “corrosive state,” as defined in Chapter 23 of the Manual of the Structure and Bridge Division shall be determined, and the magnitude of steel loss shall be calculated and included in the foundation design. Note that Chapter 23 prohibits the use of steel H-piles where one of the four test results exceeds the values shown for the “extremely aggressive” corrosive state.
- C. Coatings, such as hot-dipped galvanizing, that prevent/delay corrosion of driven steel piles will not be permitted, as it cannot be guaranteed that the entire coating will survive pile installation; however, if a pile will be placed within a pre-bored hole without being driven, hot-dipped galvanizing placed in accordance with the applicable sections of the VDOT Specifications will be permitted. The AASHTO equations for Mechanically Stabilized Earth (MSE) wall steel reinforcement shall be used when calculating the loss of galvanizing. Once the zinc has been depleted, the corrosion rate as determined from the table in Chapter 23 shall apply. The annual corrosion rate after zinc depletion is the applicable value in the table divided by 75 years. Other types of anti-corrosion coatings may be considered, if approved.
- D. Corrosion shall be calculated for all surfaces on the steel piles, including bolt holes, if present. Corrosion of steel connecting devices such as bolts, washers and nuts shall also be considered in the design.

3.4.7 Vibration Control

The Design-Builder shall control vibrations in accordance with the requirements of the *Special Provision for Vibration Control and Monitoring of Existing Structures & Utilities During Construction* included in Attachment 1.5a. In addition to private/adjacent properties, this includes structures under construction by others, structures owned by the Concessionaire or VDOT, and structures constructed by the Design-Builder within the scope of Project NEXT. Adjacent structures shall be defined as structures within a 200 foot radius of driving, drilling, or excavation activities. The Design-Builder shall be responsible for providing vibration monitoring and repairing any and all damage to adjacent facilities and structures for construction-induced damage. The Design-Builder shall provide vibration monitoring data reports.

3.4.8 Coordination and Review by Geotechnical Engineer

The Design-Builder’s Geotechnical Engineer of Record shall identify the elements of the Project for which the Geotechnical Design Engineer or their qualified designated representative is required to monitor/inspect during construction to ensure that the completed Project will function in accordance with the design intent over its expected lifetime. This shall include but is not limited to foundation subgrades, installation and load testing of deep foundations, embankment and pavement subgrades, instrumentation and monitoring of settlement, assessment and treatment for potential weak or unsuitable soils,

rock excavation and rock slopes, and retaining structures that include tie-backs and anchors. These items shall be included as part of the NEXT Design-Builder's inspection plan outlined in its QMSP. All such inspections must be performed by a direct report (i.e., employee or directly contracted subconsultant) of the Geotechnical Engineer of Record.

3.5 Materials

3.5.1 Rights for and Use of Materials Found on Project NEXT

The Design-Builder may use in Project NEXT any materials found in the excavation that comply with the applicable Standards and Specifications set forth in Attachment 1.5a. The Design-Builder shall replace, at its own expense with other acceptable material, the excavation material removed and used that is needed for use in embankments, backfills, approaches, or otherwise, unless used on Project NEXT. The Design-Builder shall not excavate or remove any material from within the construction limits that is not within the grading limits, as indicated by the slope and grade lines. The Design-Builder shall not waste, bury, deposit, or abandon any material within the Project NEXT limits.

3.5.2 Samples, Tests, and Cited Specifications

The Design-Builder is responsible for quality control, quality assurance, and ensuring compliance with applicable specifications and testing requirements. The Design-Builder's QMSP shall outline the procedures for quality assurance, quality control, and compliance with the Technical Requirements. The Concessionaire or VDOT may conduct testing and audits in its performance of their respective oversight obligations.

3.5.3 Material Delivery

The Design-Builder shall advise the Concessionaire at least two weeks prior to the delivery of any material from a commercial source. Upon delivery of any such material to Project NEXT, the Design-Builder shall confirm that the material meets the requirements of the Technical Requirements and, if so, shall provide the Concessionaire with one copy of all invoices (prices are not required).

3.5.4 Plant Inspections

If the Concessionaire inspects materials at the source, the following conditions shall be met:

- A. The Concessionaire shall have the cooperation and assistance of the Design-Builder and producer of the materials.
- B. The Concessionaire shall have full access to parts of the plant that concern the manufacture or production of the materials being furnished.
- C. The Design-Builder shall arrange and bear any cost associated with travel and lodging for the Concessionaire to witness factory acceptance testing (FAT) of any TMS Equipment that the Design-Builder is responsible for providing and that occurs more than 200 miles from the Project NEXT site.

- D. VDOT will perform plant inspections for asphalt, aggregate, and concrete, and all materials must have a mix design currently approved.

3.5.5 Storing Materials

- A. Materials shall be stored in a manner so as to ensure the preservation of their quality and fitness for the Work. When considered necessary by the Design-Builder's Quality Assurance Manager or the Concessionaire, materials shall be stored in weatherproof buildings on wooden platforms or other hard, clean surfaces that will keep the material off the ground. Materials shall be covered when directed. Stored material shall be located so as to facilitate its prompt inspection. As approved, portions of the Project NEXT Right of Way may be used for storage of material and equipment and for plant operations; however, equipment and materials shall not be stored within the clear zone of the travel lanes open to traffic.
- B. Additional required storage space shall be provided by the Design-Builder. Private property shall not be used for storage purposes without the written permission of the owner. Upon completion of the use of the property, the Design-Builder shall furnish a release signed by the property owner indicating that the property has been satisfactorily restored.
- C. Chemicals, fuels, lubricants, bitumens, paints, raw sewage, and other harmful materials as determined by the Design-Builder's Quality Assurance Manager or the Concessionaire shall not be stored within any floodplain, unless no other location is available and only then shall the materials be stored in a secondary containment structure(s) with an impervious liner. Also, any storage of these materials in proximity to natural or man-made drainage conveyances or otherwise where the materials could potentially reach a waterway, if released under adverse weather conditions, must be stored in bermed or diked area or inside a container capable of preventing a release. Double-walled storage tanks shall meet the berm/dike containment requirement except for storage within floodplains. Any spills, leaks, or releases of such materials shall be addressed in accordance with hazardous material requirements in the Contract Documents. Accumulated rain water may also be pumped out of the impoundment area into approved dewatering devices.
- D. New TMS roadside equipment, electronic devices, network and computer gear shall be stored in an environmentally controlled space.

3.5.6 Handling Materials

Materials shall be handled in a manner that will preserve their quality and fitness for the Work. Aggregates shall be transported from storage to the Work in vehicles constructed to prevent loss or segregation of materials.

3.5.7 Unacceptable Materials

Materials that do not conform to the Technical Requirements shall be considered unacceptable. Such materials, whether in place or not, will be rejected and shall be removed from the site of the Work. If it is not practical for the Design-Builder to remove

rejected material immediately, the Design-Builder shall mark the material for identification. Rejected material whose defects have been corrected shall not be used until approval has been given in accordance with the QMSP.

3.5.8 Local Material Sources (Pits and Quarries)

- A. Local material sources, other than active commercial sand and gravel and quarry operations, opened by the Design-Builder or its subcontractors shall be concealed from view from the completed roadway and any existing public roadway. Concealment shall be accomplished by selectively locating the pit or quarry and spoil pile, providing environmentally compatible screening between the pit or quarry site and the roadway, or using the site for another purpose after removal of the material, or restoration equivalent to the original use (such as farm land, pasture, or turf).
- B. Should the Design-Builder wish to source construction materials from (non-commercial) new pits or quarries, the Design-Builder shall furnish a statement signed by the property owner in which the property owner agrees to the use of their property as a source of material for Project NEXT. Upon completion of the use of the property as a material source and its restoration, the Design-Builder shall furnish a release signed by the property owner indicating that the property has been satisfactorily restored. This requirement will be waived for commercial sources, sources owned by the Design-Builder, and sources furnished by the Concessionaire.
- C. Local material pits and quarries that are not operated under a local or State permit shall not be opened or reopened without authorization. The Design-Builder shall prepare a site plan, including the following:
 - 1. The location and approximate boundaries of the excavation;
 - 2. Procedures to minimize erosion and siltation;
 - 3. Provision of environmentally compatible screening;
 - 4. Restoration;
 - 5. Cover vegetation;
 - 6. Other use of the pit or quarry after removal of material, including the spoil pile;
 - 7. The drainage pattern on and away from the area of land affected, including the directional flow of water and a certification with appropriate calculations that verify all receiving channels are in compliance with Minimum Standard 19 of the Virginia Erosion and Sediment Control Regulations;
 - 8. Location of haul roads and stabilized construction entrances if construction equipment will enter a paved roadway;
 - 9. Constructed or natural waterways used for discharge;
 - 10. Sequence and schedule to achieve the approved plan; and
 - 11. The total drainage area for temporary sediment traps and basins shall be shown. Sediment traps are required if the runoff from a watershed area of less than three

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acres flows across a disturbed area. Sediment basins are required if the runoff from a watershed area of three acres or more flows across a disturbed area. The Design-Builder shall certify that the sediment trap or basin design is in compliance with the applicable Standards and Specifications set forth in Attachment 1.5a. Once a sediment trap or basin is constructed, the dam and all outfall areas shall be immediately stabilized.

- D. The Design-Builder's design and restoration shall be in accordance with good industry practice.

3.5.9 Materials Disposal

- A. Unsuitable or surplus material shall be disposed of by the Design-Builder off the Project NEXT Right of Way. The Design-Builder shall obtain the necessary rights to property to be used as an approved disposal area. An approved disposal area is defined as that which is owned privately, not operated under a local or State permit and has been approved for use in disposing unsuitable or surplus material.
- B. Prior to seeking approval of a disposal area, the Design-Builder shall submit a site plan. The plan shall show:
1. the location and approximate boundaries of the disposal area;
 2. procedures to minimize erosion and siltation;
 3. provision of environmentally compatible screening;
 4. restoration;
 5. cover vegetation;
 6. other use of the disposal site;
 7. the drainage pattern on and away from the area of land affected, including the directional flow of water and a certification with appropriate calculations that verify all receiving channels are in compliance with Minimum Standard 19 of the Virginia Erosion and Sediment Control Regulations;
 8. location of haul roads and stabilized construction entrances if construction equipment will enter a paved roadway;
 9. constructed or natural waterways used for discharge;
 10. a sequence and schedule to achieve the approved plan; and
 11. the total drainage area for temporary sediment traps and basins shall be shown. Sediment traps are required if the runoff from a watershed area of less than three acres flows across a disturbed area. Sediment basins are required if the runoff from a watershed area of three acres or more flows across a disturbed area. The Design-Builder shall certify that the sediment trap or basin design is in compliance with the applicable Standards and Specifications set forth in Attachment 1.5a. Once a sediment trap or basin is constructed, the dam and all outfall areas shall be immediately stabilized.

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- C. Disposal areas shall be cleared, but need not be grubbed. The clearing work shall not damage grass, shrubs, or vegetation outside the limits of the approved area and haul roads thereto. After the material has been deposited, the area shall be shaped to minimize erosion and siltation of nearby streams and landscaped in accordance with the approved plan for such work or shall be used as approved. The Design-Builder's design and restoration shall conform to these Technical Requirements.
- D. The Design-Builder shall furnish the Concessionaire a statement signed by the property owner in which the owner agrees to the use of their property for the deposit of material from Project NEXT. The property owner will hold harmless the Concessionaire, their officers, their agents, and their employees. Upon completion of the use of the property as an approved disposal area and restoration thereof, the Design-Builder shall furnish the Concessionaire a release signed by the property owner indicating that the property has been satisfactorily restored. This requirement will be waived for commercial sources and sources owned by the Design-Builder.
- E. The Design-Builder shall obtain a VPDES Construction Permit, as well as any other applicable permits for any disposal area(s), which shall be in compliance with the applicable Standards and Specifications set forth in Attachment 1.5a.

3.6 Drainage, Erosion and Siltation and Stormwater Management

3.6.1 Drainage

- A. The criteria detailed herein, in VDOT's Drainage Manual, and associated Instructional and Informational Memoranda (IIM) shall be used to provide for flood protection, drainage design, erosion and sediment control, and stormwater management. All "should" and "may" statements in VDOT's Drainage Manual shall be interpreted as "shall" and "will" statements respectively, unless otherwise approved. All other hydraulic criteria not referenced herein, including but not limited to, increases in existing flood levels, bridge scour protection, protection of downstream waterways, upstream and downstream property impacts, and compliance with environmental and safety requirements, shall be in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a.
- B. Project NEXT will be governed by the Part II-C Technical Criteria under the VSMP Regulations. The Design-Builder's Final Design Documentation for any hydraulic design shall include a complete set of final drainage computations sealed and signed by a Professional Engineer licensed by the Commonwealth of Virginia in accordance with the latest IIM-LD-243.
- C. The drainage design will include but not be limited to enclosed storm sewer systems, curb inlets, drop inlets, stormwater management systems for water quality and water quantity, manholes, junction boxes, culverts, headwalls, channels, ditches, bridge drainage assemblies and structures that remove and transport runoff or convey stream flows, adequate outfalls, and erosion and sediment control. These efforts shall be in

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compliance with the applicable Standards and Specifications set forth in Attachment 1.5a.

- D. The Design-Builder shall prepare and submit VDOT form LD-445I, the Annual Standards and Specifications form, in accordance with IIM-LD-258. Periodic site inspections shall be performed in accordance with IIM-LD-256.
- E. The Design-Builder shall prepare drainage design criteria and a list of software packages to be used in the design prior to commencement of final design for review and approval.
- F. The Design-Builder shall assemble and review all available data, studies, and development plans impacting the Project NEXT corridor for use in preparing the drainage design.
- G. The Design-Builder shall design and install new drainage facilities and will be permitted to use existing drainage systems that have adequate hydraulic capacities and adequate structural integrity in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a.
- H. Existing drainage assets or facilities that must be replaced, repaired, or rehabilitated as part of Project NEXT are identified in Attachment 3.6. The Design-Builder's planned remediation measure(s) for each pipe shall be approved prior to proceeding to final design for the Project NEXT drainage system.
- I. All existing drainage facilities within the Project NEXT Right of Way that the Design-Builder intends to leave in place, including those that are required to be replaced, repaired, or rehabilitated per Attachment 3.6, shall be evaluated and verified to have adequate hydraulic capacity for the ultimate land use conditions in accordance with the VDOT Drainage Manual and other applicable Standards and Specifications set forth in Attachment 1.5a. The evaluation of existing drainage facilities shall be based on the applicable design storm frequency per the current VDOT criteria.
- J. All existing drainage facilities within the Project NEXT Right of Way that the Design-Builder intends to leave in place, including those which are required to be replaced, repaired, or rehabilitated per Attachment 3.6, shall be evaluated and verified to have adequate structural capacity in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a.
- K. A preliminary Existing Drainage Assessment Report was prepared by the Concessionaire and provided as RFP Supplemental Information. The Design-Builder shall prepare an updated Existing Drainage Assessment Report for review and approval prior to proceeding to final design. The report shall include all of the pipes listed in Attachment 3.6, plus any additional pipes within the Project NEXT Right of Way that the Design-Builder intends to leave in place. The report shall identify any pipe rehabilitation measures on existing drainage assets and facilities to be completed by the Design-Builder and include a certification from the Design-Builder's structural engineer attesting to the structural adequacy of the structures and specific recommendations relative to improvements to the structural condition and serviceability of the structures. The report shall also include a certification from the Design-Builder's drainage engineer attesting to

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the adequate hydraulic capacities of the existing drainage assets or facilities for use in Project NEXT.

- L. Prior to the commencement of construction, the Design-Builder shall ensure that all existing drainage facilities it intends to utilize and leave in place for continued use are completely clean and free of debris and silt prior to the commencement of construction Work on or near such existing drainage facilities. The Design-Builder shall be responsible for cleaning any debris or silt accumulation caused by performance of the construction Work from all (pre-existing and new) drainage facilities used for the Project and associated costs.
- M. As part of the Work, the Design-Builder may tie in or connect new drainage assets it is designing and constructing to existing drainage assets present along the I-495 Corridor. If there is an existing drainage asset the Design-Builder desires to tie in or connect to, but is prevented from doing so because of physical damage to such existing drainage asset, the Design-Builder shall repair or replace the existing drainage asset in the immediate area of the proposed tie-in or connection. Any such repair or replacement work shall be completed in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a.
- N. The above provisions shall not apply if the hydraulic capacity or structural integrity of the existing drainage asset to which the Design-Builder desires to connect is verified to be inadequate by the Design-Builder as a result of the proposed tie-in or connection. In that case, the Design-Builder shall, replace, repair, or otherwise upgrade the existing drainage asset to the extent of the hydraulic or structural inadequacy (in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a) in order to accommodate the proposed tie-in or connection.
- O. All existing culverts, storm sewer, and drainage appurtenances to be abandoned shall be removed and backfilled or filled and plugged with flowable fill.
- P. No drainage inlet grate or at-grade structure will be permitted to be located or extend within the travel way of the Interstate or the associated Interstate ramps, or outside the Project NEXT Right of Way without approval.
- Q. Bridge deck drainage shall be in accordance with the Section 3.15 requirements.
- R. For all impacted permanent structures, the bridge, hydrology, hydraulics, and scour requirements shall be in accordance with the applicable Standards and Specification set forth in Attachment 1.5a, including, but not limited, to AASHTO LRFD Bridge Design Specifications and VDOT Modifications (the more stringent requirements shall govern).
- S. A preliminary Hydrologic and Hydraulic Design Analysis Report was prepared by the Concessionaire and provided as RFP Supplemental Information. As a part of its final design, the Design-Builder shall prepare an updated Hydrologic and Hydraulic Design Analysis (H&HA) Report for impacted major culvert and/or bridge-crossing locations where the 100-year discharge is 500 cfs or more, and/or floodplain studies have been published by federal agencies. The outline for the H&HA will be in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a. The Design-Builder shall ensure the H&HA is coordinated with the bridge design when bridges over

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waterways are involved. The Design-Builder shall provide the final H&HA Report for review and approval prior to the commencement of construction at each impacted major culvert and/or bridge crossing location.

- T. The scour analysis and reporting shall be in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a and shall include all existing structures undergoing major rehabilitations and new and replacement bridges at stream crossings. The scour profile shall also include the effects of existing adjacent bridges and the effect of the new bridge on the existing adjacent bridge. Countermeasures to accommodate scour at existing piers shall only be used when approved. Scour countermeasures shall be provided at existing and new abutments in accordance with the applicable Standards and Specifications as set forth in Attachment 1.5a.
- U. The Design-Builder shall perform a scour analysis on all new retaining walls parallel to stream flow or subject to longitudinal scour in accordance with VDOT Longitudinal Scour Approach” Memorandum. Retaining walls subject to longitudinal scour will be designed to withstand the 500-year super flood scour without the aid of scour countermeasures, unless otherwise agreed and approved. Appropriate bank protections and revetments are required for walls subject to flows and potential bank erosion.
- V. The Design-Builder shall provide streambank stabilization of both banks of Scott’s Run between Old Dominion Drive and I-495 as depicted on the RFP Conceptual Plans. The stabilization design shall be based on the requirements of the current VDOT Drainage Manual, the Virginia Stream Restoration & Stabilization BMP Guide, the Design-Builder’s updated H&HA Report, and geotechnical recommendations.
- W. For the culvert extension at I-495 Northbound Station 601+75 RT, the Design-Builder shall provide an enhanced outfall between the downstream end of the culvert extension to the upstream side of the existing trail as depicted on the RFP Conceptual Plans. The enhanced outfall shall be a series of grade control structures, as defined in the Virginia Stream Restoration & Stabilization BMP Guide, Chapter 4, Section 3. The Design-Builder shall provide bank protection for both banks of the tributary between the downstream side of the existing trail to the confluence with Scott’s Run as depicted on the RFP Conceptual Plans. The bank protection shall follow the Virginia Stream Restoration & Stabilization BMP Guide, Chapter 3, Section 1.
- X. The limits of the 12” minimum streambed material underneath the I-495 NB & SB Bridge over Scott's Run are shown in the RFP Conceptual Plans. The existing streambed material that is disturbed and/or excavated during construction may be reused, otherwise the minimum type, size, and grading of the streambed material shall be similar to the adjacent natural streambed material of Scott's Run and shall be determined by the Design-Builder and submitted for approval. The Design-Builder will be responsible to coordinate the timing and placement of the streambed material with VDOT and the Virginia Department of Environmental Quality.
- Y. The Design-Builder shall not preclude the planned development of Parcels 055, 056, and 057, as presented in the Hill View Estates development plans (Fairfax County #25492-RGP-002-2) dated February 23, 2016. Access to the Project NEXT stormwater facilities is not permitted from the Hill View Estates entrance or driveways.

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- Z. Temporary drainage design shall be provided with each phase of the traffic control plans. For temporary spread calculations, the Design-Builder may utilize either VDOT Drainage Manual section 9.5.2.3 or section 9.3.1, Table 9-1, footnote 3c. The Design-Builder will not be permitted to utilize both criteria for the same temporary traffic pattern.
- AA. During the Work period, the Design-Builder shall provide for positive drainage of all roadway facilities open to construction traffic. Construction activities shall not redirect or add drainage run-off to a private property.
- BB. Metal pipes shall not be utilized for permanent installations.

3.6.2 Erosion and Siltation

- A. The Design-Builder shall develop and implement an erosion and sediment control plan, a stormwater pollution prevention plan, and a post development stormwater management plan in compliance with VDOT's approved Erosion and Sediment Control and Stormwater Management standards and specifications and in accordance with applicable Standards and Specifications set forth in Attachment 1.5a.
- B. The Design-Builder shall exercise temporary and permanent measures, throughout the Term, to control erosion and prevent or minimize siltation of rivers, streams, lakes, and impoundments. Erosion and sediment control measures will be installed in accordance with applicable Standards and Specifications set forth in Attachment 1.5a.
- C. Erosion and sediment control 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 Work to ensure effective and continuous erosion and siltation control. Permanent erosion control measures and drainage facilities shall be installed and operational as the Work progresses before temporary measures are removed.
- D. Erosion and siltation control devices and measures shall be maintained in a functional condition at all times. The Design-Builder shall have, within the limits of Project NEXT and during all land disturbing activities, an employee certified by DEQ in Erosion and Sediment Control, who shall inspect erosion and siltation control devices and measures for proper installation and deficiencies immediately after each rainfall, at least daily during prolonged rainfall, and weekly when no rainfall event occurs. The Design-Builder shall conduct regular reviews of the location of silt fences and filter barriers to ensure that they are properly located for effectiveness and are compliant with applicable permit conditions. Deficiencies shall be corrected immediately. Such employee shall also be certified through Department of Environmental Quality Inspection Certification Program.
- E. Failure on the part of the Design-Builder to maintain appropriate erosion and siltation control devices in a functioning condition may result in the Concessionaire notifying the Design-Builder in writing of specific deficiencies. The Design-Builder shall correct or take appropriate actions to correct the specified deficiencies within 24 hours after receipt of such notification.

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- F. Failure of the Design-Builder to maintain a DEQ-certified Erosion and Sediment Control employee on the project site during land disturbing activities will result in a Project NEXT non-compliance and suspension of Work related to any land disturbing activity, until such time as a certified Erosion and Sediment Control employee is present on the Project.
- G. The Design-Builder shall be responsible for all costs, fines, penalties, and delays associated with any non-compliant items.

3.6.3 Stormwater Management

- A. The Design-Builder shall develop and provide for review and approval a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is comprised of, but not limited to, an Erosion and Sediment Control (ESC) Plan and Narrative, a Pollution Prevention (P2) Plan, a post construction Stormwater Management (SWM) Plan. The SWPPP shall be prepared and implemented by the Design-Builder in compliance with applicable requirements and standards, including the Virginia Erosion and Sediment Control Law and Regulations, the Virginia Stormwater Management Act (VSMA), and the Virginia Stormwater Management Program (VSMP) Regulations. Project NEXT will be subject to the Part II-C Technical Criteria in the VSMP Regulations (9VAC25-870). A SWPPP shall be required for all land-disturbing activities that disturb 10,000 square feet or greater, or 2,500 square feet or greater in a Chesapeake Bay Preservation Area. Land-disturbing activities that disturb one (1) acre or greater require coverage under Department of Environmental Quality's Virginia Pollutant Discharge Elimination System (VPDES) General Permit for the Discharge of Stormwater from Construction Activities ("VPDES Construction Permit"). Where applicable, the Design-Builder shall apply for and retain coverage under the VPDES Construction Permit for those land disturbing activities for which it has control. The required contents of a SWPPP for those land disturbance activities requiring coverage under the VPDES Construction Permit are found in Part II-A of the General Permit section of the VSMP Regulations (9VAC25-880-70).
- B. An working ESC Plan and post-construction SWM Plan and SWPPP for the entire Project NEXT must be reviewed and approved prior to the Design-Builder applying for coverage under the VPDES General Construction Permit. This Plan Submittal shall include the proposed total expected Land Disturbance Area and Land Development Area, including off-site facilities, for the entire Project. Such plans shall be prepared in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a and submitted approval before the commencement of any land disturbing activities. The SWPPP, including ESC Plan and SWM Plan, shall be kept current as design work progresses. Updated versions of the SWPPP, including ESC Plan and SWM Plan, must be submitted for review and approval before the Concessionaire will approve Final for Approval Documents. The Design-Builder shall be responsible for reading, understanding, and complying with all the terms, conditions and requirements of the permit and the SWPPP, including the following:
 - 1. **Project NEXT Implementation Responsibilities.** The Design-Builder shall be responsible for the installation, maintenance, inspection, and, on a regular basis,

ensuring the functionality of all erosion and sediment control measures and all other stormwater and pollutant runoff control measures identified within or referenced within the SWPPP, plans, specifications, permits, and elsewhere in these Technical Requirements. The Design-Builder shall take all reasonable steps to prevent or minimize any stormwater or non-stormwater discharge that will have a reasonable likelihood of adversely affecting human health or public and/or private properties.

2. **Certification Requirements.** In addition to satisfying the personnel certification requirements contained herein, the Design-Builder shall certify its activities by completing, signing, and submitting Form C-45 VDOT SWPPP Contractor and Subcontractor Certification Statement, at least seven (7) days prior to commencing any Project NEXT related land-disturbing activities, both on-site and off-site.
3. **SWPPP Requirements for Support Facilities.** The Design-Builder shall develop a SWPPP with an ESC Plan, a P2 Plan, and a SWM Plan for submission and acceptance prior to usage of any on-site or off-site support facilities, including borrow and disposal areas, construction and waste material storage areas, equipment and vehicle storage and fueling areas, storage areas for fertilizers or chemicals, sanitary waste facilities, and any other areas that may generate a stormwater or non-stormwater discharge related to performance of the Work. Such plans shall document the location and description of potential pollutant sources from these areas and shall include a description of the controls to reduce, prevent, and control pollutants from these sources, including spill prevention and response. The Design-Builder shall submit such plans and documentation as specified herein for review and approval with the initial Plan Submittal. If the VPDES permit was previously applied for without including the Support Facilities, the Design-Builder will need to revise the SWPPP and may need to file a VPDES permit modification.
4. **Inspection Requirements.** The Design-Builder shall also have on-site, during any land disturbing operations, an individual or individuals holding a VDEQ Inspector Certification, a VDEQ Responsible Land Disturber (RLD) Certification and a VDOT Erosion and Sediment Control Contractor Certification (ESCCC) to ensure compliance with all VDEQ and VDOT ESC Plan implementation requirements. It shall be the responsibility of the Design-Builder's certified ESCCC representative and the Design-Builder's VDEQ certified ESC Inspector to monitor Project compliance with the approved SWPPP. The Design-Builder's VDEQ certified ESC Inspector must represent the Quality Assurance firm for the Project. The inspections carried out by the Design-Builder's certified ESCCC representative and the Design-Builder's VDEQ certified ESC Inspector shall be in accordance with the VDOT QA/QC Guide and Part 5 (NEXT Division I Amendments), Section 107.16(e). The inspections shall be documented and certified by both the Design-Builder's ESCCC representative and the Design-Builder's VDEQ certified ESC Inspector on the Construction Runoff Control Inspection Form (C-107 Part I). Failure of the Design-Builder to maintain a DEQ-certified SWM inspector on the Project site during construction of SWM facilities will result in a Project NEXT non-compliance and suspension of Work related to any SWM facilities, until such time as a certified SWM inspector is present on the Project.

5. Reporting Procedures

- a. Inspections. The Design-Builder shall be responsible for conducting inspections in accordance with the requirements herein. The Design-Builder shall document such inspections by completion of Form C-107, Construction Runoff Control Inspection Form and Continuation Sheet, in strict accordance with the directions contained within the form.
- b. Unauthorized Discharge Requirements. The Design-Builder shall not discharge into state waters, sewage, industrial wastes, other wastes or any noxious or deleterious substances, nor shall otherwise alter the physical, chemical, or biological properties of such waters that render such waters detrimental for domestic use, industrial consumption, recreational, or other public uses.
- c. Notification of Non-Compliant Discharges. The Design-Builder shall immediately notify the Concessionaire upon the discovery of, or potential of, any unauthorized, unusual, extraordinary, or non-compliant discharge from the land disturbing activity. Where immediate notification is not possible, such notification shall be not later than 24 hours after said discovery.
- d. Detailed Report Requirements for Non-Compliant Discharges. The Design-Builder shall submit within five (5) days of the discovery of any actual or potential non-compliant discharge, a written report describing details of the discharge to include its volume, location, cause, and any apparent or potential effects on private and/or public properties and state waters or endangerment to public health, as well as steps being taken to eliminate the discharge. A completed Form C-107 shall be included in such reports.

6. Changes, Deficiencies and Revisions

- a. Changes and Deficiencies. The Design-Builder shall report when any planned physical alterations or additions are made to the land disturbing activity or deficiencies in the Project NEXT plans are discovered that could significantly change the nature or increase the quantity of the pollutants discharged from the land disturbing activity to surface waters.
 - b. Revisions to the SWPPP. Where site conditions or construction sequencing or scheduling necessitates revisions or modifications to the erosion and sediment control plan, storm water management plan, or any other component of the SWPPP for the land disturbing activity, such revisions or modifications shall be approved and documented by the Design-Builder on a designated plan set. Such plans shall be kept on the Project NEXT site at all times and shall be available for review upon request. If a revision to the SWPPP results in a significant increase to the project Land Disturbance Area, the Design-Builder, in consultation with DEQ, may need to file a VPDES permit modification.
7. The Design-Builder shall not proceed with work to be covered by the permit until permit coverage is secured and the Concessionaire releases the work in writing. Any request for an exception from the technical criteria of the VSMP regulation shall be coordinated and approved prior to receiving permit coverage. It is noted

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that permit coverage, and subsequent release of work, can take up to ninety (90) days from the time that the Design-Builder submits a request for coverage that includes all required information. The Design-Builder shall provide a completed SWPPP Certification form (C-45) before commencement of any land disturbing activity and shall complete and include the SWPPP General Information Sheets in the plan assembly. The SWPPP Certification form (C-45) and SWPPP General Information Sheets shall be updated with each work segment submittal as necessary.

8. The Design-Builder shall be responsible for compliance with construction-related permit conditions and shall assume all obligations and costs incurred by complying with the terms and conditions of the permit. Any fines associated with permit or regulatory violations shall be the responsibility of the Design-Builder. Upon completion of the entire regulated land disturbing activity (including final stabilization of all disturbed areas), the Design-Builder shall provide updated/revised Permanent Best Management Practice (BMP) information in Section VI of the SWPPP General Information Sheets for each post construction BMP placed into service on the Project, provide As-Built drawings of all post-construction stormwater management facilities located on the Project, complete the VPDES Construction Permit Termination Notice form (LD-445D), and submit all documents for processing.
- C. The Design-Builder shall be responsible for the design and construction of stormwater management facilities as required for the Project in accordance with the latest version of IIM-LD-195, and the other standards and reference documents listed in Attachment 1.5a, including the Virginia Stormwater Management Program Act and the Virginia Stormwater Management Program (VSMP) Regulation, and shall comply with the minimum geotechnical requirements contained therein. The locations of potential stormwater management facilities identified in the RFP Conceptual Plans are preliminary and have not been fully evaluated to determine if these locations are suitable, feasible, or sufficient to address all of the stormwater management requirements of the Project. The Design-Builder, as a part of final design, shall develop a final post-construction stormwater management plan and construct facilities that meet all applicable requirements.
1. The Design-Builder is to insure proper access for maintenance vehicles and personnel to any stormwater management facility and that any specific proprietary facilities have proper maintenance details included in the As-Built Plans. When a stormwater management basin is located outside limited access fencing, maintenance access should be provided from a separate public road where economically feasible. When maintenance access can only be provided from a limited access roadway, a locked gate shall be provided.
 2. A preliminary Drainage and Stormwater Management Report was prepared by the Concessionaire and provided as RFP Supplemental Information. The Design-Builder shall prepare an updated Drainage and Stormwater Management Report as part of its final design incorporating all drainage, hydraulic and SWM calculations and analysis, including pre- and post-development discharges at project limit

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outfall locations, capacities, and supporting data, such as drainage areas (with maps), ground cover calculations, etc., in accordance with the documentation requirements as outlined in the VDOT Drainage Manual. Drainage area maps shall show, at a minimum, the basin limits, flow path used for the time of concentration calculations and the different land uses. For offsite drainage areas the most detailed available mapping shall be used such as County GIS mapping. Summary tables for ditches, spread, storm sewer, and hydraulic grade lines shall be prepared per the VDOT Drainage Manual and contain as a minimum all the information shown in the standard VDOT forms. The summary forms for ditches, spread, and storm sewer calculations shall be organized and show the drainage system in order from upstream to downstream with a separate table for each individual ditch or storm sewer system. Hydraulic grade lines summary tables shall show the hydraulic grade line elevations for each individual system in a downstream to upstream order.

3. For drainage pipes (storm sewer or culverts) under the Interstate or the Interstate ramps, a minimum diameter of 24-inches shall be used.
4. For connections where a new drainage pipe (storm sewer or culverts) is required between the culverts underneath existing I-495 travel lanes and where the height of fill is over 20 feet, a minimum diameter of 60-inches shall be used.
5. To address the water quality impacts of Project NEXT, the Design-Builder may use Nutrient Credits to meet up to eighty percent (80%) of the required Total Phosphorus (TP) removal requirement. The Concessionaire will be responsible for acquiring up to 42 pounds of Nutrient Credits at an approved location for use on Project NEXT to count toward the Design-Builder's 80% TP removal requirement. The Concessionaire's acquisition of Nutrient Credits shall be limited to the lesser of 42 pounds or the amount needed to meet the 80% of the TP removal requirement based on the Design-Builder's final design,. Any remaining TP removal requirements must be met by the Design-Builder's purchase of additional Nutrient Credits at an approved location (up to the allowable limit) or addressed with on-site, above-ground SWM facilities. The facilities TP Mass Load Removal efficiencies must be based on the Part II-C requirements, including the 1999 Virginia Stormwater Management Handbook, Volume II, Table 5-15.
6. Use of underground detention facilities and manufactured treatment devices is prohibited.
7. Plantings for bioretention swales or other proposed water quality features shall be developed in accordance with the Virginia DEQ criteria for appropriate species, density, and planting zones for developing water quality features.
8. Bioretention and dry swales will be permitted in fill sites and adjacent to retaining walls pending approval of the Design-Builder's geotechnical analysis and proposed measures as necessary to mitigate impacts to the adjacent fill slopes and retaining walls. The Design-Builder's stormwater design submittals shall include geotechnical analysis, recommendations, and construction measures as necessary to mitigate fill slopes and retaining walls adjacent to these facilities.

9. Use of sand filters and infiltration facilities, as defined in 9VAC25-870-93, 9VAC25-870-96, and the Virginia Stormwater Management Handbook, is prohibited.

3.7 Roadway Design

3.7.1 General Requirements

- A. The Design-Builder shall prepare the final geometric design of the roadway. Functional classifications for roadways and specific design criteria for Project NEXT are to be developed per the standards, specifications and criteria set forth in Attachments 1.5a and 1.5b.
- B. The alignments and profile as provided in the RFP Conceptual Plans have been reviewed and have been found to be acceptable for use on Project NEXT and for potential future general purpose lane improvements. The Design-Builder shall confirm the necessary details during final design and may propose revised designs that meet the applicable design criteria and standards without impairing the essential functions and characteristics of the design, including safety, traffic operations, desired appearance, maintainability, environmental protection, drainage, future considerations, and the constraints of any regulatory approvals. Both the Concessionaire and VDOT will have the right to accept or reject such revised designs.
- C. Except as allowed by the Design Exceptions and Design Waivers set forth in Attachment 1.5c, the design speed for the NEXT portion of the 495 Express Lanes shall be 70 miles per hour minimum south of Georgetown Pike. The design speed for the NEXT portion of 495 Express Lanes north of Georgetown Pike and modifications to the existing I-495 general purpose lanes shall be 60 miles per hour minimum. The design speed for all exit or entrance ramps and other roadways shall be in accordance with Attachment 1.5b. Except as allowed by the Design Exceptions and Design Waivers set forth in Attachment 1.5c and any additional Design Exceptions and Design Waivers obtained by the Design-Builder, the NEXT portion of the 495 Express Lanes and shoulders, and I-495 general purpose lanes and shoulders, shall meet VDOT's criteria for Interstate highways, as described in the Standards and Specifications set forth in Attachments 1.5a and 1.5b.
- D. Except as allowed by the Design Exceptions and Design Waivers set forth in Attachment 1.5c and any additional Design Exceptions and Design Waivers obtained by the Design-Builder, all new and existing ramps shall be designed with a parallel design, with the exception of exit ramps (which may be designed as taper-type exits) and the convergence of DTR Ramps D2 and G3 (which may be designed as a taper-type entrance). Acceleration and deceleration lengths shall be designed to meet AASHTO requirements, including operational characteristics of the ramp. Where AASHTO indicates a desirable dimension or a range of lengths, the desirable or larger values shall be used, unless constraints prohibit this length and the reduction justification is approved.
- E. Design-Builder shall provide a continuous physical barrier wall between the northbound and southbound Express Lanes, and tubular delineators (flexible channelizing posts)

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between the General Purpose Lanes and the Express Lanes throughout the corridor. Median cross-overs between the northbound and southbound Express Lanes shall use tubular delineators consistent with those in use on the existing 495 Express Lanes to deter unauthorized use.

- F. Standard MC-3B Asphalt Curb shall be used in conjunction with paving under guardrail on fill heights over 7.5 feet.
- G. New or replacement guardrail shall be provided in accordance with the requirements in Section 3.10.
- H. The Design-Builder shall design and construct Project NEXT to accommodate the future extension of the 495 Express Lanes northward towards Maryland. The required accommodations are as follows:
 - 1. The Design-Builder shall construct the Phase 1 and future southbound pavement from the I-495 General Purpose Lanes gore area at Ramp NW (approximate Station 272+00) to the “southbound interface line” as shown in the RFP Conceptual Plans. The pavement in this area shall be of sufficient width, elevation, and cross-slope in order for the future Maryland project configuration to connect at the “southbound interface line” and overlay and restripe the pavement south of this interface.
 - 2. The Design-Builder shall construct the Phase 1 and future northbound pavement from approximately 300 feet south of Live Oak Drive (approximate Station 674 +00) to the “northbound interface line” as shown in the RFP Conceptual Plans. The pavement in this area shall be of sufficient width, elevation, and cross-slope in order for the future Maryland project configuration to connect at the “northbound interface line” and overlay and restripe the pavement south of this interface.
 - 3. The Design-Builder shall construct the Phase 1 and future pavement for Ramps G21, G22, G23, E21, E22, NW, and SW as shown in the RFP Conceptual Plans. The pavement along these ramps shall be of sufficient width, elevation, and cross-slope for the future Maryland project and/or future expansion of the Georgetown Pike interchange (as shown in the *2045 Design Year Concept Geometry Roll Plots* provided in Attachment 1.0) to connect with an overlay and restriping.
- I. All roadside features throughout the areas defined in Section 3.7.1.H shall be located such that they do not require relocation as part of the Maryland project or future expansion of the Georgetown Pike interchange (as shown in the *2045 Design Year Concept Geometry Roll Plots* provided in Attachment 1.0).

3.7.2 Requirements for Operational Analysis

- A. The Design-Builder shall be responsible for compliance with applicable commitments and operational improvements required by the approved Project NEXT Interchange Justification Report (IJR).
- B. The Design-Builder shall provide an operational analysis for any proposed changes to the Project NEXT designs as presented in the RFP Conceptual Plans and/or the approved

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Project NEXT IJR. If any such changes are deemed acceptable, the Design-Builder shall prepare any necessary IJR amendments.

- C. The operational analysis shall demonstrate that the Design-Builder's revised design does not have an adverse impact on the safety and operation of the existing and proposed facility based on an analysis of current and future design year traffic. Traffic and operational analysis shall conform to all applicable VDOT and FHWA requirements.

3.8 Pavement

The locations and scope of work for pavement improvements, including areas of widening and new pavement construction, areas of pavement demolition and reconstruction, areas of resurfacing (mill and overlay), including at the project termini transition zones are provided in the RFP Conceptual Plans and shown on Attachment 3.8 (Minimum Pavement Requirements). The required pavement improvements and associated design requirements in this Section 3.8 have been developed to: a) maximize the reuse of existing pavement, b) ensure that minimum pavement section requirements are consistently met, and c) optimize roadway profiles and grades.

Areas of reconstruction and new pavements, including new shoulders, shall meet the requirements of Section 3.8.2. Areas of existing pavement reuse shall meet the requirements set forth in Sections 3.8.3 and 3.8.5. Reuse of existing pavement may require a build-up or a decrease in the pavement section in order to provide appropriate cross slopes and the resulting pavement sections shall meet minimum pavement section criteria of this Section 3.8. Where existing composite pavements are reused, all cracks and transverse joints in the pavement shall be repaired in accordance with the requirements in Section 3.8.4.

3.8.1 General Pavement Requirements

- A. Pavement designs for all travel lanes and shoulders shall meet the requirements of this Section 3.8 and Chapter VI – *Pavement Design and Evaluation* of the VDOT Manual of Instructions for Materials Division. The Design-Builder may propose changes to the specified minimum pavement sections for the Express Lanes and General Purpose travel lanes and shoulders that either a) increases the thickness of the base or subbase layers specified in Section 3.8.2 or b) uses an alternative base, drainage, and/or subbase layer type and thickness that meets or exceeds the Structural Number of the minimum pavement sections specified in Section 3.8.2 without compromising long-term strength or durability. Use of a consistent pavement design for the Express Lanes and General Purpose lanes and shoulders for the entire length of the Project is required. Changes to the minimum pavement sections that rely on Resilient Modulus and/or a CBR value that violates the requirements of Section 3.8.1.E are not acceptable. Any proposed variations to the pavement designs must be presented and accepted as part of the RFP response. Final details for any accepted RFP variations are subject to approval during the detailed design phase.
- B. The Design-Builder shall prepare and incorporate final pavement design details into the plans, typical sections, profiles, and cross-sections in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a. This shall include, but is not

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limited to, underdrains, stormwater inlets and pipes, and pavement sections reflecting the elements identified in the Design-Builder's final pavement design.

- C. The Design-Builder shall add the following note to the typical section sheets in the construction plans: "The VDOT District Materials Engineer shall be notified within 24 hours of exposing the existing concrete, and at least 48 hours prior to placement of widening pavement, to allow for verification of the exposed edge of pavement."
- D. Pavement design and construction shall meet the requirements of the Federal pavement policy, 23 CFR 626 (Chapter 1).
- E. The minimum pavement sections shall be based upon the following requirements:
 - 1. A minimum soil CBR value of 5 within three (3) feet of subgrade (therefore all imported fill material shall have a minimum CBR value of 5),
 - 2. All subgrade is compacted in accordance with the applicable sections of the VDOT Road and Bridge Specifications and applicable special provisions, and
 - 3. All unsuitable materials identified in the Design-Builder's final roadway plans and Geotechnical Engineering Reports shall be properly removed or modified.
- F. Pavements shall be designed to ensure positive drainage on the pavement surface and within the pavement structure, including connecting to existing or any new sub-drainage systems. Pavement drainage layers between adjacent pavement sections must consist of similar material and permeability. Drainage layers shall extend continuously across travel lanes and shoulders, connect to appropriate sub-drainage systems, and accommodate pavement internal drainage from existing or adjacent pavement. The existing pavement shall be shown on the typical sections.
 - 1. Standard UD-4 edgedrains shall be required for all pavements on this project. Modified UD-1 underdrains shall be installed in lieu of standard UD-4 edgedrain for pavement sub-drainage in wet areas, areas of high groundwater, springs, and in cuts greater than 25 feet. The modification consists of wrapping the aggregate with geotextile drainage fabric.
 - 2. Standard Combination Underdrain (CD-1) shall be provided at the lower end of cuts.
 - 3. Standard Combination Underdrain (CD-2) shall be provided at grade sags, bridge approaches, and at the lower end of undercut areas.
- G. Any pavement reconstruction on arterials, local streets, or interchange ramps not specified in Section 3.8.2 shall be designed to meet the design-year traffic and match the existing pavement type at tie-ins in accordance with VDOT Standard WP-2 and in accordance with VDOT's pavement design standards and guidelines per Chapter VI of the VDOT Manual of Instructions for Materials Division.
- H. Unpaved areas surrounding pavements shall be graded to direct surface water away from paved areas. Any utility excavations or excavations for storm drains within pavement areas shall be backfilled with compacted structural fill in accordance with applicable sections of VDOT's Road and Bridge specifications and applicable special provisions.

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- I. For new and resurfaced pavements in the Express Lanes and General Purpose lanes, the Design-Builder shall conduct necessary testing and confirm that the average International Roughness Index (IRI) for each 0.01-mile section is 70.0 Inches Per Mile or lower. This testing shall be completed prior to Service Commencement (for the Express Lanes pavements) and prior to Final Completion (for the General Purpose lanes pavements). Rideability testing shall be conducted for all pavements following the placement of the final surface course and completed in accordance with Virginia Test Method 106 – *Ride Quality Testing on Ride Specifications Projects – (Pavement Design)*. If the minimum IRI rideability requirement of 70.0 Inches per Mile or lower for each 0.01-mile section of new pavement is not achieved in the initial test, the Design-Builder shall replace the pavement and re-test to verify that the minimum IRI rideability requirements have been met.
- J. The Design-Builder shall submit, no later than thirty (30) days before the submission of associated final Design Documentation, a Pavement Design Report that documents the assumptions, considerations, and decisions contributing to the Design-Builder’s proposed pavement design, including the following:
 1. Pavement design details by location, including structural layer materials, general specifications, and thicknesses;
 2. Relevant pavement evaluation data (structural and functional) and condition information for adjacent pavements;
 3. Relevant geotechnical data and drainage information to verify the pavement design(s);
 4. Design criteria used in determining the pavement design(s), including annual average daily traffic, percentage heavy vehicles, cumulative traffic loading, pavement material strength factors, and pavement design life;
 5. Design calculations documenting the pavement design(s) in accordance with the specified design methodology; and
 6. A minimum soil CBR value of 5 within three (3) feet of subgrade (therefore all imported fill material shall have a minimum CBR value of 5).

3.8.2 Minimum Pavement Sections for New Pavement Construction

- A. All new travel lane and shoulder pavements shall comply with the following minimum pavement sections:

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I-495 NB/SB Express / General Purpose Lanes (High-Side Widening Section)		
Layer	Material	Thickness
1-Surface	Asphalt Concrete, Type SMA-9.5	1.5 in.
2-Intermediate	Asphalt Concrete, Type SMA-12.5	2.0 in.
3-Base	Asphalt Concrete, Type BM-25.0D+0.4 high modulus, high binder (PG64H-22)	13.0 in.
4-Cement Treated Aggregate (CTA) base	Cement Treated Aggregate Base Material, Type I	10.0 in.
I-495 NB/SB Express / General Purpose Lanes (Low-Side Widening Section)		
Layer	Material	Thickness
1-Surface	Asphalt Concrete, Type SMA-9.5	1.5 in.
2-Intermediate	Asphalt Concrete, Type SMA-12.5	2.0 in.
3-Base	Asphalt Concrete, Type BM-25.0D+0.4 high modulus, high binder (PG64H-22)	13.0 in.
4-Subbase	Aggregate Base Material, Type I, Size 21B connected to a UD-4 edgedrain beneath the outside edge of paved shoulder or beneath curb and gutter	10.0 in.

Dulles Toll Road and adjoining Ramps (High-Side Widening Section)		
Layer	Material	Thickness
1-Surface	Asphalt Concrete, Type SMA-9.5	1.5 in.
2-Intermediate	Asphalt Concrete, Type SMA-12.5	2.0 in.
3-Base	Asphalt Concrete, Type BM-25.0D	12.0 in.
4-Cement Treated Aggregate (CTA) base	Cement Treated Aggregate Base Material, Type I	6.0 in.

Dulles Toll Road and adjoining Ramps (Low-Side Widening Section)		
Layer	Material	Thickness
1-Surface	Asphalt Concrete, Type SMA-9.5	1.5 in.
2-Intermediate	Asphalt Concrete, Type SMA-12.5	2.0 in.
3-Base	Asphalt Concrete, Type BM-25.0D	12.0 in.
4-Subbase	Aggregate Base Material, Type I, Size 21B connected to a UD-4 edgedrain beneath the outside edge of paved shoulder or beneath curb and gutter	14.0 in.

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Old Dominion Drive		
Layer	Material	Thickness
1-Surface	Asphalt Concrete, Type SM-9.5A	1.5 in.
2-Intermediate	Asphalt Concrete, Type IM-19.0A	2.0 in.
3-Base	Asphalt Concrete, Type BM-25.0A	6.5 in.
4-Subbase	Aggregate Base Material, Type I, Size 21B connected to a UD-4 edgedrain beneath the outside edge of paved shoulder or beneath curb and gutter	12.0 in.
Georgetown Pike and adjoining Ramps, George Washington Memorial Parkway and adjoining Ramps		
Layer	Material	Thickness
1-Surface	Asphalt Concrete, Type SM-9.5D	1.5 in.
2-Intermediate	Asphalt Concrete, Type IM-19.0D	2.0 in.
3-Base	Asphalt Concrete, Type BM-25.0A	6.5 in.
4-Subbase	Aggregate Base Material, Type I, Size 21B connected to a UD-4 edgedrain beneath the outside edge of paved shoulder or beneath curb and gutter	12.0 in.

Balls Hill Road		
Layer	Material	Thickness
1-Surface	Asphalt Concrete, Type SM-9.5A	1.5 in.
2-Base	Asphalt Concrete, Type BM-25.0A	8.5 in.
3-Subbase	Aggregate Base Material, Type I, Size 21B connected to a UD-4 edgedrain beneath the outside edge of paved shoulder or beneath curb and gutter	12.0 in.

Live Oak Drive		
Layer	Material	Thickness
1-Surface	Asphalt Concrete, Type SM-9.5A	1.5 in.
2-Intermediate	Asphalt Concrete, Type IM-19.0A	2.0 in.
3-Base	Asphalt Concrete, Type BM-25.0A	3.0 in.
4-Subbase	Aggregate Base Material, Type I, Size 21B connected to a UD-4 edgedrain beneath the outside edge of paved shoulder or beneath curb and gutter	12.0 in.

Note: All widening on the high side of existing pavement cross-slopes shall utilize CTA in lieu of 21B.

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- B. New paved shoulders for the 495 Express Lanes, General Purpose lanes, and ramps shall be constructed to match the minimum requirements for new and widened travel lane pavements provided in Section 3.8.2.
- C. Pavement adjacent to guardrails shall be in accordance with VDOT Standard MC-4.
- D. All pavement widening shall be completed in accordance with VDOT Standard WP-2 with the pavement section identified in Section 3.8.2. Where widening existing pavement, the existing pavement shall be saw cut full depth to expose the existing edge of full depth concrete pavement as identified by nine inches (9”) (+/- one inch (1”)) of Portland cement concrete overlaid with variable depths of asphalt concrete.
- E. The existing outside shoulders of the I-495 General Purpose Lanes shall be demolished and reconstructed in accordance with the pavement section criteria of Section 3.8.2, except in the following approximate limits (as shown in the RFP Conceptual Plans) where the existing shoulder was previously constructed to meet minimum pavement requirements:
 - 1. I-495 Northbound, between Stations 583+00 and 701+00
 - 2. I-495 Southbound, between Stations 192+50 and 209+50

The Design-Builder shall confirm these approximate extents based on its final pavement design. All existing underdrains that are impacted by the proposed reconstruction shall be removed and replaced to provide positive drainage to the nearest available outlet.

- F. When widening existing pavement, the pavement subgrade slope shall be designed such that the existing pavement subbase can properly drain to the edgedrain. Additionally, the bottom of the new BM-25.0 layer shall be placed to align with the bottom of the existing base asphalt. All pavement widening shall be completed up through the base layer prior to building-up and/or placing the surface course over both the existing pavement and the widened pavement.

3.8.3 Existing I-495 Composite Pavement Resurfacing Requirements

- A. In areas of resurfacing and reuse, the existing pavement shall be milled to a minimum depth of four (4) inches and replaced with a minimum of two and one-half (2.5) inches of asphalt concrete BM-25.0D+0.4 (high modulus, high binder, PG 64H-22) prior to building up and/or placing the new surface course, except on I-495 NB General Purpose lanes between approximate Stations 614+00 and 701+00 (as shown on the RFP Conceptual Plans) where milling of the existing surface course only requires milling to a depth of two (2) inches prior to build-up.

Where existing composite pavement (plain jointed concrete overlaid with asphalt concrete) will be resurfaced and reused, a minimum of eight (8) inches of asphalt concrete overlying a nominal nine-inch-thick (9” thick) concrete slab is required for the I-495 General Purpose Lanes. A minimum of three (3) inches of asphalt concrete overlying a nominal nine-inch-thick (9” thick) concrete slab is required for the 495 Express Lanes. A minimum of 16.5 inches of asphalt concrete is required for reusing the previously constructed shoulders defined in 3.8.2.E as travel lanes. The surface and intermediate courses for existing pavement build-up areas (two (2) inches SMA-12.5 under one and

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one-half (1.5) inches SMA-9.5) shall match the new pavement criteria in Section 3.8.2. For build-ups greater than three and one-half (3.5) inches, BM-25.0D shall be used beneath the pavement surface and intermediate course.

- B. After milling, all cracks shall be cleaned of all debris and sealed with a Type B crack sealant in accordance with the *Special Provision for Sealing Cracks in Asphalt Concrete Surfaces or Hydraulic Cement Concrete Pavement*. The final surface asphalt shall be placed uniformly over the entire pavement (travel lanes and paved shoulders).
- C. Data on the existing pavement thickness, including pavement cores and a Ground Penetrating Radar (GPR) study of the northbound and southbound travel lanes and shoulders within the project extents, are provided in the Geotechnical and Pavement Data Report (Attachment 3.4a)
- D. Where existing composite pavements will be resurfaced, repair and seal transverse joints in the existing composite pavements in accordance with Section 3.8.4.

3.8.4 Joint Repairs in Existing Composite Pavement Sections

- A. Where the existing composite pavement is to be reused and resurfaced, repairs to transverse joints and the sawcutting and sealing of transverse joints shall be performed in accordance with the requirements of this Section 3.8.4 and the joint repair details shown on the Sheet 2C series of the RFP Conceptual Plans. The final, as-constructed joint repair locations and types shall be documented in the As-Built Plans. Two types of joint repairs will be required for Project NEXT:
 - 1. Type 3 Repairs – Type 3 repair locations are typically characterized by primary reflective crack over a joint surrounded by greater than one-half (½) inch of additional cracking
 - 2. Type 4 Repairs – Type 4 repair locations are typically characterized by one of the following: a previous utility crossing; previous repair work over an existing joint; open or degraded expansion joints from previous construction; evidence of failed concrete slabs; or as mutually-agreed upon by the Design-Builder and the Concessionaire.

After final resurfacing, all transverse joints, including those requiring Type 3 and 4 repairs, shall be saw cut and sealed in accordance with the VDOT *Special Provision for Sawing and Sealing Joints in Asphalt Overlays Over Jointed Concrete Pavements*, and as shown on Sheet 2C of the RFP Conceptual Plans. The cost for sawcutting and sealing the Type 3 and Type 4 repairs locations (as required by the joint repair details for each) shall be included in the unit cost for Type 3 and Type 4 joint repairs. Additional details and reference information on existing joint conditions are provided in Attachment 3.4a (Geotechnical and Pavement Data Report)

- B. I-495 SB General Purpose Lanes: A field evaluation of the existing composite pavement joints in the I-495 southbound General Purpose lanes between approximately 0.45 miles south of the overpass at Old Dominion Drive (approximate Station 191+25 as shown on the RFP Conceptual Plans) and the south abutment to the American Legion Bridge was conducted by the Concessionaire and the results are provided in the Geotechnical and

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Pavement Data Report (Attachment 3.4a), Appendix C. The approximate joint location, distress width, distress length, and anticipated repair type are shown in tabular form on the Sheet 2C series of RFP Conceptual Plans. The joint locations and joint repair types shall be included in the Design-Builder's final plans for approval, and shall be confirmed by the Design-Builder and confirmed in the field by the Concessionaire and VDOT representatives prior to completing the repair work.

- C. I-495 NB General Purpose Lanes, North of Old Dominion Drive: VDOT previously surveyed and repaired joints in the existing composite pavements in the I-495 northbound General Purpose lanes between the overpass at Old Dominion Drive (approximate Station 614+00 as shown on the RFP Conceptual Plans) and the south abutment to the American Legion Bridge. The Design-Builder shall evaluate the existing pavement conditions to determine if additional Type 3 or Type 4 repairs are required, and the tabulated approximate joint location, distress width, distress length, and anticipated repair type shall be included in the Design-Builder's final plans for approval. The joint locations and joint repair types shall be confirmed in the field by the Concessionaire and VDOT representatives prior to completing the repair work.
- D. I-495 NB General Purpose Lanes, South of Old Dominion Drive: No previous joint surveys or repairs have been conducted on the I-495 northbound General Purpose lanes between the southern project limits and the Old Dominion Drive overpass bridge (approximate Station 614+00 as shown on the RFP Conceptual Plans). It is anticipated that repairs will be required in this area. The Design-Builder shall evaluate the existing pavement conditions to determine where Type 3 or Type 4 repairs are required, and the tabulated approximate joint location, distress width, distress length, and anticipated repair type shall be included in the Design-Builder's final plans for approval. The joint locations and joint repair types shall be confirmed in the field by the Concessionaire and VDOT representatives prior to completing the repair work.
- E. The Design-Builder shall notify the Concessionaire and the VDOT Northern Virginia District Materials Engineer (DME) at least 48 hours in advance of each joint repair, so that the Concessionaire and DME can verify the correct repair types and locations on the pavement.
- F. The locations of all transverse joints requiring sawcutting and sealing, Type 3 Repairs and Type 4 Repairs in the southbound and northbound lanes shall be determined or confirmed by the Design-Builder in the field prior to final resurfacing of all existing pavements. The Design-Builder shall confirm and/or identify the type, width, length, and if needed, depth of the repair, and with mutual agreement and direction from the Concessionaire's or VDOT's on-site authorized representatives, complete the repair. The Design-Builder shall provide a plan showing the proposed joint repair types and locations for review. No joint repairs shall be completed until the plan has been reviewed and approved.
- G. The Design-Builder shall use the following quantities for the various transverse joint treatments for the purposes of preparing the Technical and Price Proposals:
 - 1. Sawcutting and Sealing – 39,840 linear feet (for those joints that only require sawcutting and sealing)

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2. Type 3 Joint Repairs – 8,500 linear feet (includes the required sawcutting and sealing of all such joints)
 3. Type 4 Joint Repairs – 2,600 linear feet (includes the required sawcutting and sealing of all such joints)
- H. If the Concessionaire-approved final quantities for each type of joint treatment are different than the quantities specified in Section 3.48.4.H, one of the following scenarios will apply:
1. If the total linear foot quantity of each or any type of joint treatment is less than the specified quantities, the Design-Builder shall credit the Concessionaire for the amount of quantity reduction multiplied by the unit price in the Design-Builder's Price Proposal for each type of joint treatment.
 2. If the total linear foot quantity of each or any type of joint treatment is more than the specified quantities, the Concessionaire will compensate the Design-Builder for the amount of quantity increase multiplied by the unit price in the Design-Builder's Price Proposal for each type of joint treatment.
- Once the final joint treatment quantities have been determined and verified, any credits and compensations provided per (1) and (2) above will be offset against each other such that one aggregate adjusting credit or compensation will be made to the Design-Builder for all three types of joint treatments.
3. The unit pricing for each type of joint treatment included in the Design-Builder's Price Proposal shall include all direct and incidental costs necessary to complete the required work as shown in Sheet 2C of the RFP Conceptual Plans.

3.8.5 Existing Pavement Resurfacing Requirements in Project Termini Transition Zones

- A. Where existing pavements will be resurfaced at the project termini transition zones, the Design-Builder shall match or build-up the pavement to meet the final roadway surface design. The existing top of pavement elevations and existing pavement thicknesses shall not be reduced.
- B. In these transition zone areas of resurfacing on I-495, the existing pavement shall be milled to a minimum depth of four (4) inches and replaced with a minimum 2.5 inches of asphalt concrete BM-25.0D+0.4 (high modulus, high binder, PG 64H-22) prior to building up and/or placing the new surface course except on I-495 NB General Purpose lanes between Sta 614+00 and Sta 702+83 where the existing surface only needs to be milled to a depth of two (2) inches prior to build-up.
- C. In these transition zone areas of resurfacing on side roads and adjacent highways, the existing pavement shall be milled to a minimum depth of one and one-half (1.5) inches and replaced with a minimum one and one-half (1.5) inches of surface asphalt concrete specified for the roadway in Section 3.8.2.
- D. After milling, all cracks shall be cleaned of all debris and sealed with a Type B crack sealant in accordance with the *Special Provision for Sealing Cracks in Asphalt Concrete*

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or *Hydraulic Cement Concrete Pavement*. The final surface asphalt shall be placed uniformly over the entire pavement (travel lanes and paved shoulders).

- E. Where existing composite pavements will be resurfaced, repair and seal transverse joints in the existing composite pavements in accordance with Section 3.8.4.
- F. If the Design-Builder removes any existing pavement markings from any roadway to install temporary markings to facilitate its Work, the Design-Builder shall mill and resurface the roadway to meet the applicable Standards and Specifications set forth in Attachment 1.5a and replace pavement markings in accordance with Section 3.9.2 prior to Service Commencement.

3.8.6 Temporary Pavement

- A. Where traffic is temporarily shifted onto an existing paved shoulder and this pavement is intended to be used by the Project configuration at the end of the Work, the pavement must either meet or be modified to meet the requirements in Section 3.8.2. This pavement shall remain in place after the Work is complete.
- B. Temporary pavement that is required and is not intended to be used by the Project configuration at the end of the Work shall meet the requirements of Section 3.8.6.C. Such pavements shall be completely removed once it is no longer in service.
- C. The Design-Builder shall be responsible for any temporary pavement design and construction. Temporary pavements shall be designed in accordance with the AASHTO Guide for the Design of Pavement Structures and the VDOT Manual of Instructions for Materials Division. All temporary pavement designs shall be submitted for review and approval upon submittal of the relevant temporary traffic control plans. All temporary pavement designs for interstate travel lanes or ramp pavements shall have a minimum 6 inches of asphalt concrete and a minimum of 6 inches of plain aggregate (21B) and shall meet the following minimum design criteria:
 - 1. Design Life – 6 months minimum or such longer duration as may be required per the Design-Builder’s MOT sequencing
 - 2. Reliability – eighty-five percent (85%) minimum
 - 3. Initial Serviceability – 4.2 minimum
 - 4. Terminal Serviceability – 2.8 minimum
 - 5. Standard Deviation – 0.49 minimum
 - 6. CBR value for subgrade soils determined through laboratory tests.

Any proposed reuse of existing paved shoulders as temporary pavements for maintenance of traffic during construction shall be evaluated by the Design-Builder’s engineer and meet the above design criteria. Such pavement evaluation shall be submitted for approval prior to or as part of the pertinent temporary traffic control plans submittal.

- D. The Design-Builder shall be responsible for maintenance of all temporary pavements and temporary pavement markings to provide reasonably smooth riding surface and adequate

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visibility of temporary markings at all times of the day and during adverse weather conditions.

- E. Any paved shoulder areas used for temporary traffic shall be restored after any such temporary use for the Project has concluded. This restoration work must include the milling of one and one-half (1.5) inches of existing asphalt and placement of a new one and one-half- (1.5-)inch asphalt concrete surface course overlay specified for the roadway in Section 3.8.2, and the installation of pavement markings and/or inlaid plastic markers in accordance with VDOT requirements.

3.8.7 Full Depth Patching of Existing PCC Pavement

- A. The existing Portland cement concrete (PCC) pavements at the approaches to George Washington Memorial Parkway bridge within the project limits exhibit areas of deterioration and failed patching and shall be repaired by full depth patching. Approximate limits are shown in Attachment 3.8. All patching shall be in accordance with the VDOT *Special Provision for Patching Hydraulic Cement Concrete Pavement* listed in Attachment 1.5a.
- B. A quantity of 400 square yards of full depth patching (minimum 8” depth) shall be utilized by the Design-Builder for the purposes of preparing the Technical and Price Proposals. The final quantity shall be determined by the Design-Builder. If the Concessionaire-approved final quantity of full depth patching is different that the specified quantity, the following scenarios shall apply:
 - 1. If the total quantity of full depth patching is less than the specified quantity, the Design-Builder shall credit the Concessionaire for the amount of quantity reduction multiplied by the unit price in the Design-Builder’s Price Proposal for the full depth patching.
 - 2. If the total quantity of full depth patching is more than the specified quantity, the Concessionaire will compensate the Design-Builder for the amount of quantity increase multiplied by the unit price in the Design-Builder’s Price Proposal for the full depth patching.
 - 3. The unit pricing for the full depth patching shall be included in the Design-Builder’s Price Proposal and shall include all direct and incidental costs necessary to complete the required work.
- C. The locations of all areas requiring full depth patching shall be determined or confirmed by the Design-Builder in the field. The Design-Builder shall provide a plan showing the proposed repair locations for review. No patching repairs shall be completed until the proposed repair plan has been reviewed and approved. The Design-Builder will complete the repair upon mutual agreement and direction from the Concessionaire’s or VDOT’s on-site authorized representatives.

3.9 Traffic Engineering

3.9.1 General

- A. The Design-Builder shall provide plans for all traffic control devices with its Design Documentation. The Design Documentation for traffic control devices shall be submitted as a complete package for review and approval for each Construction Segment. Submittal(s) shall include all new and existing traffic control devices within the Project NEXT limits and those relevant signs outside the Project NEXT limits.
- B. All new and existing traffic control devices shall be designed, and installed (or modified) to comply with the applicable Standards and Specifications set forth in Attachment 1.5a and the requirements of the maintaining agency.
- C. The Design-Builder shall be responsible for the design and construction of all Project NEXT traffic control devices.
- D. Traffic control devices shall include all signs, traffic signals, pavement markings, pavement markers, roadway and interchange lighting, overhead signs (with associated lighting as may be required) and tubular delineators (channelizing posts) along with foundations, posts, structures and mounting hardware necessary within and leading to the Project NEXT limits.
- E. Installation of new (and modification of existing) traffic control devices along with their support structures, and associated lighting (as may be required) outside the Project NEXT limits which are necessary to orderly transition, guide, and regulate traffic to/from Project NEXT.

3.9.2 Pavement Markings

- A. The Design-Builder shall furnish, install and maintain pavement markings, reflective pavement markers, and tubular delineators meeting the applicable Standards and Specifications set forth in Attachment 1.5a. Transitions to/from new markings, markers, and delineators to existing shall be continuous such that road users may discern only a minimum change in the delineation concept.
- B. On any pavement reconstruction undertaken by the Design-Builder, the Design-Builder shall tie-in and match the existing markers and pavement marking systems.
- C. Temporary markers, pavement markings and striping shall not be placed on the final surface course unless approved.
- D. All existing pavement markings and markers that do not conform to the final traffic patterns shall be eradicated and removed. Following eradication, the roadway surfaces shall be replaced in accordance with Section 3.8.5.F .
- E. Metal casing inlaid pavement markers shall not be used. Any existing metal casing inlaid pavement markers shall be removed and replaced when any lane shifts are implemented for construction sequencing or maintenance of traffic. New or replacement plastic inlaid markers shall meet the requirements of Road and Bridge Standards PM-8 and other applicable Standards and Specifications set forth in Attachment 1.5a.

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- F. Permanent pavement markings (lane division lines, edge lines, ramp and gore markings) on the NEXT Express Lanes and ramps and the I-495 General Purpose lanes and ramps shall be Type B, Class VI, patterned pre-formed tape.
- G. Purple E-Z Pass Logos shall be installed at the locations shown on the RFP Conceptual Plans. The logos shall meet the criteria shown in Attachment 3.9a, including the installation of the pavement message “ONLY” at each location as indicated.
- H. High-Contrast Pavement Markings shall be used on all bridge decks and concrete pavements.
- I. The use of thermoplastic pavement markings and pavement marking tape shall conform to the applicable Standards and Specifications in Attachment 1.5 and requirements in Attachment 3.9b.
- J. Channelizing posts used in any emergency crossovers shall match existing channelizing posts used in existing emergency crossovers on 495 Express Lanes and be yellow in color.
- K. Channelizing posts used to separate Express Lanes traffic from General Purpose lanes traffic shall match existing channelization posts used on 495 Express Lanes and shall be white in color.

3.9.3 Static Signs

- A. The Design-Builder shall design, fabricate, and install all necessary guide (destination), directional, information, tolling, route marker, mile marker, trail blazers, regulatory and warning, and supplemental signs, including support structures, required for Project NEXT to meet the applicable Standards and Specifications set forth in Attachment 1.5a.
- B. The Design-Builder shall provide all foundations, posts (or poles) and structures required for the Project NEXT signage. The Design-Builder shall be responsible for removing and disposing of existing sign structures that are removed or replaced as part of Project NEXT.
- C. The Design-Builder shall not change the signing concept or sign locations shown in the RFP Conceptual Plans unless approved. The Design-Builder shall supplement and modify existing ground mounted regulatory, warning, milepost and trail blazer signage to provide a complete and final design. The Design-Builder shall prepare roll plans consisting of the Project Signage Roll Plan and the Trail Blazer Roll Plan and present the plans for review and comment. The Project Signage Roll Plan will be used for reviewing the spacing, placement and legend of dynamic message and static signs on the I-495 corridor and connecting roadways for all guide signs and HOT lane signs applications. The Trail Blazer Roll Plan will be used for reviewing existing and proposed static signs (trail blazers and route marker assemblies) on highways, feeder roadways, and other roadways directing and notifying motorists of the access to the Express Lanes and/or General Purpose lanes, as applicable. The Design-Builder shall be responsible for designing and implementing modifications to existing trail blazer and route marker assemblies as required to accommodate any NEXT Project signage.

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1. The Project Signage Roll Plan shall show proposed locations for relocating existing signs, existing signs and structures to remain, and proposed locations for new signs and structures. All proposed signs shall have an identification reference number and existing structures identified with corresponding VDOT structure number. The roll plans shall also identify all existing structures that are scheduled for modification, removal or require a structural analysis for re-use (including adding, deleting or modifying sign panels).
 2. The Project Signage Roll Plan shall also display signing, both existing (to remain) and proposed, for all Mainlines, ramps and interchanges, as well as for the arterial streets, frontage roads, and any other roadways that contain signing that is affected by Project NEXT.
 3. The Project Signage Roll Plan shall also include the locations of all proposed and existing Dynamic Message Signs. The roll plan features shall include, but are not limited to, the existing and proposed roadway alignments, right of way, baseline of construction (including stationing), and existing topography at the tie-in points of the roadway limits of work. The proposed pavement markings depicting the entire alignment shall also be shown on the roll plans to fully represent the traffic control device concept.
 4. The Trail Blazer Roll Plan shall show all existing and proposed highways and feeders with all existing and proposed trail blazers and router marker assemblies to I-495 and NEXT Express Lanes for at least one mile from the nearest Express Lanes entrance point or to the extent of the existing I-495 routing signs. New Express Lanes trailblazers should be co-located with existing I-495 trailblazers to the extent possible. All trail blazing signs (Express Lanes and General Purpose Lanes) shall be of the same size.
 5. Submittal and approval of the Project Signage Roll Plan and Trail Blazer Roll Plan shall occur prior to final design. Preliminary line of sight analyses (including plan and profile exhibits) shall be prepared as part of the roll plan submittals, including an evaluation of the orientation of Dynamic Message Signs, in order to confirm all signs will have full and proper spacing and visibility to motorists and have an unobstructed view from the driver's perspective. A detailed cross-section or sign elevation for each sign structure must be provided along with the Project Signage Roll Plan and Trail Blazer Roll Plan that show at least the existing features adjacent to the sign structure, all dimensions needed to install the foundations and sign structures, sign panel locations relative to travel lanes, existing and proposed grades, and right-of-way limits or impacts. The Design-Builder is responsible for making any changes to the signing concept in order to provide adequate line of sight in accordance with Section 3.9.3.S .
- D. Existing fixed sign panels can be re-used or relocated, if they are demonstrated to be in good condition with no damage or deterioration and are in accordance with the requirements of the applicable Standards and Specifications set forth in Attachment 1.5a. Where legend changes are needed on existing signs, the Design-Builder may choose to

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provide new replacement sign panel or overlay the existing panel that otherwise comply with current standards..

- E. The NEXT Express Lanes signage scheme will:
1. Match and support continuous integration of the NEXT Express Lanes with the existing road network;
 2. facilitate seamless navigation of the road network, including access to, travel along and egress from the NEXT Express Lanes; and
 3. be consistent with the existing directional and regulatory signing system on the existing road network and the 495 Express Lanes.
- F. The types of signage that constitutes Project NEXT signage includes:
1. Regulatory and warning signs;
 2. advance direction signs;
 3. intersection direction signs;
 4. trail blazer signs;
 5. destination signs;
 6. advance exit signs;
 7. exit direction signs;
 8. advance and confirmation toll signs (static and dynamic); and
 9. rules of use permission signs.
- G. All new full span sign structures and foundations shall be designed to accommodate an additional static sign load of 200 sf for future use. All cantilever and butterfly sign structures and foundations shall be designed to accommodate an additional static sign load of either 50 sf, or a 25% increase in the sign panel area shown in the RFP Conceptual Plans, whichever is greater, for future use.
- H. The Design-Builder shall relocate all signs within the construction limits that conflict with construction work. Signs that otherwise comply with current standards but are not needed for the safe and orderly control of traffic during construction may be removed and stored in a manner that will prevent damage and reinstalled in their permanent locations prior to Service Commencement.
- I. Sign structures may be built into the bridge support only for signs to be viewed by traffic traveling over the bridge. Signs to be viewed by traffic traveling under the bridge shall be installed on a sign structure independent of the bridge.
- J. The Design-Builder shall be responsible for coordination with local agencies or jurisdictions as needed design and install signage necessary for Project NEXT, and securing any required Governmental Approvals.
- K. The Design-Builder shall maintain all existing signs during construction, unless they are to be removed permanently or are to be replaced as required by Project NEXT. For any

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existing signs that require relocation or modification due to construction (including traffic shifts during construction, the Design-Builder shall provide pertinent details, such as sign designs, mounting details, locations prior to relocation or modification for review and approval.

- L. The Design-Builder shall modify or remove existing signs and structures that are rendered inaccurate, ineffective, confusing, or unnecessary based on the approved final design for Project NEXT. Where sign panels are replaced or added to existing sign structures, vertical strut lengths will be designed or modified as needed to not extend beyond the limits of the new sign panels. The Design-Builder shall obtain approval prior to making any such changes.
- M. The Design-Builder shall identify and provide a summary of all existing signage affected by Project NEXT, including signs and associated sign structures that are outside the physical limits of roadway construction. For modifications (including adding, deleting or modifying sign panels) to any existing overhead/cantilever sign structure affected by Project NEXT, the Design-Builder shall provide a comprehensive structural analysis prior to the commencement of design in accordance with the requirements of Section 3.15..
- N. Signs shall incorporate highly reflective sheeting material. Overhead and ground-mounted signs which do not require lighting must use Type XI retroreflective sheeting. Sign lighting shall be provided only at those locations where such lighting is determined to be required following the completion of an Overhead Sign Lighting Study in conformance with IIM-TE-380 (Overhead Sign Lighting).. Where required, sign lighting shall conform with VDOT's standard lighting requirements for freeway operations.
- O. Post Interchange Signs (as defined in MUTCD Section 2E.38) shall be installed on Project NEXT in accordance with applicable standards where space and/or permanent structures permit.
- P. The Design-Builder shall place milepost and intermediate markers at 0.2 mile intervals on the east side of the northbound General Purpose Lanes and on the west side of the southbound General Purpose Lanes. Milepost and intermediate markers shall be placed on the median barrier at 0.2 mile intervals in both directions on the Express Lanes
- Q. The mile markers shall conform to MUTCD Figure 2H-2, Reference Location Signs, and intermediate markers shall conform to MUTCD Figure 2H-3, Intermediate Reference Location Signs.
- R. For signing along I-495 and the Dulles Toll Road, 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 foot minimum spacing cannot be maintained, the Design-Builder shall seek a variance to reduce the spacing.
- S. The Design-Builder shall perform line of sight analysis for all sign panel and Dynamic Message Signs to confirm drivers have sufficient time to read the sign messages, and signs are not visually obstructed. For signs that are determined to not meet line-of-sight

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requirements, the Design-Builder shall provide an alternative compliant solution for approval prior to completing final design and construction for such signs.

- T. The Design-Builder shall provide accurate and detailed elevations for all sign structures used for Project NEXT, including all dimensions, existing physical features, relevant roadway dimensions, and proposed constructed features to confirm physical locations and orientation.
- U. Clearview font will be used in accordance with the latest VDOT Instructional & Informational Memorandum (IIM-TE-337).
- V. The Design-Builder shall prepare and submit for approval a Sign Sequencing Plan and a Sign Unveiling Plan. These plans shall provide a location drawing, as well as a narrative describing a detailed sequence, including timing and timeline, for covering and removing the existing signs and unveiling the covered existing and completed new signs. The Sign Sequencing Plan shall be focused on signs during construction activities, while the Sign Unveiling Plan shall be focused on opening the completed lanes to traffic. The Sign Sequencing Plan shall be finalized and approved at least thirty (30) days prior to the commencement of construction activities that require signage changes. The Sign Unveiling Plan shall be finalized no later than sixty (60) days prior to Service Commencement.
- W. The use of purple backgrounds shall be as depicted in the NEXT Express Lanes signing concept provided in the RFP Conceptual Plans. The Design-Builder is responsible for obtaining necessary approvals for any deviations from the use of purple backgrounds shown in the RFP Conceptual Plans. The Concessionaire will facilitate coordination with FHWA and support the Design-Builder in obtaining such approval.

3.9.4 Traffic Signals

- A. The Design-Builder shall design, supply and install all necessary temporary and permanent traffic signals and related infrastructure (including traffic signal cabinets that can only be purchased from VDOT) for Project NEXT as required by this section and the applicable Standards and Specifications set forth in Attachment 1.5a.
- B. The Design-Builder shall comply with applicable portions of the VDOT NRO Traffic Signal Permit Process Guidelines and Northern Region Special Provisions for Traffic Signal Construction, including but not limited to inspection, testing, and acceptance requirements and procedures.
- C. The Design-Builder shall be responsible for submitting traffic signal timing data a minimum of sixty (60) days prior to activation of any newly installed traffic. This includes eight (8) time-of-day timing plans to reflect cycle lengths necessary to accommodate changes in traffic patterns for weekdays and weekends. The eight timing plans consist of four timing plans for weekdays (AM, Midday, PM, Off-peak) and four timing plans for weekends (Saturday Peak, Sunday Peak, Weekend before peak, and Weekend after peak). All timing plans shall be reviewed and approved by VDOT. Traffic signal timing data is to be provided in an electronic file format compatible with the Synchro/SimTraffic program. Following approval, the timing plans must be formatted into the current controller format for implementation by the Design-Builder.

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- D. The Design-Builder shall collect turning movement volumes for each traffic signal in the system. Where available, the Concessionaire shall provide projected peak hour turning movement volumes to the Design-Builder for existing traffic signals. The Design-Builder shall be responsible for developing off-peak volume estimates that are associated with off-peak timing plans. If necessary, the Design-Builder shall conduct new traffic counts to support timing plans development for the signal design or modification.
- E. The Design-Builder shall provide communications between the maintaining agency's traffic signal system and all temporary and permanent traffic signals for Project NEXT. The communications medium shall be broadband compatible with the maintaining agency's communication system or plan.
- F. New or reconstructed traffic signals on Project NEXT will be designed and constructed (and integrated with existing traffic signals and corridor systems, if applicable) using the following approach:
1. The Design-Builder shall design, program, adjust controller timings, test, and commission the new or reconstructed signalized intersections for coordinated operations. The Design-Builder shall provide optimized timing plans (basic and coordinated) for all signals in the coordinated system. Coordinated timing plans include signal cycle, phase splits and order, and offset times, along with implementation schedule. Coordinated timing shall include at least the number of plans that are in the current system schedule, but additional plans may be required to accommodate traffic conditions.
 2. Timing plans shall be submitted for review, comment, and approval prior to testing and implementation. Timing plans shall be submitted in a memorandum that describes the assumptions and strategies that were used to develop the plans. Associated Synchro files shall also be provided for review. Timing plans shall be developed based on the final roadway, marking, and pedestrian facility design at each signalized intersection and previously approved timing plans shall be amended and resubmitted by the Design-Builder for approval in response to subsequent design changes that effect signal timing. Timing plans shall only be implemented after all review comments have been addressed and approval has been granted.
 3. The Design-Builder shall configure any traffic signal detection equipment to provide continuous traffic counts at the intersection according to maintaining agency requirements.
 4. The Design-Builder shall test and commission any new local signalized intersection for network operations with the existing traffic signal system and will re-time adjacent signals, as needed, to accommodate network demand.
 5. The Design-Builder shall optimize traffic signal timing at intersections with Project NEXT entry and exit ramps and approaching roadways to ensure that traffic does not produce queues that create a safety hazard on either Project NEXT or the approaching roadways or ramps.
- G. Fully Accessible Pedestrian Signals (APS) shall be provided. All pedestrian displays shall be countdown signals. Pedestrian pushbuttons shall be a minimum of 5 cm (2 in)

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across in one dimension and all design shall be in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a.

- H. The Design-Builder shall keep the existing signalized intersections within the Project limits functional during the Work period. If existing or permanent signals must be shut down, the Design-Builder shall provide temporary signals or appropriate traffic controls. Temporary signal shut down shall not be permitted.
- I. For each phase defined in the maintenance of traffic and temporary traffic control plans for Project NEXT and roadway designated as detours, the Design-Builder shall develop signal timing plans. All signal timing analysis files (i.e. Synchro) and plans shall be submitted for review and approval. The Design-Builder shall implement, test, and adjust signal timings to prevailing conditions. The Design-Builder shall develop signal timing plans for all Peak Periods and non-Peak Periods.
- J. The Design-Builder shall install and be responsible for all aspects of temporary and permanent traffic signal installation to include, but not be limited to, design, obtaining permits, installation, rehabilitation of disturbed areas, and installation of electric utility service power and hardwire broadband communication connections.
- K. The Design-Builder shall install and connect dedicated metered electric utility power service for temporary and permanent traffic signals for Project NEXT.
- L. Conductor/communication cables shall be placed in a separate buried conduit, embedded conduit, and structure and bridge-mounted conduit. Aerial or direct buried cable installations are not allowed. Intermingling of communication and power cables in the same conduit or junction boxes is not allowed.
- M. The Design-Builder shall not open trench any existing pavement for the installation of conduit, except in areas that will be overlaid or rebuilt. For overlays over trench areas, the new pavement section shall match the existing pavement section.

3.9.5 Roadway Lighting

- A. Roadway lighting shall conform to this section and the Standards and Specifications set forth in Attachment 1.5a.
- B. The Design-Builder shall install lighting for new or modified entry and exit connections to the NEXT Express Lanes and where required as a condition of the IJR or an approved Design Exception or Design Waiver. The Design-Builder shall complete a lighting analyses for these locations in accordance with IIM-TE-390. Continuous roadway lighting is not required for the NEXT Express Lanes.
- C. The Design-Builder shall install lighting for any underpasses under which sidewalk or shared use paths traverse.
- D. The Design-Builder shall design and construct any permanent roadway lighting such that the lighting systems for the General Purpose lanes and the Express Lanes are separately operated and maintained by VDOT and the Concessionaire.
- E. Temporary and permanent lighting facilities for the project shall be installed to ensure lighting facilities meet current Department Lighting Design Standards and Guidelines

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(found in Chapter 2 of the VDOT Traffic Engineering Design Manual) and ANSI/IESNA RP-8 requirements

- F. Light Emitting Diode (LED) luminaires shall be used for all new lighting.
- G. All lighting design shall:
 - 1. Be prepared in accordance with the USDOT Roadway Lighting Handbook; VDOT Road and Bridge Specifications; Illuminating Engineering Society of North America Recommended Practices (RP-8-18); AASHTO Roadway Lighting Design Guide and the VDOT *Special Provision for Light Emitting Diode (LED) Luminaires*.
 - 2. Include point-to-point lighting analysis and calculations performed using AGI-32 computer software; and
 - 3. Use fixtures with required Backlight-Uplight-Glare (BUG) rating.
- H. A comprehensive verification of existing roadway lighting conditions, including but not limited to the documentation of lights currently not working, shall be done within 90 days of Construction Segment Approval and submitted for review and confirmation.
- I. The Design-Builder shall preserve all existing lighting (or install temporary replacements) along the existing 495 Express Lanes, 495 General Purpose lanes and any interchanges throughout the Construction Period in order to avoid any diminution of the existing lighting conditions for a period of more than thirty (30) days. If an outage is necessary for construction or preservation of existing lighting is not feasible, the Design-Builder shall provide functionally-equivalent temporary lighting until the completion of the outage restoration or replacement Work.
- J. The Design-Builder shall install new or replacement roadway lighting as necessary to provide equal or better lighting conditions for any existing permanent roadway lighting that is impacted by the Design-Builder's Work. Such lighting shall conform to the requirements of this section and the Standards and Specifications set forth in Attachment 1.5a.

3.9.6 Power

- A. The Design-Builder shall design, install, and connect all electrical power service required for the construction and operation of Project NEXT.
- B. Where new duct bank is installed, the Design-Builder shall provide and install, for VDOT, power conduit along or adjacent to the Project, consisting of:
 - 1. Two 4-inch VDOT conduits with pull tape and tracer wire;
 - 2. Separate electrical junction boxes spaced no more than 500 feet apart for the VDOT and Concessionaire power facilities; and
 - 3. New power cable from existing VDOT assets served by the existing duct bank to the nearest power source.

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- C. Power within defunct existing duct bank shall be de-energized and safely abandoned per industry standards. All abandoned junction boxes and vaults shall be removed or backfilled with suitable material.
- D. The Design-Builder shall be responsible for new utility service connections, including full coordination with the utility owners and payment of connection fees. The Design-Builder shall be responsible for paying the monthly utility bills associated with new service panels, up to and including the date of Service Commencement.
- E. The Design-Builder is responsible to perform or cause to be performed the design, supply, and installation of all new power feeds (from service panel to power source) necessary or feed modifications requiring service upgrade from the electric utility company as part of the Work. All service panels shall be capable of monitoring and reporting alarms for the main power and each branch circuit, the current flow, and any tripped breakers. The Design-Builder shall provide telemetry equipment at each Express Lanes service panel to report the current and breaker status of each circuit and main power. The telemetry equipment shall be capable of providing status information for troubleshooting power related outages and help to determine if the trouble is a loss of power from the utility provider, a tripped circuit breaker, or a severed distribution line between the service panel and the field device.
- F. The Design-Builder shall install and have connected dedicated and metered SE-5 power service for new or relocated traffic signals, separate dedicated and metered SE-9 power service for any General Purpose lanes ITS and lighting (sign, roadway, and interchange) and separate dedicated and metered SE-9 power service for Express Lanes TMS and lighting. Shared meters and service panels are not allowed.
- G. During the Construction Period, the Design-Builder shall provide back-up electrical power service to support Operations and Maintenance Work in emergency situations where the primary power source is not available. Extended power outages of VDOT ITS and Concessionaire TMS roadside equipment is not allowed.
- H. The power supply for the Concessionaire's TMS roadside equipment or devices shall be metered independently from any non-TMS equipment. The power supply for any Express Lanes-only lighting shall be metered independently from any VDOT power supply. The existing power supplies for all (both Concessionaire and VDOT-owned) existing roadside equipment and infrastructure must remain in service at all times during construction.
- I. The Design-Builder shall provide back-up power (generators and UPS) for the operation of TMS roadside equipment (including informational and pricing dynamic message signs and traffic detectors).
 - 1. Generator sizing shall be determined by the Design-Builder based on the projected equipment loading.
 - 2. Propane fuel supply lines between the generators and the fuel storage tank shall be above ground.
 - 3. All VDOT roadside equipment cabinets shall have UPS installed to provide back-up power.

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- J. Vehicle access shall be provided at each generator site for refueling. Such access shall accommodate safe ingress/egress for a typical refueling vehicle. Steel or concrete bollards shall be placed around the generator site to prevent refueling and maintenance vehicles from damaging the generator equipment or propane fuel tanks.
- K. Phase taping of electrical conductors shall not be permitted. Electrical conductors shall have a continuous colored jacket between connection and termination points.
- L. Power infrastructure shall not share conduit or junction boxes with communications infrastructure.
- M. For the Project NEXT TMS power infrastructure shown in the RFP Conceptual Plans, the Design-Builder shall not change the location of the Project NEXT conduit and junction box locations without approval.
- N. Grounding and surge protection for all TMS equipment, structures and infrastructure shall meet the requirements as specified in the Attachment 3.16a (TMS Special Provisions) and as shown on the RFP Conceptual Plans. In addition, where applicable, the Contractor shall adhere to the latest edition of the National Electric Code (NEC) and the VDOT Road and Bridge Specifications.
- O. The Design-Builder shall be responsible for determining the roadway lighting needs in accordance with Section 3.9.5 and designing and installing the necessary roadway lighting infrastructure including but not necessarily limited to conduit, junction boxes, conductors, service panels, control centers, etc.
- P. Grounding and bonding shall be provided for any metal fencing or handrails located underneath the Dominion Virginia Power transmission lines.

3.10 Barriers, Guardrails and Fences

3.10.1 Barriers and Guardrail

- A. The Design-Builder shall ensure that the clear zone within the Project limits is free from hazards and fixed objects. In the event that removal or relocation of hazard and fixed objects from the clear zone is not feasible, the Design-Builder shall design and install an approved guardrail barrier system and end treatments, where appropriate, for protection in accordance with AASHTO Manual for Assessing Safety Hardware (MASH). The same clear zone requirement applies to existing conditions affected by this Project where guardrail upgrade will be required.
- B. All existing guardrail within the Project limits, including along side streets and frontage roads, shall be upgraded by the Design-Builder to meet current standards. This may require the upgrade of guardrail to the nearest logical termination point beyond the current Project limits in accordance with the VDOT Road Design Manual, Appendix I and IIM-TE-366.

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- C. All guardrail on this project shall be MASH compliant, Midwest Guardrail Systems standard, guardrail as noted in the VDOT Road and Bridge Standards and VDOT Road Design Manual, Appendix J.
- D. The design of the concrete barrier in front of noise barriers shall account for fixed object attachments and/or appropriate safety hardware.
- E. Prior to installation of guardrail, permanent barrier, fixed object attachments, and impact attenuators, the Design-Builder shall field verify the proposed layout and obtain Concessionaire and VDOT concurrence with the Design-Builder's installation plan. The Design-Builder shall also provide a copy of the manufacturer's recommendations for installation of all guardrail terminals.
- F. Flexible ground mounted delineators (channelizing posts) shall be provided to separate the outside Express Lane and the inside General Purpose lane.
- G. Glare screens or extended height barriers shall be installed on all new or replacement concrete median barriers that are replacing existing concrete median barriers with glare screens. Extended height concrete barriers shall conform to VDOT Standard MB-12 (A, B, or C).

3.10.2 Fences

- A. The Design-Builder shall be responsible for securing the Work and providing all temporary fencing necessary to ensure the safety of the work force and members of the public.
- B. The Design-Builder shall perform a safety risk analysis to determine whether fencing should be used to separate the noise barrier wall erection work zones from adjacent properties and, if such analysis shows that fencing is required, the Design-Builder shall provide temporary six-foot-high (minimum) chain link security fencing at any such locations.
- C. Fencing on bridges and abutments, where applicable shall be black, vinyl coated, ClearVu, Beta, BearGrille mesh or equivalent. Standard Details for fencing shall be modified as necessary to accommodate light poles and signage. All fences and handrails shall be grounded in accordance with VDOT Road and Bridge Standards, and VDOT Road and Bridge Specifications, Sections 410, 504, and 507. The proposed fence and railing shall be grounded according to the National Electric Code (NEC). Chain link fence is prohibited.
- D. All SWM facilities shall be surrounded by vinyl-coated, black chain link or equivalent fencing, and access gate(s) of sufficient size to accommodate maintenance equipment shall be provided. Appropriate security mechanisms for the gates shall be provided to prevent/deter unauthorized entry. "No Trespassing" signs shall be installed at entrances to all SWM facilities.
- E. Fencing surrounding all generator sites shall include screening to match that in use on existing 495 Express Lanes generator sites. The open area within the generator site fencing shall be covered with six (6) inches of compacted gravel (Aggregate Base

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Material Type 1, Size 21) and a four (4) inch concrete slab to provide a level surface for installation of equipment and fuel tank.

- F. New or replacement Limited Access fencing (in locations where the existing fencing is removed) shall be installed to delineate the final right of way limits and to protect the limited access highway in those locations at all times where the noise barrier wall is not acting as a barrier. The Design-Builder shall also be responsible for relocation or replacement of any Limited Access fencing affected by the Project. Any new right of way or limited access fencing shall be VDOT Standard Fence Woven Wire Fabric to match the existing limited access fencing.
- G. The Design-Builder shall provide metal hand rails (for fall protection and safety of maintenance personnel), for all retaining walls with a height in excess of four (4) feet except where the top of the wall is located adjacent to a roadway shoulder in which case a concrete barrier shape shall be used. Metal railing shall conform to VDOT Standard HR-1, galvanized and powder-coated (Color shall match AMS Standard 595-36492 Gray or as required).

3.11 Aesthetics

- A. Structural elements of Project NEXT shall be designed and constructed to be visually consistent with the rest of the I-495 Corridor and, where applicable, compatible with any specific third-party requirements.
- B. The material, finish, color, and texture of noise barrier walls, retaining walls, and bridge elements shall be as specified in the table below.

Aesthetic Surface Finishes

Item	Surface Finish	Surface Color ¹
Noise Barrier Walls (Precast Concrete) – South of Georgetown Pike		
<i>Roadway Side</i>	Vertically Fluted	Match AMS Standard 595-36492 Gray
<i>Landowner Side</i>	Fuzzy Raked ²	Natural Concrete
Noise Barrier Walls (Precast Concrete) – North of Georgetown Pike		
<i>Roadway Side</i>	Drystack	Match AMS Standard 595-36492 Gray
<i>Landowner Side</i>	Drystack	Match AMS Standard 595-36492 Gray
Noise Barriers – Structure Mounted	Visually similar to adjacent ground mounted noise barriers	Match AMS Standard 595-36492 Gray
Noise Barrier Posts ³	N/A	Concrete or galvanized steel for ground mounted barriers and galvanized

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Item	Surface Finish	Surface Color ¹
		steel for structure mounted barriers
MSE Retaining Walls and Panels (including MSE Walls at Bridge Abutments)	Fractured Fin on Cruciform Shaped Panels Walls Adjacent to Live Oak Drive over I-495 Abutments: Drystack	Match AMS Standard 595-36492 Gray
All Other Retaining Walls	Smooth Concrete Walls Adjacent to Live Oak Drive over I-495 Abutments: Drystack	Match AMS Standard 595-36492 Gray
Bridge Elements (Parapets, Abutments and Piers)	Live Oak Drive over I-495 (Abutments): Drystack Other Bridges: No Architectural Treatment Required	Natural Concrete Bridge Abutments shall match AMS Standard 595-36492 Gray

Notes:

1. Color stain (matching AMS Standard 595-36492 Gray) shall be applied to the Roadway side surface of concrete wall elements as required to provide uniform color for retaining walls and precast concrete noise barriers throughout the Project NEXT Corridor (notably for contiguous runs of precast concrete noise barriers and/or retaining walls and when adjoining with structure mounted noise barriers). Bridge abutments that connect or align with retaining walls and/or noise barriers and abutments that will be visible from the I-495 roadway shall receive the color staining.
 2. Drystack architectural treatment (stained to match AMS Standard 595-36492 Gray) shall be used in lieu of Fuzzy Raked finish on the Landowner sides of Noise Barrier 13E-2 for the entire length and Noise Barrier 13A beginning at approximate 495 Express Lanes_SB Station 236+00 (north of the existing Dominion Virginia Power substation) continuing north to Georgetown Pike.
 3. Noise barrier posts within the same contiguous run of noise barrier wall shall utilize the same post type (i.e. concrete or galvanized steel) unless otherwise approved.
- C. Where existing structural elements that are to be incorporated into Project NEXT have aesthetic treatments, the surface finish for new and adjacent elements (for noise barriers, retaining walls, bridge parapets and walls, and bridge abutments, etc.) shall match existing. Where these existing structural elements currently have no architectural or aesthetic treatments, such new and adjacent elements shall receive a smooth concrete finish. The existing and new structural elements in these cases shall be stained to match AMS Standard 595-36492 Gray.
- D. The Design-Builder shall submit an Aesthetics Roll Plan detailing the proposed types, materials, and aesthetic finishes of all retaining wall and noise barrier elements

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throughout the Project NEXT Corridor for approval prior to the fabrication of any wall or noise barrier panels. The Aesthetics Roll Plan is intended to summarize the Design-Builder's proposed means and methods for achieving a consistent aesthetic for walls and noise barriers throughout the Project in accordance with this Section 3.11. The submittal shall include plan views and wall elevations showing locations and designations of all proposed retaining walls and noise barriers, with information regarding the types of retaining wall systems (i.e. MSE, soldier pile, tie-back, gravity, etc.), noise barrier wall types (i.e. ground mounted, structure mounted, etc.), post types (i.e. concrete or steel), photos of existing adjacent elements being incorporated (where applicable), and the proposed aesthetic surface finishes. Representative photos and details from the manufacturers of proposed products shall be included.

- E. Noise barrier wall posts shall not utilize post caps. Top of noise barrier wall posts shall be flush with the top of wall panel. Coping at top of wall shall not be provided.

3.12 Landscaping

- A. Prior to commencing any land disturbance activities, the Design-Builder shall complete a survey and prepare an inventory of wooded areas within the anticipated limits of construction (including areas adjacent to communities within the VDOT right-of-way). This survey shall identify the number, caliper and species of trees that are 12-inch caliper or larger and the types and locations of existing trees shall be depicted on a Tree Inventory Roll Plan submitted for approval. This inventory shall form the basis for replacement tree plantings required per Section 3.12.C.
- B. The Design-Builder shall re-establish existing grass areas following completion of construction activities with low growing, native and non-competitive grasses prior to Final Completion, and properly maintain these areas for the duration of the Warranty Period. All plant materials shall be indigenous to the area and be able to adapt and survive in roadside environments.
- C. Following completion of construction activities, the Design-Builder shall re-establish trees on the remainder of any existing wooded areas that were disturbed and are not used for any Project elements or facilities. Replacement tree plantings are not required on the roadway side of any sound barrier walls or retaining walls. A Tree Replacement Roll Plan shall be prepared and submitted for approval prior to any re-plantings. New plantings shall meet the following minimums: a) Shade trees - two (2)-inch caliper stock trees planted twenty (20) to thirty (30) feet on center and b) evergreen and flowering trees planted ten (10) to twenty (20) feet on center. Two replacements trees are required for any removed trees which are twelve (12)-inch or greater caliper. Where remaining wooded areas are too small or steep for adequate tree growth, the Design-Builder shall provide densely planted shrubs. All tree planting areas shall be stabilized with low growing, native, and non-competitive grasses. Any plants used shall conform to the American Standard for Nursery Stock (ANSI-Z60.1-2004), container grown or balled and burlapped. Trees and plant materials shall be indigenous to the area and be able to adapt and survive in roadside environments. The Design-Builder is to establish the new

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trees and properly maintain these areas for the duration of the Warranty Period. Locations where damages have been paid to private property owners for tree removal shall be exempt from these replanting requirements.

- D. In areas where only grading for future shared-use paths shown in the RFP Conceptual Plans, such areas shall be seeded with low growing, native and non-competitive grasses prior to Final Completion, and the Design-Builder properly maintain these areas for the duration of the Warranty Period. All plant materials shall be indigenous to the area and be able to adapt and survive in roadside environments.
- E. The Design-Builder shall provide the plantings and/or landscaping to meet environmental mitigation commitments specified in Section 3.3.10. prior to Final Completion, and properly maintain these areas for the duration of the Warranty Period. All plant materials shall be indigenous to the area and be able to adapt and survive in roadside environments.
- F. Any plantings or landscaping required to stabilize disturbed areas during construction to maintain permit conditions or meet requirements of Governmental Authorities shall be the Design-Builder's responsibility.

3.13 Not Used

3.14 Sidewalks and Shared Use Paths

- A. The Design-Builder shall design and construct the sidewalks and shared-use (pedestrian and bicycle) paths identified in the RFP Conceptual Plans. The Design-Builder shall also not preclude the future construction of any planned sidewalks or shared-use paths identified in the RFP Conceptual Plans. If noise barrier walls are present, sidewalks and shared-used paths shall be constructed on the residential side of the existing and planned noise barriers.
- B. The Design-Builder shall coordinate with VDOT's District Bicycle Pedestrian Coordinator and local jurisdictions on the design, maintenance of traffic (including detours, if necessary), and construction staging of the sidewalks and shared-use paths within the Project limits.
- C. All new, modified, or reconstructed sidewalks and shared-use paths shall be designed and constructed in accordance with these Technical Requirements and the applicable Standards and Specifications set forth in Attachment 1.5a, VDOT Road Design Manual Appendix A(1) and IIM-LD-55. Such facilities shall terminate with accessibility ramps. Any such accessibility ramp shall be matched on the opposite side of the roadway with a receiving accessibility ramp and a minimum 5'x5' landing area, if not a continuous path or sidewalk.
- D. The Design-Builder shall design and provide drainage, if needed, for any new independent shared-use path bridges, or underpasses (box culverts or other). Drainage scupper grates on the bridge shall follow VDOT Road Design Manual Appendix A(1)

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and should preferably be located within the 2-foot shoulder of the path, but not located within the path itself.

- E. Where possible, utility manholes should be located outside of any sidewalks or shared-use paths. Utility access manholes may be located within the 2-foot shoulder of the 10-foot shared-use path, but not within the path itself. Where manholes are located within a sidewalk or shared-use path, the manhole covers must be ADA compliant.
- F. For the portions of the new shared use path along I-495 NB north of Balls Hill Road designated as “Grading and Gravel for Future Shared Use Path” in the RFP Conceptual Plans, the Design-Builder shall complete the final grading and construct the shared use path subbase layer specified in 3.14.G.
- G. Concrete and asphalt pavement designs for sidewalks and shared-use paths shall be in accordance with the following requirements.

Sidewalks

- Subbase – four (4) inches Aggregate Base Material Type I, Size No. 21A or No. 21B extended (four) 4 inches on either side of the surface.
- Surface – four (4) inches Hydraulic Cement Concrete, Class A3

Shared Use Paths

- Subbase – six (6) inches Aggregate Base Material, Type I, Size No. 21B extended six (6) inches on either side of the surface.
- Base – three (3) inches Asphalt Concrete, Type IM-19.0A estimated at 360 lbs/yd²
- Surface - one (1) inch Asphalt Concrete, Type SM-9.0A estimated at 118 lbs/yd²

Grading and Gravel for Future Shared Use Paths

- Subbase – ten (10) inches Aggregate Base Material, Type I, Size No. 21B extended six (6) inches on either side of the surface.

- H. All existing sidewalks, shared-use paths, recreational trails and associated entrances, intersections or access points that will be affected by construction activities or by temporary traffic control measures shall be maintained (e.g., open to users) to provide safe and continuous access or a safe and convenient alternate must be provided by the Design-Builder.

3.15 Structures and Bridges

3.15.1 Bridges and Culverts

A. General Requirements

1. All new bridges, bridge replacements, widening and/or modifications of existing bridges (including any geometric changes to roadways on and underneath the

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existing bridge), repair of existing bridges, new culverts and retaining walls, and modifications to existing culverts and retaining walls shall be designed in accordance with AASHTO LRFD Bridge Design Specifications including its Errata (“AASHTO LRFD”) and all current revisions and VDOT modifications (IIM-S&B-80 *VDOT Modifications to AASHTO LRFD Bridge Design Specifications*) issued as of the issuance date of the RFP. All other structures shall be designed to the appropriate design Standards and Specifications set forth in Attachment 1.5a.

2. The Design-Builder shall comply with VDOT’s Manual for the Structure and Bridge Division.
3. Infinite life fatigue requirements shall apply to all bridges.
4. Bridges shall be designed to meet all applicable hydraulic requirements, including current FEMA and VDOT guidelines as described in the latest edition of the VDOT Drainage Manual. The Design-Builder shall deliver a final Hydrologic and Hydraulic Analysis and final Scour Analysis for the proposed bridge designs as outlined in these Technical Requirements. These analyses shall be submitted for review and approval prior to the commencement of bridge construction.
5. Bridge width and length shall be determined by the functional classification of roadway(s) being considered and the facility being intersected. Under no circumstance shall the minimum vertical clearance be less than 16 feet 6 inches over existing and proposed roadways and streets carrying vehicular traffic, unless an applicable Design Exception or Design Waiver is approved.
6. The horizontal clearance of all bridge substructure elements are shown on the RFP Conceptual Plans and have been accepted for use on the Project NEXT. The Design-Builder shall not change these horizontal clearances unless approved.
7. Each new bridge parapet or rail shall include a bridge conduit system. The conduit system shall comprise of two 2-inch diameter conduits. A junction box system shall be required for each of the conduits. No more than two (2) conduits shall be embedded in each parapet or railing. The location of the first conduit shall be as shown in the standard drawing for Bridge Conduit System. The location of the second conduit shall be designed such that crash test criteria for the parapet or railing is not voided. Existing electrical service shall be maintained throughout construction.
8. The Design-Builder shall use Concrete Low Shrinkage Class A4 Modified, for all bridge decks, bridge parapets/railings, bridge sidewalks/shared-use paths, and bridge medians.
9. Post-tensioning of any type shall not be allowed (with or without grout or ducts).
10. High Performance Steel Grade HPS 100W shall not be allowed.
11. High Performance Steel Grade HPS 70W shall only be allowed with an approved Design Waiver.
12. Concrete deck slab widening up to 80’ wide does not require longitudinal joint.

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13. Furnishing and placing hydraulic cement concrete for concrete elements whose minimum dimensions exceed five (5) feet shall be performed in accordance with the *Special Provision for Hydraulic Cement Concrete for Massive Construction*. Regardless of minimum concrete element dimensions, the maximum allowable thermal gradient between the core and skin temperature of a concrete pour is limited to 35° Fahrenheit and the maximum allowable temperature in any portion of the concrete pour shall be 170° Fahrenheit for slag and cement mixes and 160° Fahrenheit for fly ash and cement mixes. For concrete elements where the minimum dimension is five (5) feet or less, and where the potential for exceeding the maximum allowable thermal gradient and maximum allowable temperature limits above may exist, it shall be the Design-Builder's responsibility to determine if the *Special Provision Hydraulic Cement Concrete for Massive Construction* should be used for furnishing and placing the hydraulic cement concrete for such elements.
14. The proposed Georgetown Pike Bridge over I-495 shall be designed for future ramp loads framed to both sides of the proposed bridge as shown in the *2045 Design Year Concept Geometry Roll Plots* provided in Attachment 1.0. The Design-Builder shall submit the design calculations including the future ramp loads as part of Stage I Report for this structure and with its final design to demonstrate that the proposed superstructure and substructure will accommodate future ramp loads.

B. Details and Drawings

1. All details and drawings should be in accordance with the VDOT Manual of the Structure and Bridge Division. Should any such details not be applicable, Design-Builder shall implement a modified version of the requirement such that it is in compliance with AASHTO LRFD.
2. Details and drawings not specifically included in the Manual of the Structure and Bridge Division may only be included in the structural plans and working drawings after review and approval. Should any such details not be acceptable, the Design-Builder shall make the necessary modifications or shall submit an alternate detail that is acceptable.
3. Any new bridge, replacement bridge or repairs, and modifications to existing bridges or structures (including any geometric changes to roadways on or underneath the existing bridge) shall be designed, detailed, and submitted as a plan package for review and approval. A preliminary type, size and location plan, including all proposed stages of construction (as applicable), shall be submitted for review and approval prior to proceeding with final design. The stage construction plans shall outline expected methods of protecting roadway users and pedestrian traffic during each stage. Additional requirements for Plan Submittals shall be as outlined in other sections.

C. Superstructure

1. Bridge type and layout shall be based on reducing long-term maintenance costs. The use of continuous span units and jointless bridge design technologies shall be

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used as outlined in the VDOT Manual of the Structure and Bridge Division, Part 2 Chapter 17. The Virginia Abutment details shall be developed as shown in VDOT Manual of the Structure and Bridge Division.

2. VDOT standard parapets and rails shall be used. Parapets shall be 42” concrete F-shape parapets except at locations where CPSR series railing is specified in the RFP Conceptual Plans.
3. All bridges with pedestrian and/or bicycle facilities shall include CPSR railing in accordance with VDOT Structure and Bridge Manual.
4. VDOT standard pedestrian fences for all applicable structures shall be vertical fencing with curved top. All fence elements shall be the requirements of Section 3.10.2.
5. Joints in bridges may be used only with specific written approval through an approved Design Waiver.
6. On the plans, all deep foundation units shall be numbered.
7. No timber bridge elements of any kind will be acceptable in proposed structures.
8. Either prestressed concrete or structural steel beams and girders may be used.
9. For prestressed concrete alternatives, the precast concrete Bulb-T sections adopted by VDOT shall be used. AASHTO shapes will not be permitted.
10. A sleeper pad will be required when the bridge abutment is either integral or semi-integral.
11. The use of asphalt overlays on concrete bridge decks shall not be permitted.
12. All connections of ramp bridges to intersecting overpass structures shall be made without the introduction of joint at the interface between the ramp bridge and the overpass. The connection at the intersection between the two structures, shall be designed either as a moment connection or, if a moment connection is impractical, a shear connection with a link slab (see Manual of the Structure and Bridge Division Part 2 file 32.09-2 for a typical detail of a link slab).
13. When the introduction of a simple span is required to accommodate unique bridge layout requirements, options for eliminating the joints at the ends of a simple span shall be evaluated by the engineer of record and approved prior to use. Such options may include, but not limited to, the construction of links slabs, or deck extensions.
14. The use of prestressed deck panels as stay-in-place forms shall not be permitted.
15. Use of fracture critical elements is not permitted. The use of integral pier caps is not permitted.
16. For curved steel girder bridge superstructures on reverse curves or having a span that exceeds 240 feet, a three-dimensional finite element analysis using LARSA 4D software shall be used to analyze and design superstructure components including, but not limited to, plate girders and crossframes. LARSA 4D shall be used for load rating such bridges in accordance with IIM-S&B-86. Should any other software be

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proposed for use in design or determining load ratings shall be submitted for approval.

17. The Design-Builder shall submit girder erection plans, procedures and calculations in accordance with the applicable Standards and Specifications set forth in Attachment 1.5a.
18. Bridge span lengths in excess of 300 feet will not be allowed without specific approval, nor will any geometric changes that reduce the design speed of ramps be considered. Additional requirements for bridge span lengths greater than 240 feet include:
 - a. Design Waiver approval must be obtained;
 - b. No variable depth girders;
 - c. No hybrid girder sections;
 - d. No elastomeric bearings;
 - e. No uplift, no counterweights and no tie-downs allowed for any support location;
 - f. Virginia style abutments with tooth joints are required;
 - g. Any variation in bay spacing to be limited and exterior girder shall have a constant width deck overhang;
 - h. Since AASHTO distribution factors do not apply, grid or 3D analysis shall be performed. If radial layout for bridge, only 3D analysis shall be performed;
 - i. Thermal analysis by LARSA 4D to be performed to account for deck stiffness and determine bearing orientation and Substructure loads;
 - j. Load rating shall be in accordance with IIM-SB-86 using LARSA 4D;
 - k. Shipping, Erection, and Stability Report shall be submitted prior to construction. This Report shall include consideration of effective width of shipped girder, effect of skew as needed and method of detailing;
 - l. Neither detailing method nor deck placement sequence shall be changed during construction unless a revised Shipping, Erection, and Stability Report is submitted;
 - m. Permanent lateral bracing shall be subject to approval during the detailed design phase; and
 - n. Temporary lateral bracing, if used, must be included in the structural analysis, as well as the effect when it is removed.

D. Substructure

1. The Design-Builder shall ensure that all recommendations related to the suitability of foundation material for spread footings at the time of construction are confirmed in the field by the Geotechnical Engineer registered and licensed by the Commonwealth of Virginia. Foundation recommendations for the proposed bridge shall be submitted for review prior to the submittal of final foundation construction plans.

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2. The use of steel piles in pile bents shall not be permitted. Pile bent supports shall not be used at any grade separation structure (overpass or underpass).
 3. Areas around bearing seats shall be designed to permit jacking and replacement of bearings. The design forces for jacking shall not be less than 1.3 times the permanent load reaction at the bearing, adjacent to the point of jacking.
 4. Piers used for all bridges shall be limited to the following types: hammerhead piers with rectangular columns, multi-column piers with square or circular columns, and wall piers.
 5. Substructures shall be self-supporting under all service life conditions, including superstructure replacement. Superstructure shall not participate in the stability or strength of the substructure.
 6. The maximum abutment backwall width without an expansion joint shall be 80 feet.
- E. Existing Bridges
1. General Requirements
 - a. The Design-Builder is required to submit plans for the modification of an existing structure that are consistent with applicable Standards and Specifications set forth in Attachment 1.5a. Plan sets are also required to show all changes, including but not limited to vertical and horizontal clearances, lane configurations on and beneath the bridge, addition of bridge conduit systems, and other modifications.
 - b. All modifications to existing bridges, including complete or partial removal of a bridge, shall be staged as necessary to maintain travel lanes for the duration of construction and in accordance with these Technical Requirements. Additionally, the Design-Builder shall provide continuous and safe access for pedestrians and bicycle traffic through or around the limits of construction. Temporary pedestrian and bicycle access must comply with Americans with Disabilities Act Guidelines for State and Local Government facilities.
 - c. It is the Design-Builder's responsibility to obtain and verify any required as-built field details and dimensions needed for any purpose, including but not limited to modifying or dismantling any existing bridge.
 - d. To obtain copies of Bridge Safety Inspection Reports, the Design-Builder must complete a CII/SSI Non-Disclosure Agreement as outlined in IIM- S&B-71 Critical Infrastructure Information (CII)/Sensitive Security Information (SSI).
 - e. Barrier protection of structures shall satisfy the requirements of AASHTO LRFD, including the requirements of article 3.6.5 and the requirements of the Manual of Structure and Bridge Division Part 2, Chapter 15. Existing bridge piers, where noted on the RFP Conceptual Plans, shall be protected by a standard VDOT Bridge Pier Protection System (BPPS series). The standard BPPS series barriers shall be designed and detailed in accordance with the VDOT Manual of Structure and Bridge Division. If Bridge Pier Protection System is not provided for substructure units with 30 feet of the edge of

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roadway, the substructure unit shall be designed for collision forces in accordance to AASHTO LRFD and VDOT S&B Manual.

- f. Existing bridge spans shall be widened with the same beam type and same material (e.g., steel or concrete).

2. Scope of Work for Bridges to Remain in Place

The scope of work for bridges to remain in place or to be widened shall include the following:

- a. Bridge repair quantities listed in Attachment 3.15a and the following:
 - (xii) Inspection and evaluation of bridge deck shall be limited to delineating delaminated concrete for removal prior to placement of new overlay systems.
 - (xiii) Inspection and evaluation of substructure shall be limited to delineating delaminated and spalled concrete for removal prior to performing substructure repair. Delineated areas shall be expanded 6 inches beyond each side, and top and bottom.
- b. Additional repair work necessary to achieve a minimum condition rating of 7 for bridge decks, superstructures, and substructures. Additional supplementary inspections to determine the scope and level of additional work needed. Minimum condition rating of 7 requirement is not applicable for Lewinsville Road Bridge over I-495. Minimum condition rating of 7 is not required for George Washington Memorial Parkway Bridges over I-495 and repair quantities listed in Attachment 3.15a shall be utilized for these structures.
 - (i) Repair of substructure spalls and delaminations shall include providing and installing embedded galvanic anodes in accordance with the VDOT Road and Bridge Specifications.
 - (ii) Substructure cracks shall be repaired with Crack Repair Type B (Epoxy injection) in accordance with the VDOT Road and Bridge Specifications.
- c. Bridge and approach sidewalk modifications for Lewinsville Road Bridge over I-495 as listed in Attachment 3.15b.

3. Additional Requirements

- a. Only bearings that are included in the Manual of the Structure and Bridge Division Vol. V Part 3 shall be used in the widened portion of the bridge structure regardless of the superstructure type selected. Installation of new bearings and all necessary work shall be included in the scope of work for any superstructure replacement, and no existing bearing components shall be re-used. The Design-Builder shall ensure that the existing and new bearings are compatible with each other, and will not result in over stressing the existing or new bearings.
- b. Existing structural approach slabs shall be in accordance with File No. 06.07 of Part 2, of the Manual of the Structure and Bridge Division where the existing

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bridge is being widened or where the travel lanes are being modified unless otherwise approved.

- c. The location of any deck construction joint shall be over a girder and between shear connectors from the girder to the deck, unless otherwise approved.
- d. Modifications to existing bridge joints shall be in accordance with Attachments 3.15a and 3.15b, as applicable.
- e. Existing bridge elements shall be evaluated to determine effects of bridge widening, joint closures or other modifications for the bridge. Regardless of design method used on the existing bridge, AASHTO LRFD shall be used for the initial evaluation of existing elements. For existing bridges not designed using LRFD and where it is determined that resulting LRFD factored loads are in excess of LRFD factored resistance, the Load Factor Method or Allowable Stress Method in accordance with the AASHTO Standard Specifications for Highway Bridges, 16th Edition, may be used for the evaluation of the existing elements.
- f. When adjacent to or over waterways, existing bridge foundations shall also be evaluated for scour whenever the bridge is widened or a new adjacent bridge is constructed. If calculated total scour for the new conditions is greater than calculated total scour for the existing conditions, then existing bridge foundations shall also be designed for the new scour in accordance with the requirements of the Drainage Manual and AASHTO LRFD.

4. Dismantling and Removing Existing Structures or Removing Portions of Existing Structures

With any demolition and temporary support over or adjacent to live traffic, the Design-Builder shall submit a plan for review and approval prior to the commencement of any demolition work. The demolition plan shall include, but is not limited to, details of protection of the underlying bridges, roadway, and users. The Design-Builder shall determine the effect of equipment loads on the bridge structure, and develop and submit plans that show the procedures for using the loaded equipment without exceeding the structure's design capacity. The Design-Builder's plans shall be signed and sealed by a Professional Engineer licensed by the Commonwealth of Virginia.

5. Live Load Rating of Modified Bridges

- a. All modifications to existing bridges shall be evaluated for their impacts on the live load rating of the bridge. In addition to the requirements set forth below, modifications to an existing bridge shall not result in the bridge requiring a posting for live load carrying capacity.
- b. If the current HL93 Rating Factor (as computed per the Manual for Bridge Evaluation) is greater than or equal to 1.0 at the inventory level, then the HL93 inventory rating factor for the modified structure shall be greater than or equal to 1.0.

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- c. If the current HL93 Rating Factor (as computed per the Manual for Bridge Evaluation) is less than 1.0 at the inventory level, then the HL93 inventory rating factor for the modified structure shall be greater than or equal to the inventory rating factor for the unmodified subject structure.

F. Bridge Drainage

1. The minimum dimension of pipe used in a drainage system for new bridges and widened portions of existing bridges shall be eight (8) inches.
2. To the extent possible, pipes and downspouts shall be designed to avoid interference with aesthetics of the bridge.
3. The use of ditches and open channels with grades greater than 10% shall not be permitted on slopes directly underneath a bridge or on slopes located within 100 ft. of a bridge structure. An enclosed drainage system shall be used to capture the bridge deck runoff, including runoff from its approach slab, and convey the runoff to the bottom of the slope or into a drainage system.

G. Culverts**1. General Requirements**

Culverts and modifications to existing culverts shall be designed using AASHTO *LRFD Bridge Design Specifications*; Interim Specifications; VDOT Modifications (IIM-S&B-80 *VDOT Modifications to AASHTO LRFD Bridge Design Specifications*); and shall comply with the VDOT Road and Bridge Standards, Vol. I & II. Should any standard for culverts not be in accordance with AASHTO LRFD, then the Design-Builder shall verify design and implement a modified version of the requirement such that it is in compliance with AASHTO LRFD.

2. Existing Culverts

- a. If the Design-Builder modifies structural elements of any existing culvert (including extensions and increased loading), then the Design-Builder is required to provide a design and plan set for the extension or modifications. The design calculations shall include assessments of any imposed settlement or differential settlement due to the new load conditions. Culvert load rating shall be performed for culvert extensions when the extended portion of the culvert will be subjected to live loading.
- b. All modifications to existing culverts shall be evaluated for their impacts on the live load rating of the culvert. In addition to the requirements set forth below, modifications to an existing culvert shall not result in the culvert requiring a posting for live load carrying capacity.
 - (i) If the current HS-20 rating load is greater than or equal to 36 tons at the inventory level, then the HS-20 inventory ratingload for the modified structure shall be greater than or equal to 36 tons.

- (ii) If the current HS-20 rating load is less than 36 tons at the inventory level, then the HS-20 inventory rating load for the modified structure shall be greater than or equal to the inventory rating load for the unmodified subject structure.

H. Load Ratings for Bridges and Culverts

1. Structure load ratings are required and shall be performed in accordance with the requirements of IIM-S&B-86 – *Load Rating and Posting of Structures (Bridges and Culverts)* and the following:
 - a. When a phased portion of a newly constructed structure is intended to carry traffic in a temporary configuration.
 - b. Load rating of any partial configuration of the existing structure.
 - c. A final, as-built, load rating analysis of each new structure reflecting traffic in its final configuration. This load rating should incorporate any as-built changes that may have been made, which in the judgment of the Design-Builder will affect the load rating (e.g., minor changes to stiffener or diaphragm locations may not affect a load rating).
2. No partial or completed structure shall be placed into service if a Load Restriction (Posting) is required based upon the load rating analyses. The Design-Builder is responsible for all remedial measures and corrective action required to provide a structure that satisfies the load rating requirement outlined in IIM-S&B-86– *Load Rating and Posting of Structures (Bridges and Culverts)*.

I. Safety and Acceptance Inspection for Bridges and Culverts

1. Acceptance of the bridge structure will require the following two independent inspections:
2. A satisfactory safety and inventory inspection as described below is required prior to opening the structure or portion of the structure to public traffic. This safety and inventory inspection by VDOT will serve as the initial inspection of the structure. Data gathered will include, at a minimum, location, date completed, alignment, description, horizontal and vertical clearances, structure element description and condition data, and traffic safety features. Such inspections will be required prior to opening any newly constructed portion or phase of the bridge to traffic.
3. A satisfactory final construction inspection by VDOT is required prior to acceptance of the structure. To facilitate inspection of the structure, the Design-Builder shall ensure that all structural elements are accessible and shall provide adequate resources including:
 - a. Man-lifts, bucket trucks, under bridge inspection vehicles, or other equipment necessary to inspect the structure, as well as properly trained staff of sufficient composition to support the inspections; and
 - b. Plans, procedures, personnel, and equipment to implement traffic control measures.

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4. The Design-Builder shall provide a minimum of thirty (30) days' notice whenever it requires VDOT to undertake an inspection. The Design-Builder's notice shall include the latest version of the plans (including all field design changes), traffic control procedures, a description of the items to be inspected and an anticipated schedule for the inspections.
 5. Unless otherwise approved, structures shall be substantially complete (i.e., roadway, slopes on the approaches, and slopes underneath the structure are already in place) before the final construction inspection will be performed.
- J. Plan Submission
1. The Design-Builder shall make Stage I (Preliminary Plan) submissions and Stage II (Final Plan) Submissions.
 2. Stage I (Preliminary Plan) Submission
 - a. The Design-Builder shall submit a Stage I (Preliminary Plan) submission for each new bridge, bridge replacement, and bridge widening and/or modification.
 - b. Stage I submission must be submitted prior to any final design submittal. Final design prior to approval of the Stage I submission shall be solely at the risk of the Design-Builder.
 - c. The approval of the Stage I submission shall be subject to the approval of the detailed Hydrologic and Hydraulic Analysis study and Scour Analysis (if a waterway crossing), a preliminary geotechnical report completed in accordance with the requirements of Section 3.4 Geotechnical, and roadway geometry.
 - d. Stage I submission shall include: Stage I drawings prepared in accordance with the Stage I Plan Review Checklist, Stage I Report, Stage I Report Summary Form, and other preliminary plan requirements indicated in the applicable Standards and Specifications set forth in Attachment 1.5a.
 - e. The Stage I report shall follow the Stage I – Report Template, which shall be provided upon request, except as modified below.
 - (i) Section 3.10, Constructability Issues: The Report need not consider constructability issues (except for how it relates to maintenance of traffic; the report shall include a section on maintenance of traffic).
 - (ii) Section 6, "Bridge Preliminary Recommendation" is modified as follows: the report need only describe the single alternative being presented for approval.
 - (iii) Section 6, the report requirements are extended to specifically address in detail all non-standard items, unique or complex features.
 - (iv) Section 7, Engineer's Cost Estimate for each Alternative, is not required.
 - (v) Section 8, Schedule, is not required.
 - (vi) The report will include copies of design exceptions and waivers that influence the design of the structure or roadway approaches, both over

and under, and shall include a write-up on how the design exceptions and Design Waivers affect the bridge.

3. Stage II (Final Plan) Submission
 - a. The Design-Builder shall submit structure Stage II (Final Plan) submission for each new bridge, modification to an existing bridge, bridge rehabilitation, modification to lane and shoulder configuration on or under an existing bridge and/or culvert, or modifications to culvert structures.
 - b. Final plans may be submitted as completed plan set(s) or in plan submission packages (i.e., foundation plan package, substructure plan package, superstructure plan package, etc.). The final plans are to be submitted according to the submission schedule provided by the Design-Builder.
 - c. The Stage II drawings shall be prepared in accordance with the Stage II Plan Review Checklist.
 - d. Final design calculations and construction drawings shall be signed and sealed in accordance with the VDOT Manual of the Structure and Bridge Division, Part 2, Chapter 1, Section 16: Sealing and Signing of Plans and Documents.
4. Additional Requirements for Bridges

The Design-Builder is responsible for obtaining the VDOT B-number, Federal Identification and plan number for each new bridge included in Project NEXT. Plan sets should contain sheets that are arranged and detailed as outlined in the Manual of Structure and Bridge Division Part 2.

3.15.2 Retaining Walls

A. General Requirements

1. The retaining walls shall be designed using *AASHTO LRFD Bridge Design Specifications*; including its Errata; *VDOT Modifications (IIM S&B-80 VDOT Modifications to AASHTO LRFD Bridge Design Specifications)*; The Manual of Structure and Bridge Division Part 2 Chapter 18 Earth Retaining Walls; and applicable sections of Road and Bridge Standards, Vol. I & II and as specified in the Technical Requirements. Timber lagging for post and panel walls shall be pressure treated in accordance with the VDOT Road and Bridge Specifications.
2. If the Design-Builder elects to use mechanically stabilized earth (MSE) walls, the fill material used in the reinforced zone shall be a crushed aggregate with properties in accordance with the VDOT's Special Provisions for approved proprietary MSE walls. The Design-Builder shall provide both global and external stability analysis utilizing an approved computer program submit the results of the analysis, including boring logs, laboratory data, and any other applicable data for review. The wall supplier shall provide to the Design-Builder an internal stability analysis that validates the design of the wall. Retaining walls shall be designed to control settlements within tolerances identified in VDOT's Guidelines for Preparation of Alternate Retaining Wall Plans.

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3. Should any standard for retaining walls not be in accordance with AASHTO LRFD, then the Design-Builder shall verify design and implement a modified version of the requirement such that it is in compliance with AASHTO LRFD.
 4. Retaining walls at bridge abutments shall be designed for a minimum service life of 100 years.
 5. Except for tie-backs required for the support of retaining walls, all components of the retaining walls shall be contained within VDOT's right-of-way. Tie-backs for retaining walls may be located within permanent underground easements provided that such easements are approved.
 6. MSE walls that require traffic protection at the top shall use barriers or railings on moment slabs.
 7. Parapets/railings and moment slabs located on top of MSE walls shall use Concrete Low Shrinkage Class A4 Modified.
 8. Concrete paved ditches shall be used behind retaining walls, except where the top of the wall is located adjacent to a roadway shoulder in which case an approved concrete barrier system shall be used. Paved ditches shall extend to the back face of the retaining wall. For soldier pile retaining walls, where a post extends behind a retaining wall panel, the ditch shall be located adjacent to the post. The area between the edge of the ditch and the back of the retaining wall panel shall be paved with 4 inches thick concrete, graded to drain away from the wall.
 9. For maintenance of the area at the top of a wall or working surface, a VDOT Standard HR-1, or equivalent fencing system as approved, shall be required when routine maintenance or inspection will be performed from the working surface or platform for which there is a 4-foot or greater distance above the next lower surface (OSHA 1910.23(c)1). All HR-1 railing shall be powder coated in accordance with applicable Standards and Specifications set forth in Attachment 1.5a.
 10. The following requirements in the Manual of the Structure and Bridge Division Part 2 File No. 17.01-7 Abutments, General Information and Selection Criteria, Use of MSE Walls and GRS Technology shall not apply to this Project:
 - a. MSE wall location for overpass structures shall accommodate a minimum of one future lane in each direction for the roadway below the overpass.
 - b. MSE wall limits shall extend sufficiently to allow future widening of the overpass by one lane in each direction.
- B. Modifications to Existing Retaining Walls
1. Retaining wall modifications shall be carried out in accordance with General Requirements for Retaining Walls.
 2. If any Significant Work is completed on an existing retaining wall, the Design-Builder shall ensure that all safety elements of existing retaining walls are brought up to current standards (e.g., railing). Significant Work includes, but is not limited to, the following:

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3. Raising the existing retaining wall;
 4. Reconstructing portions of existing retaining wall; and
 5. Adding a noise barrier wall or other feature to an existing retaining wall.
- C. Repair of Existing Retaining Walls
1. Repair of existing retaining walls shall be performed when Significant Work is completed on an existing retaining wall.
 2. Inspection and evaluation of retaining wall repairs shall be limited to delineating spalls and delaminated concrete for removal prior to performing patching and/or crack repairs. Delineated areas shall be expanded 12 inches beyond each side, and top and bottom.
- D. Plan Submission
1. The Design-Builder shall submit a preliminary plan for each new or modified retaining wall. Final design efforts prior to preliminary plan approval shall be at the risk of the Design-Builder.
 2. Preliminary plans shall be submitted and approved prior to any final design submittal.
 3. A retaining wall preliminary plan submittal shall include:
 - a. A plan and elevation view of the wall showing all existing and proposed design features associated with the project, including existing and future utilities, noise barrier walls, sign structures, landscaping, irrigation systems, barriers, existing and proposed drainage structures, adjacent bridges, and any other necessary features identified by Design-Builder.
 - b. A preliminary geotechnical report completed in accordance with the requirements of Section 3.4 (Geotechnical).
 - c. Where applicable, approval of the preliminary wall submittal shall be subject to the approval of an H&HA study and scour analysis.
 4. Where retaining walls are located at bridge abutments, retaining wall plans, including preliminary plans shall be included in a bridge plan submittal.

3.15.3 Noise Barrier Walls

- A. Noise barrier posts shall be designed such that the minimum unbraced length is not less than the full height of the post, measured from the top of foundation to the free end of the post. Noise barrier panels shall not be used as continuous or discrete bracing.
- B. Noise barrier wall posts shall not be spliced to soldier piles of retaining wall posts unless connection details are approved.
- C. The requirements of the VDOT Road and Bridge Specification, Section 519.03(c)2. Structure-Mounted Barriers shall also apply to moment slab mounted noise barrier walls.

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- D. For any noise barriers installed on top of existing or proposed MSE retaining walls, the Design-Builder shall demonstrate that the MSE wall meets applicable standards for such use. The Design-Builder must demonstrate that the noise barrier is independently supported through the use of a moment slab and the barrier panels cannot be attached to MSE wall. The attachment of the noise barrier to the moment slab shall be in conformance with the details in the VDOT Manual of the Structure and Bridge Division. If any noise barrier is added to any existing MSE retaining wall, the Design-Builder shall ensure that all safety elements of existing retaining walls are brought up to current standards.
- E. When new noise barrier walls are attached to an existing structure (e.g. an existing retaining wall or an existing bridge), the design of all elements of the existing structure and associated foundations shall be verified for compliance with requirements of AASHTO LRFD Bridge Design Specifications; Interim Specifications; VDOT Modifications (IIM S&B-80 VDOT Modifications to AASHTO LRFD Bridge Design Specifications) and other requirements of Section 3.15.

3.15.4 Traffic Structures**A. General**

1. If required, Lane Use Management Signs (LUMS) shall be treated in the same manner as overhead sign structures that support variable message signs except that LUMS may be erected on cantilever structures.
2. Small (i.e., 48" x 48' max. size) regulatory type sign panels on bridge structures may be installed using brackets attached to bridge parapets and deck slabs. The edge of sign panels shall clear parapet or rail by a minimum of 12 inches.
3. Span type overhead sign structures shall not be supported on bridge deck blisters. Sign structures shall be supported on pier caps or independent foundations, unless prior written permission allows for mounting to a frame supported by the superstructure. The main bridge beams and girders shall be investigated for fatigue loading from wind loads of the sign structure. The minimum vertical clearance between the bridge deck and sign shall be in accordance with the VDOT Road and Bridge Standards. Cantilever overhead signs shall not be mounted on bridge superstructures or substructures.
4. All poles, including poles for lights, cameras, and microwave vehicle detectors, which are located within the clear zone shall be protected from vehicular impact by guardrail or barrier. Supports shall be configured such that the poles, baseplates and anchor bolts are not located within the Zone of Intrusion for Test Levels 2 and 3; and within the Truck Cab Zone of Intrusion for Test Level 4.
5. The Design-Builder will be required to obtain a Design Waiver for any overhead sign structures that exceed the maximum span limits as defined in VDOT IIM-S&B-89 – VDOT Modifications to the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

B. Gantries

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1. The design of structures, gantries, and supports used for the violation enforcement, TMS, and tolling system roadside equipment shall be standardized.
2. The design for gantries will accommodate the following:
 - a. Dead loads, wind loads, and ice loads for tolling, TMS, enforcement equipment, including equipment cabling;
 - b. The vertical deflection of the gantry will not exceed the equipment manufacturer's desirable design specifications; and
 - c. Performance requirements for toll and enforcement equipment, to include but not be limited to, vertical clearance, twist about transverse axis, transverse rotation from level, member deflection, member natural frequency and resonance, foundation lateral deflection, maximum roadway cross slope at toll collection line, and equipment clearance from other major infrastructure items.
3. The gantry structures shall be fabricated of galvanized steel.

C. Existing Traffic Structures

1. In accordance with Section 3.9.3.M, the Design-Builder shall identify and provide a summary of the existing traffic structures that are affected by the addition, removal, realignment, or replacement of sign panels, and Dynamic Message Signs, and/or other ITS or TMS devices, including structures with signage that are outside the physical limits of roadway construction. The Design-Builder may re-use existing sign structures for the combination of the existing and proposed signs and ITS or TMS devices upon the submittal and approval of documents that include a condition assessment based on reviews of the most recent structure inspection reports, a detailed listing and plan of repair items required to address any existing defects in poor or substandard condition (if applicable), existing structural information, structural calculations, details of any proposed repairs and modifications to be performed by the Design-Builder, and a certification statement sealed by a Professional Engineer licensed in the Commonwealth that the structure meets all current structure design criteria and is fully compliant with these Technical Requirements. The structural analysis provided by the Design-Builder for each structure will be reviewed to deem whether or not the existing structure will be permitted to be modified as proposed. If the Design-Builder's analysis shows that re-use of the structures, with or without modifications, are not structurally acceptable in accordance with the applicable Standards and Specifications in Attachment 1.5a, the Design-Builder shall provide new structures in accordance with the Attachment 1.5a requirements and remove and salvage the existing structures at no additional cost.
2. VDOT Structure ID for any sign and VDOT ITS structure to be modified for reuse or to be removed shall be clearly shown on the plans. VDOT Structure ID for any existing sign may be obtained by contacting VDOT's Northern Virginia District Structure and Bridge Section. VDOT's Northern Virginia District Structure and Bridge Section shall be notified prior to the removal or relocation of any existing traffic structure.

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3. Removed existing lighting poles shall not be reused (new lighting poles shall be required).
 4. If applicable, existing bridge-mounted sign structures located above the proposed Express Lanes within the project limits shall be removed and if necessary replaced with new signs mounted on independent sign structures.
 5. Bridge mounted signs shall be completely removed, including frames, sign panels, hardware, and incidentals. Removed materials shall become the property of the Design-Builder and shall be properly disposed of off-site. Connection bolts anchored into concrete parapets shall be mechanically cut flush with the surface of the parapet, and then removed by mechanical drilling to a depth of one-half inch below the surface of the parapet. The holes shall be patched to match the color and texture of the existing parapet surface with hydraulic cement mortar or grout conforming to Section 218 of the Road and Bridge Specifications. Connection bolts to steel beams shall be removed, and the affected areas of steel beams cleaned, primed, and painted in accordance with the requirements of Section 411 of the Road and Bridge Specifications to match the existing structure. Electrical service shall be disengaged at the nearest junction box, and all conductors shall be capped and sealed in place unless existing service is to be reused for lighting of replacement structures.
- D. Inspection of Traffic Structures
1. Acceptance of new or modified sign and ITS structures will require an initial safety inspection. The purpose of an initial inspection is to verify compliance with the requirements of: Inspection and Maintenance; and IIM-S&B-82 *Traffic Structures* and to identify deficiencies, including incomplete work, and variances from approved plans and specifications and which must be rectified by the Design-Builder before the structure can be accepted.
 2. The initial inspection shall be performed by VDOT. The Design-Builder shall provide Approved for Construction drawings and working drawings, including all revisions at least two weeks prior to scheduling the inspections.
 3. During the initial inspection, data including but not limited to location, date completed, description, horizontal and vertical clearances, structure element description and condition, and traffic safety features will be gathered by the Design-Builder and verified by VDOT.
 4. The Design-Builder shall ensure that all structural elements are accessible for inspection of all structures. This requirement may dictate that the Design-Builder provide man-lifts, barges, remote operated vehicles, bucket trucks, or other equipment necessary to inspect the structure and plans, personnel, and equipment to implement traffic control.
 5. Upon completion of the initial inspection, VDOT will submit an inspection report to the Design-Builder within 10 days of the inspection either recommending acceptance of the structure or identifying deficiencies, including incomplete work, which must be rectified by the Design-Builder before the structure can be accepted.

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If a structure is not accepted, the Design-Builder shall rectify the deficiencies and certify in writing the deficiencies have been corrected. Within 5 days of receipt of such certification, a follow-up inspection may be performed to verify that the deficiencies have been corrected or recommend in writing to the Design-Builder that the structure is acceptable without a further inspection.

6. The final acceptance of sign and ITS structures will occur when the initial inspection is completed and any necessary follow-up (verification) inspections are performed. The initial inspection may be accomplished through multiple inspections, as long as the inspection program is properly coordinated with all required participants.

3.15.5 Miscellaneous Requirements

- A. The Design-Builder shall design and construct the parapet wall and bridge structure for the replacement Old Dominion Drive Bridge over I-495 in a manner that does not preclude the future implementation of another pedestrian-bicycle facility by others on the north side bridge.
- B. The parapet and barrier walls on structures may be constructed using slip forming after review and approval of a trial section.
- C. All temporary shoring and erection elements shall be dismantled and removed in their entirety following construction, unless otherwise approved.
- D. The following utilities shall be designed, furnished, and installed by the Design-Builder:
 1. Lighting on the bridge;
 2. Under bridge lighting (if required); and
 3. Any required Standpipe Fire Hydrant and Water Supply fire protection systems shall comply with the requirements of NFPA 502 Section 6.6. Prior to fire protection acceptance, the Design-Builder shall test the hose and standpipe systems for compliance with NFPA 25 and provide a letter from the Fire-Marshall confirming such successful test results.
- E. The Design-Builder shall submit estimated quantities along with the associated unit costs for all standard and non-standard items in the final bridge plan submittal. The structure unit cost data is required to complete the VDOT Annual Bridge Construction Unit Cost Report which is provided to FHWA. This data shall be submitted within 120 days of the approval of the construction plan submittal.
- F. Where any part of a drilled shaft, footing, or any other stiff element is to be permanently located directly beneath any permanent pavement, there shall be a minimum clearance of five (5) feet from the top of finished grade to the top of drilled shaft, footing, or stiff element.
- G. Sealer used in joints at sleeper pads shall be in accordance with the requirements of Section 420 of the Road and Bridge Specifications for Class II Joint Systems.

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- H. Drilled shaft for support of bridges and retaining structures shall be constructed in accordance with the requirements of VDOT *Special Provision for Drilled Shafts Using Self-Consolidating Concrete* for Design-Build and PPTA Contracts.
- I. Culverts used as pedestrian and multi-user facilities shall require an anti-graffiti coating on all exposed surfaces. The surfaces to be coated shall include but not limited to wingwalls, culvert walls, and culvert soffits.
- J. All working or shop drawings shall be reviewed prior to formal submittal. Each submitted working/shop drawing shall be individually annotated with the resulting disposition of the drawing after the review of each sheet. Supporting computations for shop drawings may be stamped on the cover sheet only. Annotation requirements apply to all structures, whether detailed by the supplier (e.g. MSE walls, noise barrier walls, etc.) or designed and detailed by the EOR (e.g. plate girders and prestressed beams).

3.16 Traffic Management System

3.16.1 General

- A. The Design-Builder shall be responsible for the planning, design and installation of the NEXT Traffic Management System (TMS) as more specifically described in this Section 3.16, and Attachment 3.16a (TMS Special Provisions), Attachment 3.16b (Notice of Impacts to Existing Assets) and Attachment 3.16c (TMS Interface Plan). The Design-Builder shall be responsible for designing and constructing the NEXT TMS to ensure constructability, meet operational and functional requirements and provide safe and adequate maintenance access.
- B. The TMS shall be designed, implemented, maintained, repaired, and replaced in accordance with all applicable Standards and Specifications as set forth in Attachment 1.5a and Attachment 3.16a.
- C. All TMS equipment, including but not limited to, electronic devices, network and computer gear, shall be stored in an environmentally controlled space as required in accordance with manufacturer's recommendation.
- D. Locations shown on the RFP Conceptual Plans for the generator site and related equipment at George Washington Memorial Parkway interchange has been strategically located to support operations. The location cannot be moved more than 100 feet from location shown on the RFP Conceptual Plans unless approved and shall have an accessible pull-off area.
- E. The Design-Builder shall provide roadway cross section drawings for each TMS device, cabinet, service point, and generator site showing the cabinet/device height above the roadway, maintenance access to the cabinet/device (both vehicular and on-foot), fall protection (where necessary), roadway slope, embankment slope and clearances to travel lane.
- F. The existing Express Lanes Operations Center (HOT-OC) shall be used for the NEXT Express Lanes.

3.16.2 Existing Traffic Management Infrastructure

- A. Existing VDOT-owned and maintained and Concessionaire-owned and maintained roadside equipment and infrastructure is located within the Project limits. Before impacting any existing VDOT ITS or Concessionaire TMS equipment or infrastructure, the Design-Builder shall follow “Notification of Impact” process and procedures outlined Section 3.16.20 and Attachment 3.16b. The Design-Builder shall properly dispose of all discarded or defunct TMS devices, cables, and associated electronic equipment and provide verification documentation. Existing lane control signals and cabinets, including all equipment within the cabinets, for the existing I-495 northbound shoulder use lane shall be salvaged and returned to VDOT at 8650 Bethlehem Rd Manassas, VA 20109. Design-Builder shall contact Leary Tomlin, Jr. at 571-419-1176 to make prior arrangements for returning existing equipment to VDOT.
- B. Existing roadside equipment may include, but is not limited to, the following equipment located within the Project NEXT limits:
 - 1. Weather stations;
 - 2. Dynamic Message Signs (DMS) for the existing Express Lanes and General Purpose Lanes;
 - 3. Closed Circuit Television (CCTV) and Automated Incident Detection (AID) cameras;
 - 4. Traffic monitoring sensors;
 - 5. Fiber optic cables;
 - 6. Service panels and cabinets; and
 - 7. Generators and UPS.
 - 8. Lane Use Management Systems
- C. The Design-Builder shall relocate or replace existing VDOT and Concessionaire roadside equipment located within the Project NEXT Right of Way that is affected by construction, including power and communication service to the equipment, and shall ensure that loss of functionality is minimized
- D. The Concessionaire and VDOT will remain responsible for the operations and maintenance of the existing and relocated Concessionaire and VDOT roadside equipment, respectively upon completion of construction.
- E. Existing CCTV cameras shall remain operational and fully functional without interruption for the duration of construction.

3.16.3 Systems Integration and Protocols

- A. The Design-Builder shall implement a system engineering approach, consistent with FHWA 23 CFR Part 940 Intelligent Transportation System Architecture and Standards (Federal Rule 940), in the development of systems and their associated interfaces. The system engineering approach shall address the following items where applicable:

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1. System architecture;
 2. System specification;
 3. Interface identification;
 4. Interface specification;
 5. Interface control;
 6. System integration; and
 7. Configuration management.
- B. The Express Lanes TMS shall be required to interface to the VDOT's Northern Region Operations (NRO) Advance Traffic Management System (ATMS) at VDOT's Public Safety and Transportation Operations Center (PSTOC) consistent with the requirement of the *Capital Beltway I-495 HOT Lanes Program TMS to the VDOT NRO PSTOC ATMS External Interface Control Document*.
- C. The Design-Builder shall develop and maintain a project-level ITS architecture that is coordinated with the Concessionaire's ITS architecture and the National Capital Region ITS Architecture. The project-level ITS architecture shall document all interconnects and information flows between the HOT-OC and the NRO PSTOC ATMS.
- D. The Design-Builder shall prepare and submit a *VDOT ITS Projects – Systems Engineering and Architecture Compliance (Rule 940) Checklist*. The Checklist shall demonstrate that the Project NEXT is in compliance with Federal Rule 940.
- E. The Design-Builder shall ensure that such standards, protocols and interfaces are represented in the HOT-OC Central Control Computer System (CCCS), so as to make the TMS system interoperable with the NRO PSTOC ATMS in accordance with the Interface Control Document, including any mutually agreed revisions during the Operating Period.

3.16.4 TMS Design Documentation

The following TMS design documentation shall be prepared and submitted by the Design-Builder:

- A. Functional Requirements – shall be a document compliant with the requirements in the TMS Interface Plan (Attachment 3.16c). and shall include characteristics of the TMS Equipment with regard to its intended capability, interface requirements for operations and system dependencies. The documentation shall describe the intended behavior and functionality of the TMS and the operational interaction with the NRO PSTOC ATMS and other stakeholders.
- B. Technical Specifications - shall be a document or documents that specify the technical design of the integrated sub-systems that will comprise the TMS and its interfaces.
- C. Interface Control Document – shall be a document that describes the physical and logical architecture of system interface between the HOT-OC TMS and the NRO PSTOC ATMS.

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- D. Process Definition Deliverable – shall set out the business processes relating to the TMS (subject to intellectual property regulations) and the processes for interacting with the appropriate the VDOT system and/or other systems as required.
- E. Test Strategy – shall establish the principles of, and the Design-Builder’s approach to, the testing of the TMS and the interfaces, including the test stages and processes.
- F. Security Plan – shall be a document (or part of another document) that sets out how the security of the TMS shall meet the relevant requirements for enforcement evidence and that data are held securely and only accessible to authorized personnel.
- G. Disaster Recovery Plan – shall be a document (or part of another document) that sets out the procedures to be adopted in the event of failure of the TMS.

3.16.5 Traffic Management System (TMS)

- A. The TMS enables the Concessionaire to monitor and manage traffic flow on the Express Lanes.
- B. The TMS must allow the Concessionaire to:
 - 1. Support response to emergency situations on the Express Lanes in the shortest possible timeframe;
 - 2. Manage traffic flow on the Express Lanes;
 - 3. Control any regulatory DMS, on and approaching the HOT Lanes;
 - 4. Detect and manage traffic incidents effectively, through a comprehensive incident management system, to mitigate the impacts of incidents and prevent secondary incidents from occurring;
 - 5. Provide credible and timely driver information about travel times, traffic conditions and incident situations, contribute to the calculation of dynamic toll prices through the provision of traffic conditions data, and provide timely and accurate toll prices to motorists related to Express Lanes;
 - 6. Provide an interface with the NRO PSTOC ATMS in accordance with the Interface Control Document;
 - 7. Support provision of driver aid to motorists in vehicles that have stopped on the Express Lanes;
 - 8. Permit the NRO PSTOC ATMS to control DMS (Express Lanes) via the HOT-OC TMS in accordance with the Agreement;
 - 9. Provide for the control and monitoring of TMS components and subsystems through a modern and comprehensive computer-based control facility using graphical user-interface (GUI); and
 - 10. Monitor facilities, plant, and equipment, if required.
- C. The TMS is comprised the following roadside equipment and systems:

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1. DMS for the NEXT Express Lanes to provide toll pricing and driver information and general traffic management information;
 2. Traffic monitoring sensors (microwave vehicle detectors) to provide traffic volume, lane occupancy, and speed data;
 3. Pan-tilt-zoom and/or fixed CCTV cameras to provide video surveillance;
 4. Fixed AID cameras to provide incident and wrong-way vehicle detection; and
 5. Generators and UPS to provide emergency backup power.
 6. Communications infrastructure between the TMS roadside equipment and the HOT-OC; and
 7. TMS equipment and/or systems located in the HOT-OC.
- D. The TMS HOT-OC-based equipment and/or systems include:
1. Automatic Incident Detection subsystem
 2. CCTV subsystem
 3. Central Control Computer System
- E. The Central Control Computer System shall have an In-Service Availability of at least 99.995% and any redundant components an In-Service Availability of at least 99.9%.
- F. The TMS roadside equipment shall have an In-Service Availability of at least 99.9%.
- G. Equipment cabinets shall be provided for the TMS roadside equipment at appropriate locations along the alignment and within the Project Right of Way.

3.16.6 CCTV Video Coverage

- A. Dedicated CCTV cameras shall be provided for the following functions:
1. Surveillance of the NEXT Express Lanes including, approaches and interchanges;
 2. Surveillance of Ramps G3 and E1 in the area where they are separated by the buffer and bollards from the Dulles Toll Road eastbound to 495 northbound for incident management;
 3. AID and wrong way vehicle detection on the NEXT Express Lanes; and
 4. Verify and confirm NEXT Express Lanes DMS operation as conceptually shown in the RFP Conceptual Plans.
- B. Surveillance CCTV video coverage must be provided by PTZ CCTV cameras mounted on poles to enable HOT-OC operators and VDOT operators (under agreed circumstances) to observe traffic within the limits of the Express Lanes and the General Purpose Lanes, including on and off ramps at interchanges, at all hours of the day and in all weather conditions normally encountered in Virginia, consistent with reported visibility restriction (such as during snow events, rain storms, or fog). The video provided must be stable and jitter-free and suitable for video-based AID.

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- C. Dedicated cameras shall be provided for surveillance of the NEXT Express Lanes or to enable video-based AID under Concessionaire HOT-OC operator control.
- D. CCTV line of sight distances shall provide for full CCTV coverage of the NEXT Express Lanes and VDOT General Purpose Lanes, including on and off ramps at interchanges, without image degradation. The CCTV cameras shall be placed at a minimum mounting height of forty (40) feet. Cameras installed at heights greater than fifty (50) feet will require a camera lowering system at the discretion of the Concessionaire. Prior to final design, the Design-Builder shall submit a roll plan confirming CCTV line of sight coverage for approval.
- E. All cameras installed by the Design-Builder shall meet the requirements of Attachment 3.16a (TMS Special Provisions), Section 814 – Camera System.
- F. The video surveillance system must enable the identification of the number and vehicle types involved in an incident at all locations within the limits of the Express Lanes.
- G. The video provided must be stable at all zoom settings when viewing objects up to one mile away.
- H. Where a Concessionaire camera is relocated from a mounting pole that also supports a VDOT camera, the Design-Builder shall modify the mounting pole upon relocation of Concessionaire camera to remove all defunct equipment to preserve functionality of VDOT camera.

3.16.7 Video-based AID

- A. The Design-Builder shall implement video-based AID for the NEXT Express Lanes at locations where:
 - 1. Traffic enters or exits the Express Lanes;
 - 2. The risk of traffic incidents is expected to be higher than average, and
 - 3. Rapid detection of incidents is required for special reasons, such as near critical infrastructure.
- B. The video-based AID system should be compatible with the existing HOT-OC TMS and capable of:
 - 1. Detecting 95% of incidents involving stopped vehicles, slow vehicles, and slow traffic that are within the field of view of an AID camera or other equipment as specified;
 - 2. Detecting pedestrians on the roadway within the field of view of an AID camera or other equipment, as specified;
 - 3. Detecting incidents and providing an alarm to the HOT-OC in less than 30 seconds; and
 - 4. Detecting wrong-way vehicles; and
 - 5. Have a false alarm rate of less than one false alarm per 10 true alarms.

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- C. Upon the detection of an incident, the AID system must be capable of recording the video at a rate of at least five frames per second for a period of 60 seconds.
- D. Use field-of-view calculator to determine video detection zones.
- E. The Design-Builder shall submit a roll plot confirming AID line of sight coverage for approval.

3.16.8 CCTV Video Recording

- A. It shall be possible to simultaneously record video from CCTV cameras, as designed, at a rate of at least one (1) frame per second.
- B. Sufficient capacity must be provided to store the recorded video from CCTV cameras for a 24-hour duration and continue to record video without intervention.

3.16.9 CCTV Communications Standards

- A. The CCTV communications shall support the appropriate National Transportation Communications for ITS Protocol (NTCIP) 1205 communication protocol (version 1.08 or higher) to provide for functionality with the NRO PSTOC ATMS software in accordance with the Interface Control Document.

3.16.10 Traffic Monitoring Sensors (Microwave Vehicle Detectors)

- A. Traffic monitoring sensors are to be installed to monitor and report in real-time traffic volume, lane occupancy and speed data on the NEXT Express Lanes and, where available, the General Purpose General Purpose General Purpose Lanes. Such sensors shall enable the Concessionaire to monitor the performance of the Project NEXT corridor.
- B. Information collected on the General Purpose Lanes and NEXT Express Lanes will be made available into the existing Project systems. Data will be provided in raw form and be subject to quality control requirements prior to submittal. Data shall be aggregated in increments to be mutually agreed.
- C. Traffic monitoring sensors shall be installed by the Design-Builder approximately every 1/3 mile on the NEXT Express Lanes and General Purpose Lanes, in the approximate locations shown on the RFP Conceptual Plans or as necessary to meet data collection and operational requirements.
- D. Traffic monitoring sensors shall be installed on TMS poles based on the manufacturer's recommended mounting heights and roadway geometry. Each detection zone shall be shown on plans as a part of the final Design Documentation and optimized for Express Lanes data collection. Traffic monitoring sensors shall be located to gather data from both the NEXT Express Lanes and General Purpose Lanes. If a traffic monitoring sensor is unable to gather accurate data for the Express Lanes and General Purpose lanes, a second sensor shall be added. The Design-Builder shall provide a table in the plans identifying the detection lanes for each detector for the Express Lanes and General Purpose Lanes.

3.16.11 Dynamic Message Signs

- A. Dynamic Message Signs (DMS) for the NEXT Express Lanes shall be located at strategic locations throughout the corridor and will display information to allow drivers to make decisions on whether to use the Express Lanes. The proposed locations shown on the RFP Conceptual Plans are conceptual only and must be finalized by the Design-Builder for suitability, readability, interferences and interdisciplinary coordination. The information to be displayed may indicate:
1. Price levels for up to three destination points for each point of entry;
 2. Motorist Advisory messages.
- B. DMS shall be installed at suitable distances from the Express Lanes entry points to support motorist decision making and orderly movement of traffic. All DMS (and any static sign panels co-located with DMS) shall have a minimum clearance of 19.0 feet above the highest point of paved surfaces. At each mainline entrance, a minimum of three DMS are required. A minimum of two DMS are required at all other entry points, except for the George Washington Memorial Parkway entry to the Express Lane where a single DMS shall be provided as shown in the RFP Conceptual Plans.
- C. The Design-Builder shall coordinate the location of DMS with the Concessionaire to avoid over-populating signs and to seek co-gantry opportunities. The Project Signage Roll Plan will identify over-population and potential co-gantry opportunities. The Design-Builder shall incorporate agreed upon recommendations in the final Design Documentation.
- D. The Tolling & Driver Information DMS shall have the following minimum features:
1. Full graphics color LED display;
 2. Capability to display congestion levels on HOT and General Purpose lanes on each tolling section;
 3. Capability to display toll price for destination points;
 4. Capability to display travel-time information for General Purpose Lanes and Express Lanes or, alternatively, the travel time difference between General Purpose Lanes and Express Lanes;
 5. Capability to display traffic management information, including warning and recommended diversions;
 6. Advanced fault detection and reporting;
 7. Conformance to the National Transportation Communications for ITS Protocol (NTCIP) communications protocol or other industry protocol agreed with the Concessionaire; and
 8. The pricing confirmation signs (closest to the decision point) shall be connected to emergency power per the requirements of Section 3.9. Emergency power shall provide a minimum of 4 hours of run time.

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- E. If communication between the HOT-OC Central Control Computer System is lost and the Tolling & Driver Information DMS has no reported errors, the Tolling & Driver Information DMS shall display a user-defined graphic/message.
- F. DMS cabinets shall be placed in front of DMS at a distance such that authorized personnel can read the message displayed on the DMS while working at the DMS cabinet. Each DMS shall be viewable by at least one PTZ CCTV camera such that the message displayed on the DMS can be visually confirmed by an operator in the HOT-OC.
- G. The Traffic Management DMS shall have the following minimum features:
 - 1. Full graphics color LED display
 - 2. Capability to display traffic management information, including warning and recommended diversions;
 - 3. Advanced fault detection and reporting; and
 - 4. Conformance to the NTCIP communications protocol or other industry protocol agreed with the Concessionaire.
- H. The DMS must not display erroneous information due to a fault with the sign or the loss of pixels.

3.16.12 TMS Availability

- A. An In-Service Availability of at least 99.99% is required for the calculation of dynamic toll prices and provision of information to other systems/ devices,.
- B. All other TMS functions, unless noted otherwise, must have an ISA of at least 99.9%.
- C. In cases where redundancy is provided, the system must switch between redundant components seamlessly (without impact to operator functionality). The system must also provide the capability to manually switch between redundant devices to support software upgrades/revision and maintenance procedures.

3.16.13 Communications Infrastructure

- A. Any existing Express Lanes or VDOT communications infrastructure must remain in place or be replaced in kind, as specified in the applicable Standards and Specifications set forth in Attachment 1.5a.
- B. Communications between the TMS roadside equipment and HOT-OC shall be via a fully redundant fiber optic network using OSPF Protocol (or equivalent) to ensure no single points of failure and reliability and shall be comprise of:
 - 1. NEXT Express Lanes trunk fiber optic loop;
 - 2. NEXT Express Lanes distribution fiber optic loop(s); and
 - 3. Necessary connections and/or interfaces with the existing 495 Express Lane fiber loops.

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- C. The NEXT Express Lanes trunk and distribution fiber optic loops shall be comprised of new armored fiber optic cable.
- D. All new fiber optic cables shall be protected to prevent rodent damage, including, but not limited to, installing screens at bases of all TMS poles, installing completely sealed conduit and manhole covers, and installing manhole covers without manhole hook holes to eliminate rodent entry.
- E. The new communications conduit bank for the Project NEXT shall consist of conduits with the following configuration:
 - 1. One four inch conduit containing a 3-barrel inner duct carrying a 36-fiber NEXT Express Lanes distribution cable;
 - 2. One four inch conduit containing a 3-barrel inner duct carrying a 36-fiber NEXT Express Lanes trunk cable;
 - 3. Two four inch VDOT communication conduits with pull tape and tracer wire;
 - 4. Separate communication junction boxes spaced no more than 1,000 feet apart for the VDOT and Concessionaire communication facilities; and
 - 5. Spare conduit(s), as shown on the RFP Conceptual Plans, containing appropriate pull tape.
- F. Communications and conductor cables shall be placed in separate buried conduits, embedded conduits, or structure and bridge- mounted conduits. Communications and conductor cables shall not share conduits, junction boxes, or related appurtenances.
- G. The Design-Builder shall coordinate with the Concessionaire to determine which fibers need to be spliced to the existing 495 Express Lanes fiber to provide connectivity to the Express Operations Center. The Design-Builder shall be responsible for providing the necessary switch capacity and optics to support connectivity to the existing infrastructure.
- H. The Design-Builder shall provide fiber splicing diagram plans showing details of every splice and termination for every fiber strand as a part of the final Design Documentation. The number, color, and fiber assignment of each buffer tube and fiber strand shall be included. No underground splices shall be allowed.
- I. The maximum allowed cable length of a Category 5 or 6 Ethernet cable is 328 feet. If a longer running distance is needed, a media converter shall be used to convert Ethernet data to fiber optic signals.
- J. The Design-Builder shall furnish and install new TMS equipment cabinets for exclusive use to support the Project NEXT devices. Existing VDOT equipment cabinets shall not be used. All VDOT equipment cabinets shall be ground mounted, unless otherwise approved.
- K. The Design-Builder shall furnish and install new conduit for exclusive use by the Express Lanes TMS equipment. Existing VDOT conduits shall not be used.
- L. Where equipment is relocated or removed from an existing VDOT cabinet, the Design-Builder shall remove and properly dispose of all non-operational equipment, and the

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cabinet, if empty, in a manner that preserves the functionality of any remaining VDOT equipment.

- M. Locator Wire
1. All duct banks, trenches, and bores containing non-metallic conduits with non-locatable cable (fiber optic) shall have at least one locator wire installed between all junction boxes or cabinets.
 2. At all locations where non-locatable conduit is installed in a common trench, and a non-locatable conduit diverges from the common trench, a locator wire shall be installed in both trenches.
 3. All locator wires shall be installed inside of conduit and shall run continuously from junction box to junction box.
 4. Locator wire shall be an insulated #8 AWG stranded copper wire. The insulation shall not be green in color.
- N. The Design-Builder is responsible for designing the connection diagrams, including the communications equipment to be provided in each cabinet and how the equipment connects to the fiber optic cables. The design shall be consistent with the NEXT Express Lanes Network Architecture as described in the diagram in Attachment 3.16a (TMS Special Provisions) Section 817.
- O. Conduit bank locations for the Express Lanes communications infrastructure, as shown in the RFP Conceptual Plans, have been developed to maintain a fully redundant fault tolerant ring with trunk lines on each side of Project NEXT, The Design-Builder shall not change this concept of the NEXT Express Lanes conduit bank locations for communications infrastructure unless approved.
- P. The Design-Builder must provide optical time domain reflectometer measurement data for all fiber connections on the Project NEXT.

3.16.14 Existing VDOT Roadside Equipment

- A. Existing VDOT roadside equipment or third-party roadside equipment, installed under permit with VDOT, may include the following equipment located within the Project NEXT Right of Way:
1. weather stations;
 2. DMS for the existing General Purpose lanes to provide general traffic management and HOV regulatory information;
 3. Lane Use Management System – northbound inside shoulder of existing General Purpose lanes;
 4. Service panels;
 5. CCTV cameras; and
 6. traffic monitoring sensors.

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- B. The Design-Builder shall relocate existing VDOT roadside equipment located within the Project NEXT Right of Way that is affected by construction, including power and communication service to the equipment, and shall ensure that loss of functionality is minimized.
- C. Any third-party roadside equipment located within the Project NEXT Right of Way that is affected by construction, including power and communication service to the equipment, shall be relocated in accordance with the terms of the third-party's agreement with VDOT at no cost to the Design-Builder. The Design-Builder shall provide notification of disturbance of equipment three weeks prior to commencing such activities and coordinate the third party relocation work with Project NEXT Work.
- D. VDOT will remain responsible for the operations and maintenance of the existing and relocated VDOT TMS roadside equipment.
- E. Third-party equipment owners shall remain responsible for the operation and maintenance of their existing and relocated TMS roadside equipment.
- F. All removed operational existing VDOT roadside equipment shall be returned to VDOT.

3.16.15 Testing

- A. No later than 12 months before the Service Commencement Date, the Design-Builder shall submit a test strategy for the NEXT Express Lanes in accordance with the requirements of the TMS Interface Plan that shall include as a minimum:
 - 1. The scope, requirements and objectives of testing with a testing and systems integration period of no less than 120 days;
 - 2. An overall high-level plan for testing the Concessionaire TMS (and any VDOT) roadside equipment, including the test stages and processes and the scheduling of all tests prior to the Service Commencement Date; and
 - 3. The roles and responsibilities of all those involved with the testing program and any dependencies on third parties, including Concessionaire, TMS Subcontractor and VDOT personnel.
- B. Testing and commissioning, where applicable, shall be based on the application of a systems engineering methodology such as ANSI/GEIA EIA-632. Testing and commissioning shall be the primary responsibility of the Design-Builder and TMS Subcontractor with input and support from the Concessionaire (as required) and shall utilize:
 - 1. A Verification Cross Reference Index (VCRI), which will be developed and documented to establish the way in which requirements are satisfied. The VCRI shall utilize test, demonstrate, inspect and analyze as methods for acceptance;
 - 2. A test series that demonstrates compliance with the performance requirements through a test plan and procedures;

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3. A testing strategy document that details how the testing plan will be implemented to demonstrate conformance of the proposed solution to the various functional, technical, and performance requirements;
4. A test plan document that describes how the testing strategy will be executed to demonstrate the various functional, technical, and performance requirements for compliance to requirements, which shall include:
 - a. test specifications for each of the test cycles
 - b. detailed requirements traceability matrix linking each of the test series to relevant requirement(s)
5. The testing and commissioning documents for the NEXT Express Lanes will provide the level of detail to ensure compliance with the overall testing requirements and the Design-Builder shall submit testing and commissioning documents a minimum of 90 days prior to testing and commissioning activity. These testing and commissioning documents shall include:
 - a. System design and integration overview – The TMS Subcontractor will be responsible to provide this documentation;
 - b. Level A Testing – The objective of this test is to certify roadside equipment installed by the Design-Builder is installed and fully operational in line with agreed design requirements and via executing test plans and procedures approved and witnessed by the Concessionaire and TMS Subcontractor. The TMS Subcontractor shall provide the Level A Testing Template. The Design-Builder shall be responsible for this test and shall be accountable for successful and on-time execution of this test;
 - c. Level B Testing – The objective of this test is to certify roadside equipment is successfully integrated with other TMS facilities via executing test plans and procedures approved and witnessed by the Concessionaire and TMS Subcontractor. The TMS Subcontractor shall provide the Level B Testing Template. The Design-Builder shall be responsible for this test and shall be accountable for successful and on-time execution of this test;
 - d. Level C Testing – The objective of this test is to certify that Concessionaire’s TMS communicates and controls roadside equipment via executing test plans and procedures defined by the Design-Builder. The TMS Subcontractor will be responsible for conducting this test under and the Design-Builder shall be accountable for successful and on-time execution of this test;
 - e. Factory Acceptance Testing – Tests to be conducted at the supplier’s premises to verify that the equipment, subsystem or system complies with the functional and performance requirements of that supplier’s subcontract;
 - f. Site Acceptance Testing – Tests to be conducted at the point of installation to confirm the factory acceptance testing results, plus any omissions and/or errors noted during the factory testing;
 - g. Integration Acceptance Testing – A test conducted to ensure that the complete TMS meets the end- to-end system-level functional and performance requirements in normal operating conditions; and

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2. Cabinet workspace – a minimum 4 feet radius from the cabinet shall be clear and flat work area provided by concrete pad. Fall protection, consisting of galvanized metal handrails, shall be provided for all cabinet workspaces more than 3’ high.
 3. Communication junction box workspace on slopes – for all communication junction boxes located on slopes 3:1 or steeper and located more than 2 feet in elevation above the toe of slope, a minimum 3’ x 6’ concrete pad surrounding the junction box shall be provided to accommodate maintenance personnel workspace.
 4. Express Lane cabinet and communication junction box access on slopes 3:1 or steeper, and located more than 5’ in elevation from the roadway shoulder shall be supported by stair access from the roadway shoulder. The stairs and any necessary connecting pathway shall be OSHA compliant and have a handrail on at least one side.
- B. Junction boxes shall not be installed in roadways, driveways, parking areas, ditches or public sidewalk curb ramps. Junction boxes shall be installed so as to prevent any form of water ingress, seepage, and runoff or standing water occurring over the box cover in addition to being NEMA 4X, IP65 or equal rated enclosures. Junction box length (long side) shall be parallel to the conduit run. When the conduit run is perpendicular to the roadway at the junction point, the junction box shall be parallel to the roadway. The maximum spacing between any two adjacent electrical junction boxes shall be 500 feet. The maximum spacing between any two adjacent communication junction boxes shall be 2,000 feet.

3.16.18 Specified TMS Roadside Equipment

- A. New TMS Roadside Equipment used on Project NEXT shall be as specified in the table below to ensure the equipment will be fully compatible with the existing 495 Express Lanes TMS and operating protocols.

TMS Roadside Equipment

Device	Equipment Make/Model	Firmware Version
Generator/Tank with PLC Comms from TS&T	**Cummins 35GG + Comm Cabinet	latest
Telemetry Remote Terminal Unit	Moxa ioLogic E4200	latest
Telemetry Remote Monitor	PowerCommand PCC500 (SNMP)	latest
Layer 3 Switch	Cisco C9500-16X-A	latest
Layer 3 Switch Redundant Power Supply	Cisco PWR-C4-950WAC-R/2	N/A
Layer 3 Switch Network Module	Cisco C9500-NM-8X	latest
Layer 3 Switch Licensing	Cisco C9500-DNA-L-A-3Y	N/A
Layer 2 Switch	Cisco IE-4000-8T4G-E	latest
Layer 2 Switch Power Supply	Cisco PWR-IE50W- AC=	N/A
Layer 2 Switch Licensing	Cisco IE4000-DNA-A-L	N/A
Layer 2 Switch Licensing	Cisco L-IE4000-RTU=	N/A
N-Port Device Server	Moxa IA5250A	latest

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Device	Equipment Make/Model	Firmware Version
CCTV (PTZ)	CohuHD Costar 4260HD RISE 4260 Series Positioner	latest
Automatic Incident Detection Camera	Cohu 3430HD Series Fixed Barrel	latest
Microwave Vehicle Detection	Wavetronix Smart Sensor HD	latest
DMS Type 2 (20mm Pixel Pitch)	**Daktronics Vanguard VF-2420-64x192-20-RGB	latest
DMS Type 2A (20mm Pixel Pitch)	**Daktronics Vanguard VF-2420-96x288-20-RGB	latest
Cabinet Power Strip	Digital Loggers Web Power Switch 7	latest
Uninterruptible Power Supply	ZincFive UP Stealth UPS (SNMP) (500W Battery)	latest
Mobile Connectivity Modem	**Cradle Point IBR 1700	latest
Mobile Connectivity Modem License	**Netcloud Manager License	N/A

Notes:

1. Firmware version indicates Equipment Make and Model Numbers required for seamless integration into existing TMS software.
2. **Indicates verification required based on project requirements.
3. Equipment requiring software licenses shall be provided with paidup licenses through the warranty period..
4. DMS type and size shall be verified with the project requirements, design and specifications
5. Generator type and size shall be verified with the project requirements, design and specifications
6. Model numbers are subject to change based on product availability (successor model numbers shall be submitted for approval).
7. Mobile Connectivity Equipment to be used for TMS Cabinets with no communication network (fiber) access.

3.16.19 Maintenance of 495 Express Lanes Operating Systems

- A. No shutdown of the 495 Express Lanes operating systems shall be permitted during the installation and testing of the Project NEXT elements. The Design-Builder shall install all TMS components and test the roadside equipment without causing shutdowns or outages to the existing 495 Express Lanes system.
- B. For any temporary impacts or isolated shut-down of system elements, the Design-Builder shall coordinate directly with the Concessionaire regarding any Work within the 495 Express Lanes or Concessionaire's assets, or Work impacting any 495 Express Lanes facilities or equipment. The Design-Builder is required to coordinate directly with the Concessionaire and comply with the current Permit to Work processes in place for the Express Lanes, including the use of electronic forms and submittals. An approved Permit to Work issued by the Concessionaire shall be required prior to commencing any Work within the existing 495 Express Lanes, or Work impacting any existing 495 Express Lanes facilities or equipment.

3.16.20 Impacts to Existing Roadside Equipment

- A. The Design-Builder shall be responsible for any impacts to the existing Concessionaire tolling and TMS and VDOT roadside equipment and infrastructure within the construction limits. Prompt response is required to any damage caused by the Design-

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Builder and in the event the repair is not completed two hours prior to the next traffic peak, the Concessionaire shall restore critical systems and bill the Design-Builder for such restoration.

- B. The Design-Builder shall reimburse Concessionaire for the damages caused by the Design-Builder, including, but not limited to, repair or replacement of the existing fiber and electrical network and the amount of lost revenue. The cost of the repair work performed will include the actual maintenance Contractor costs plus twenty-five percent (25%) for supervisory and administrative personnel. The amount of lost revenue will be determined based on the average revenue reported for the same period of the outage over the previous four week period.
- C. As part of the overall construction of the Project NEXT, a process for controlling the Work that will impact existing Concessionaire tolling or TMS and VDOT roadside equipment and devices (Existing TMS Assets) is required. A significant portion of this work will depend on field conditions and the state of the system, neither of which can be determined during the design phase. The impact of construction on Existing TMS Assets shall be coordinated by the Design-Builder by the Notification of Impact (NOI) in accordance with the following subsections and the notification procedure outlined in Attachment 3.16b.
- D. This NOI process shall apply to all Existing TMS Assets within the Project NEXT limits that are affected by the Design-Builder's construction activities.
- E. The Work shall be governed by the general requirement that the affected Existing TMS Assets shall be maintained or returned to a condition equal to or better than the condition at the start of construction, unless otherwise indicated in the plans or approved. This shall include both the functionality and maintainability of the Existing TMS Assets.
- F. While this NOI process is intended to provide specific controls on work impacting Existing TMS Assets, a number of factors both within and beyond the control of the Design-Builder may impact the Work. Specific elements of the proposed Work plan, such as schedule or means and methods of completing the Work, may require revisions that are not consistent with these provisions in order to safely and effectively complete the Work. As such, these provisions should be treated as a typical application and general framework for control of the Work. When deviations are required due to changing field conditions, no reasonable request for changes by the Design-Builder or the Concessionaire may be denied without good cause.
- G. Information related to Existing TMS Assets have been prepared using a combination of original design drawings, as-built drawings, and site visits. This NOI process recognizes that complete documentation of the existing VDOT equipment and systems may be unavailable, the ability to field verify conditions as part of design is limited, and that conditions can change between the time of design and the time of construction. As part of the design development process, it has been agreed that certain information and decisions will be made during construction at such time that the elements of the system can be verified as to precise location and operational status. The Concessionaire and the Design-Builder shall work together to identify and coordinate those items that could not be addressed during design.

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- H. The Concessionaire and the Design-Builder shall regularly work together to coordinate work that may impact Existing TMS Assets. This coordination shall include, but not be limited to, Concessionaire staff and representatives attending regularly scheduled construction coordination meetings held by the Design-Builder.
- I. "Impact" is defined as any Work that will interrupt the normal operation of the Existing TMS Assets.
- J. No Work that impacts Existing TMS Assets identified in the plans shall commence without prior notification per the provisions of this NOI process.
- K. The Design-Builder shall take all necessary measures to protect Existing TMS Assets during the course of the Work and maintain operation of the equipment. The means and methods for protecting Existing TMS Assets shall be determined on a case-by-case basis appropriate to the scope of the Work.
- L. The Concessionaire shall make staff available upon request to assist the Design-Builder in identifying existing system conflicts and operations; conducting Equipment inspections; carrying out maintenance transfers; and testing and acceptance of completed Work. The availability of Concessionaire staff shall be coordinated per the requirements of this NOI process. When unexpected conditions arise that requires the input of the Concessionaire, the Concessionaire shall make staff or authorized representatives available within forty-eight (48) hours of Concessionaire receipt of the Design-Builder's written request.
- M. The provisions of this NOI process shall apply to all Work impacting Existing TMS Assets shown on the plans, as well as to any Existing TMS Assets affected during the course of construction, but not identified on the plans. When Existing TMS Assets not identified on the plans are impacted, the Design-Builder shall follow the typical construction processes (such as RFI, FDC, and NDC) to identify and resolve the impact.
- N. The Concessionaire shall notify the Design-Builder of any impacts to operations that may be attributable to work at other sites that were not anticipated in the original notification. The Design-Builder and the Concessionaire shall coordinate as necessary for unanticipated impacts to operations.
- O. Unless specifically described on the plans or special provisions or directed in writing, means and methods for completing the Work related to impacted Existing TMS Assets shall be at the discretion of the Design-Builder. Means and methods shall be consistent with the requirements of the Design-Build Contract and the Standards and Specifications.
- P. With the exception of the notification form, written correspondence may include e-mail to those parties listed as contacts in this NOI process or the notification form. Written correspondence shall reference the relevant notification ID number and phase of the process.
- Q. Responsibility for maintenance of impacted Existing TMS Assets shall transfer to the Design-Builder per the approved schedule for start of the Work unless otherwise noted on the notification form. Responsibility for maintenance will transfer back upon completion of the Work affecting an Existing TMS Asset as detailed in the notification process. During the period when maintenance of Existing TMS Assets has been

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transferred to the Design-Builder, events that impact the condition of the Existing TMS Assets shall be addressed by the Design-Builder, including warranty claims and at-fault third parties. The Concessionaire shall be notified immediately of any damage to Existing TMS Assets.

- R. The Design-Builder shall be required to submit an amended NOI, if work described in initial notification is performed at least forty-eight (48) hours after date stated in the NOI form.
- S. The Design-Builder shall document all changes to the Concessionaire TMS and VDOT ITS infrastructure as a result of work in the NOI in the Project NEXT As-Built Plans. An As-Built Plan will be required for all impacted Existing TMS Assets, even if such equipment is not shown on Project NEXT AFC Documents.

3.17 Maintenance During Construction

- A. The Design-Builder shall prosecute the Work so as to avoid obstructions to traffic to the greatest extent practicable. The Design-Builder shall provide for the safety and convenience of the general public and residents along the roadway and the protection of persons and property.
- B. The Design-Builder shall maintain the NEXT Work from the beginning of construction operations until Final Completion, except for those elements which have been accepted by the Concessionaire at Service Commencement.
- C. As applicable, the Concessionaire VDOT, MWAA and NPS will maintain their respective roadways and structures used by public, pedestrian and vehicular traffic, until such time as the paved surface and roadside appurtenances in the active work area are significantly impacted by the Design-Builder's construction activities. Significant impacts include: pavement marking eradication, traffic lane shifts, surface paving, placement of temporary traffic barrier service, or similar activities. Once the Design-Builder assumes responsibility for maintenance, it shall keep the roadway and structures in acceptable operating conditions per the maintenance requirements and standards of the respective owner, and provide any necessary repairs to the roadway surfaces and bridge decks (i.e., fixing holes in the hard surface, patching the potholes and providing smooth surface). Such maintenance shall continue until the Design-Builder's construction activities on the affected assets are completed and the assets have been handed back to the respective owner.
- D. The Design-Builder shall keep the portions of the roads, bridges, sidewalks and shared use paths being used by the public free from irregularities and obstructions that could present a hazard or annoyance to traffic.
- E. Existing Concessionaire TMS and VDOT roadside devices shall remain operational during construction unless otherwise approved.
- F. Existing detection (traffic sensors) in the corridor shall remain in place during construction activities, unless their removal is approved by the owner or operator. Replacement detection shall be installed, operational, integrated, and collecting data before taking existing detection out of service.

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- G. Existing continuous count stations shall remain in place and fully operational.
- H. Where the Design-Builder's maintenance of traffic or traffic control plans require vehicles to operate on surfaces other than final surface or final alignment, the Design-Builder shall be responsible for maintenance of these roadways, including repair of any damage caused by its operations or use by public traffic.
- I. As applicable, existing drainage facilities will be maintained by the Concessionaire VDOT, MWAA and NPS until such time that these facilities are significantly impacted by the Design-Builder's construction activities. Significant impacts include: removing or abandoning existing drainage facility, eliminating drainage facility resulting in diverting drainage to an existing or proposed drainage facility that did not previously service that drainage area or an impact due to the drainage system being inadequate to properly accept and convey this diverted or interim drainage area. Once the Design-Builder assumes responsibility for this maintenance, it shall keep the drainage facilities in acceptable operating conditions per the maintenance requirements and standards of the respective owner, and provide any necessary repairs (including cleaning of clogged inlets, pipes or outfalls). Such maintenance shall continue until the Design-Builder's construction activities on the affected assets are completed and the assets have been handed back to the owner.
- J. The Design-Builder shall be responsible for maintaining any proposed SWM facilities once all connections have been completed, and shall certify that the SWM facilities have been maintained as per the Department, DEQ, and manufacturer's (for proprietary products) maintenance guidelines prior to transfer to the Department.
- K. Existing lighting within the Project limits shall be maintained by the respective owner until the Design-Builder's installs new or replacement lighting. At no time shall existing lighting within the Project limits be put out of service, unless otherwise approved by the respective owner.
- L. VDOT will perform snow and ice removal on all roadways within the Project limits. No lane closures will be permitted, during snow mobilization of Level 2 or above.

3.18 As-Built Plans

- A. As a condition to Final Completion, the Design-Builder shall provide the record drawings and documents (As-Built Plans) of Project NEXT in accordance with the Standards and Specifications set forth in the VDOT CADD Manual, VDOT Road Design Manual, and the VDOT Post Construction Manual. As-Built Plans include any plans or drawings utilized for the construction of Project NEXT prepared by the Design-Builder and/or its Subcontractors that are updated to accurately reflect final constructed conditions, including any approved field changes or variances.
- B. The As-Built Plans shall be in the same format as the construction plans, and shall be certified by the Design-Builder that they reflect the actual condition of Project NEXT at the completion of the Work. The As-Built Plans shall be organized and indexed to facilitate easy retrieval of information. Where appropriate, overlapping work packages may be combined in the As-Built Plans.

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- C. As-Built Plans shall be prepared by a Professional Engineer licensed in the Commonwealth. The As-Built Plans will show all adjustments and revisions to the approved construction plans made during construction (including NDC's, FDC's NCR's and approved field changes and variances) and serve as a permanent record of the actual location of all constructed elements. A certification statement (with signature and date) shall be provided by the Professional Engineer on all applicable sheets indicating that to the best of his/her knowledge, the As-Built Plans show all adjustments and revisions to the approved construction plans made during construction and serve as a permanent record of the actual location of all constructed elements.
- D. During the construction phase, the Design-Builder shall maintain a complete set of Construction Documents to reflect current "As-Built" conditions showing field changes or variances marked in red on a weekly basis. The Concessionaire may audit the Design-Builder's process for maintaining these plans to determine compliance with this requirement. Any audit findings shall be adequately addressed within 30 days of the Concessionaire's audit report.
- E. The Design-Builder shall provide the full set of As-Built Plans as follows: three (3) hard-copies of each plan set, one electronic file of each plan set in *.pdf format, and one electronic file of each plan set in MicroStation *.dgn format.
- F. Traffic Management System As-Built Plans
1. The As-Built Plans shall have Global Positioning System (GPS) location data of all installed TMS field devices, including but not limited to; junction boxes (electrical and communication), splice cabinets, CCTV and AID cameras, Dynamic Message Sign, Microwave Vehicle Detectors, pole and ground mounted cabinets, roadway lighting and electrical service panel. A detailed list or spreadsheet of all installed or modified TMS roadside equipment devices, including at least the device location, model number, serial number, and test acceptance date shall be part of the As-Built Plans.
 2. The As-Built Plans shall provide fiber optic splicing diagrams at every splice point (cabinet or underground) detailing all cable splices, terminations, equipment port assignments, and optical circuits within the communication network. The Design-Builder shall document the sequential cable length markings at each splice box and pull box wall that the cable passes through, and include the information with the as-Built documentation.
 3. The As-Built Plans shall provide splicing details for all existing VDOT cabinets that have had splicing altered. Splicing details shall include specific fiber numbers.
 4. The As-Built Plans shall provide a complete set of final plans showing all bores (successful and failed) on completing the work. Ensure that the plans are dimensionally correct copies of the Construction Documentation and include roadway plan and profile, cross-section, boring location and subsurface conditions as directed by the Engineer. The plans must show appropriate elevations referenced to a permanent VDOT feature (such as mast arm foundation, manhole inlet cover, or head wall). Plans must be same scale in black ink on white paper, of the same

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size and weight as the Construction Documentation. Specific As-Built Plans content requirements include, but may not be limited to, the following:

- a. The construction plan view shows the center line location of each facility installed, or installed and placed out of service, to an accuracy of one (1) inch at the ends and other points physically observed in accordance with the bore path report.
 - b. As directed, provide either a profile plan for each bore path, or a cross-section of the roadway at a station specified by the Engineer, or a roadway centerline profile. Show the ground or pavement surface and crown elevation of each facility installed, or installed and placed out of service, to an accuracy of within one (1) inch at the ends and other exposed locations. On profile plans for bore paths crossing the roadway, show stationing of the crossing on the Construction Documentation. On the profile plans for the bore paths paralleling the roadway, show the Construction Documentation stationing. If the profile plan for the bore path is not made on a copy of one of the construction profile or cross-section sheets, use a 10:1 vertical exaggeration.
 - c. If, during boring, an obstruction is encountered that prevents completion of the installation in accordance with the design location and specification, and the product is left in place and taken out of service, show the failed bore path along with the final bore path on the plans. Note the failed bore path as “Failed Bore Path - Taken Out of Service.” Also show the name of the Utility Owner, location and length of the drill head and any drill stems not removed from the bore path.
 - d. Show the top elevation, diameter, and material type of all utilities encountered and physically observed during the subsoil investigation. For all other obstructions encountered during a subsoil investigation or the installation, show the type of material, horizontal and vertical location, top and lowest elevation observed, and note if the obstruction continues below the lowest point observed.
 - e. Include bore notes on each plan stating the final bore path diameter, product diameter, drilling fluid composition, and composition of any other materials used to fill the annular void between the bore path and the product, or facility placed out of service. Note if the product is a casing, as well as the size and type of carrier pipes placed within the casing as part of the Agreement.
5. The As-Built Plans shall show field surveyed locations of all junction boxes and roadside equipment and a coordinate table showing both the Project coordinates and latitude/longitudes for each. These plans also show field verified cabinet numbers, service panel numbers and roadway lighting pole electrical identification numbers.

G. Drainage As-Built Plans

1. Upon completion of the installation of any major drainage structure, the Design-Builder shall complete a final as-built survey of the major drainage structures and related upstream and downstream appurtenances and prepare As-Built Plans. The as-built survey shall include the horizontal location and vertical elevations of the

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constructed major drainage structure in sufficient detail to confirm pre-construction hydraulic performance. A post construction as-built Hydrologic and Hydraulic Analysis (H&HA) and report shall be developed based on the as-built survey and submitted for review and acceptance. The post-construction H&HA shall demonstrate that the anticipated post-construction hydraulic performance of the major drainage structure matches or betters that of the pre-construction H&HA. If the post-construction analysis shows an impact greater than the pre-construction H&HA or exceeds the construction tolerances established with the pre-construction H&HA, then the Design-Builder shall be responsible for mitigating the adverse impacts of the post-construction condition at no additional cost.

2. The Design-Builder is to insure proper ingress and egress to any storm water management facility and that any specific proprietary facilities have proper maintenance details included in the As-Built Plans.
3. The As-Built Plans shall include the following information:
 - a. Discharge structures – structure identification number, type, locations, dimensions and elevations of all weirs, bleeders, orifices, gates, pumps, pipes, and oil and grease skimmers;
 - b. Side bank and underdrain filters, or exfiltration trenches – locations, dimensions, and elevations, including clean-outs, pipes, connections to control structures and points of discharge to receiving waters;
 - c. Storage areas for treatment and attenuation – storage area identification number, dimensions, elevations, contours or cross-sections of all, sufficient to determine stage-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems;
 - d. System grading – dimensions, elevations, contours, final grades or cross-sections to determine contributing drainage areas, flow directions and conveyance of runoff to the system discharge point(s);
 - e. Conveyance – dimensions, elevations, contours, final grades or cross sections of systems utilized to divert off-site runoff around or through the new system;
 - f. Water levels – existing water elevation(s) and the date determined;
 - g. Benchmark(s) – location and description (minimum of one per major water control structure); and
 - h. Wetland mitigation or restoration areas (if any) – Show the plan view of all areas, depicting a spatial distribution of plantings conducted by zone (if plantings are required by permit), with a list showing all species planted in each zone, numbers of each species, sizes, date(s) planted and identification of source of material; also provide the dimensions, elevations, contours and representative cross-sections depicting the construction.
 - i. The Design-Builder is required to demonstrate that the construction adheres and conforms to the in-stream improvements as incorporated in the approved Scott's Run Stream hydraulic model for Proposed Conditions. The Design-Builder is required to prepare As-Built Plans of the constructed instream

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improvements to clearly demonstrate that the improvements have been constructed per requirements.

4. If Design-Builder prefers to abandon in place any existing drainage structures or Culverts, approval must first be obtained. All abandoned drainage structures and Culverts shall be depicted on the As-Built Plans.
 5. The Design-Builder shall provide As-Built Plans of all storm water management facilities. The As-Built Plans shall show the actual finished ground contours, outlet structure dimensions and elevations and other requirements as they exist at the completion of Project NEXT. These drawings shall be signed and sealed by a Licensed Professional Engineer or Land Surveyor licensed in the Commonwealth.
 6. The Design-Builder shall provide certification from an independent source that the proposed BMP facilities were constructed in accordance with applicable and current industry standards, and the manufacturer's specifications.
- H. Utilities As-Built Plans

The Design-Builder shall accurately show the final location of all utilities on the As-Built Plans for the Project NEXT. The Design-Builder shall ensure the Utility companies submit as-built drawings upon completion of their relocation or adjustments. VDOT shall issue an as-built permit to the Utility companies after receipt of permit application and as-built drawings.

3.19 Surveys

- A. Preliminary field survey and utility data has been obtained for this Project. The field survey was conducted using conventional and aerial LIDAR methods and the data was collected within the tolerances defined in the VDOT Virginia Map Accuracy Standards. The Design-Builder is advised that this preliminary field survey and utility data provided is not represented to be complete for purposes of design and construction of the Project. The Design-Builder's scope of work shall include performing all surveying and utility designation that is necessary to design and construct the Project in accordance with VDOT's Survey Manual.
- B. The preliminary field survey and utility data provided as Supplemental Information in the RFP contains the general depiction of existing conditions that the Design-Builder is obligated to verify and finalize through survey before completing constructability reviews and final design of the Project. The Design-Builder shall be responsible for obtaining any survey data, including all rights-of-entry and permits, locating and/or designating underground utilities, digital terrain model (DTM), utility test holes and obtaining other related data necessary for the design, right of way acquisition, limited access revisions, and construction of the Project. Additionally, the Design-Builder will be responsible for any updates (property owner changes, subdivisions, etc.) that may occur; updates need to be reflected on the plans in order to acquire right of way and complete the final design. Any survey changes shall be verified and certified, and submitted in final documentation.

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- C. The Design-Builder shall preserve all survey control monuments established by VDOT and will notify the Concessionaire as soon as it is known that a monument is in a position that will interfere with new construction or with Design-Builder activities. If a monument is disturbed, or cannot be preserved in place, the Design-Builder shall set the new monument in accordance with the applicable Standards and Specification set forth in Attachment 1.5a. The Design-Builder will be responsible to reset or relocate any survey control damaged, destroyed or located within the footprint of the final design construction limits. The control will be established by a land surveyor licensed in the Commonwealth of Virginia with complete LD-200 information and supporting computations submitted to the VDOT Project Manager.
- D. All surveying work during the Construction Period shall be performed by the Design-Builder in accordance with VDOT's Survey Manual.
- E. The Design-Builder shall be fully responsible for examination and verification of any data made provided by the Concessionaire, VDOT or any other Governmental Authorities.
- F. Immediately after or within seven (7) days from receiving the Concessionaire's request notice, provided the information exists, the Design-Builder shall make available electronic files of all survey data, for existing and new conditions and infrastructure, which at a minimum include:
1. Survey control data;
 2. Digital Terrain Model (DTM) and Construction Cross-Sections: compatible with VDOT's current DTM format;
 3. Borrow Pits –All borrow pit DTM's or cross-sections, originals and finals.
 4. Horizontal and Vertical Control for Bridges –Certified plats, field notes, coordinates, and computations shall be furnished by the Design-Builder prior to the Design-Builder beginning work on these structures;
 5. Pipes, Culverts, Ditches and Related Appurtenances – Existing, newly installed control and as-built survey data for existing and new pipes, culverts and ditches which at a minimum include horizontal and vertical controls, type, size, materials and inlet/outlet control, catch basins and manhole and other related infrastructure; and
 6. Right of Way – Existing, newly constructed/installed control and As-built survey data for right of way cross section showing roads, lane configuration, shoulders, access and egress ramps and connections, embankments, utilities, drainage and all infrastructure within the road right of way, and for areas where connecting roads and infrastructure are impacted by the work. The survey interval shall not be farther than 100-foot intervals. The data prepared by the Design-Builder shall include coordinates, type, size, material and references.
- G. The Project NEXT Right of Way shall be staked by the Design-Builder in areas where work shall occur between the General Purpose Lanes and the limits of the Project NEXT Right of Way, if no limited access fence is present prior to the start of the work. Right

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of Way stakes shall be placed at a minimum of 100-foot intervals on each side of the roadway or as directed, and the stakes shall be marked with both the station and offset back to centerline. All final boundary stakeouts shall be performed by the Design-Builder.

- H. Final right of way monumentation shall be performed by the Design-Builder in accordance with the following:
1. RM-1: The Design-Builder shall furnish and install RM-1 right of way monuments in accordance with the Road and Bridge Standards.
 2. RM-2: The Design-Builder shall furnish and install RM-2 right of way monuments and optional locator posts, including the required caps, in accordance with the Road and Bridge Standards.

The Concessionaire shall determine if an alternative form of permanent monumentation shall be used if RM-1 or RM-2 monuments are unsuitable for marking the right of way at various locations.

The Design-Builder shall indicate this alternative monument usage on the final As-Built Plans in accordance with VDOT's Survey Manual. Electronic data files along with paper sketches and drawings shall be furnished by the Design-Builder. All electronic data files furnished by the Design-Builder shall be in the format of the Concessionaire's current computer hardware and software.

- I. Additional surveying work and supplemental layout work shall be performed by the Design-Builder as needed to successfully complete the Work. The Design-Builder shall provide and protect all construction benchmarks within the construction limits. Construction benchmarks shall be located not farther than 500 feet apart for the total length of the Project NEXT. Construction benchmarks that are disturbed during construction operations shall be reestablished by the Design-Builder. All drawings, field notes, and computations from such survey work performed by the Design-Builder shall be submitted as detailed in the Design-Builder's approved Project NEXT Development Plans.

3.20 Security

3.20.1 General Requirements

- A. Subject to the requirements of the Agreement, the Design-Builder shall adhere to the intent of VDOT policy on critical infrastructure information and sensitive security information (CII/SSI) to the extent such information is directly related to the Design-Builder's performance of its obligations under the Agreement. The Design-Builder shall ensure that relevant CII/SSI is protected and not disclosed to unauthorized persons. The Design-Builder shall ensure that all personnel having access to CII/SSI for the Design-Builder and all subcontractors have met the requirements of IIM-LD-236 Critical Infrastructure (CII)/Sensitive Security Information (SSI).
- B. The Concessionaire may request fingerprint-based, criminal history background checks on contractors working on specific structures or in specific functions.

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- C. The Design-Builder shall review with the Concessionaire any information that should be designated as CII/SSI as specific design details become available. Any requirements for security review or other inspections will be mutually agreed to with the Concessionaire.
- D. The Design-Builder shall comply with all MWWA, FCPA, NPS and MDOT-SHA property security rules and requirements when working on their respective properties.

3.20.2 Design-Builder’s Responsibility During Suspension of Construction

- A. In case of suspension of construction Work, the Design-Builder shall take such precautions as may be necessary to prevent damage to the Work, provide for erosion control and drainage, secure all construction equipment to remove any potential hazards to the traveling public, and erect any temporary structures, signs, or other facilities necessary or appropriate for the protection of the Work and the public. During the suspension of the Work, the Design-Builder shall properly and continuously maintain in acceptable growing condition all living material in newly established plantings, seeding, and sodding furnished under the Agreement and shall take adequate precautions to protect vegetation against damage.

3.21 Hand-over Requirements**3.21.1 Asset Inventories**

- A. The Concessionaire requires an asset inventory to the individual asset level of all newly constructed and reused Express Lane assets in order to populate and successfully integrate the Concessionaire’s Maintenance Management System in preparation for maintenance during operations.
- B. The Design-Builder shall deliver, no later than 90 days prior to Service Commencement, an Express Lane asset inventory and associated data in accordance with the Concessionaire’s requirements. Assets to be included in this inventory include:
 - 1. Civil (Road, Bridge, Drainage, Roadside and Road-related structures);
 - 2. Pavement (Mainline, Ramps and Road Markings);
 - 3. Signage and Lighting);
 - 4. Traffic Management System infrastructure and equipment;
 - 5. Landscaping Plantings and Aesthetics Treatments; and
 - 6. Other (Miscellaneous Items).

3.21.2 Spare Parts

- A. Prior to Service Commencement, the Design-Builder shall provide the spare parts specified in the TMS Subcontract.
- B. All costs associated with these spare parts shall be included in TMS Subcontract portion of the Design-Builder’s Contract Price.

3.21.3 Warranties

- A. Prior to Final Completion, the Design-Builder shall provide copies of, or transfer (where applicable), all manufacturer or supplier warranties received for materials or equipment installed on Project NEXT.

PART 3

Design-Build Contract
Between
Concessionaire and Design-Builder

This **DESIGN-BUILD CONTRACT** is made by and between the parties, the **Concessionaire**, CAPITAL BELTWAY EXPRESS LLC, a Delaware limited liability company, and the **Design-Builder**, THE LANE CONSTRUCTION CORPORATION, a Connecticut Corporation, for design and construction services in connection with the 495 Express Lanes Northern Extension Project (“**Project NEXT**”).

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In consideration of the mutual covenants and obligations contained herein, Concessionaire and Design-Builder agree as set forth herein.

Article 1

Scope of NEXT Work

1.1 Design-Builder shall perform all design and construction services, and provide all material, equipment, tools and labor, necessary to complete the NEXT Work (or “**Work**”) described in and reasonably inferable from the NEXT Contract Documents.

1.2 Design-Builder acknowledges that Concessionaire may exercise the option in Exhibit 1.2, and such option, if exercised by Concessionaire in writing, shall be considered a written modification as described in Part 3, Article 2.1(i) below.

Article 2

NEXT Contract Documents

2.1 The NEXT Contract Documents are comprised of the following:

- (i) All written modifications, amendments and Work Orders to this NEXT Design-Build Contract issued in accordance with Part 4, General Conditions of Contract between Concessionaire and Design-Builder (“NEXT General Conditions”);
- (ii) This NEXT Design-Build Contract (Part 3), executed by Concessionaire and Design-Builder, inclusive of all Exhibits;
- (iii) The NEXT General Conditions (Part 4), inclusive of all Exhibits;
- (iv) The NEXT Technical Requirements (Part 2), inclusive of all Attachments;
- (v) The Request for Proposals (NEXT RFP) (Part 1) dated October 8, 2020, including all Attachments, Supplemental Information and Addenda (track changes depicted in the Addenda have been accepted and are incorporated herein);
- (vi) Division I Amendments (Part 5) to Standard Specifications, (“NEXT Division I Amendments”), inclusive of all Exhibits;
- (vii) Construction Documents prepared and approved in accordance with Section 2.4 of the NEXT General Conditions (Part 4); and
- (viii) Design-Builder’s Technical and Price Proposals (Proposal) submitted in response to the NEXT RFP (Part 1).

Article 3

Interpretation and Intent

3.1 The NEXT Contract Documents are intended to permit the parties to complete the NEXT Work and all obligations required by the NEXT Contract Documents within the NEXT Contract Time for the NEXT Contract Price. The NEXT Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with prevailing construction and design industry standards. Unless the context shall otherwise require, the words “hereto”, “herein”, “hereof” and other words of similar import refer to the Contract Documents as a whole. The words “shall”, “will” and “must” are to be considered synonymous and indicate actions required of Design-Builder. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders and vice versa. Words importing the singular number shall include the plural number and vice versa unless the context shall otherwise require. The words “include”, “includes” and “including” shall be deemed to be followed by the phrase “without limitation”. Unless the context shall otherwise require, references to any Person shall be deemed to include such Person’s successors and permitted assigns. Unless the context shall otherwise require, references to sections, subsections and provisions are to the applicable sections, subsections and provisions of this agreement. The headings or titles of this Agreement and its sections, schedules or exhibits, as well as any table of contents, are for convenience of reference only and shall not define or limit its provisions. Unless the context shall otherwise require, all references to any resolution, contract, agreement, lease or other document shall be deemed to include any amendments or supplements to, or modifications or restatements or replacements of, such documents that are approved from time to time in accordance with the terms thereof and hereof. Subject to Section 3.4.1, in the event of any inconsistency, conflict, or ambiguity between or among the NEXT Contract Documents, the NEXT Contract Documents shall take precedence in the order in which they are listed in Section 2.1.

3.2 Terms, words and phrases used in the NEXT Contract Documents, including this NEXT Design-Build Contract, shall have the meanings given them in this NEXT Design-Build Contract and Part 4 (NEXT General Conditions 4).

3.3 The NEXT Contract Documents form the entire agreement between Concessionaire and Design-Builder with respect to its subject matter and by incorporation herein are as fully binding on the parties as if repeated herein. The parties have made no oral representations or other agreement, except as specifically stated in the NEXT Contract Documents.

3.4 Except as specifically set forth in this Section 3.4, and notwithstanding anything to the contrary in Design-Builder’s Proposal, Design-Builder is obligated to perform the NEXT Work in full compliance with the NEXT Contract Documents. The parties agree, however, that:

.1 Betterments and higher and/or more stringent standards or specifications and design and construction criteria, concepts, and drawings set forth in Design-Builder’s Proposal (collectively referred to as “**Enhancements**”) shall supersede the minimum requirements of the Project NEXT Technical Requirements (Part 2) and Design-Builder is obligated to perform the NEXT Work in compliance with the Enhancements.

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3.5 Concessionaire’s Comprehensive Agreement with VDOT for Project NEXT provides VDOT certain rights with respect to the Project NEXT and the NEXT Work. The Design Builder shall cooperate fully and promptly with VDOT’s representatives as requested by Concessionaire. Any acceptance or comment by VDOT shall not relieve Design Builder of any of its duties, liabilities or obligations under the NEXT Contract Documents. All communications to and from VDOT regarding the NEXT Work shall be made through Concessionaire, except as Design-Builder is otherwise directed by Concessionaire.

3.6 The documents which govern Concessionaire’s transactions with the NEXT Financing Parties may provide to the NEXT Financing Parties’ Technical Advisers certain rights of review, inspection, certification and consultation with Concessionaire concerning the Project NEXT and the NEXT Work in order that the NEXT Financing Parties’ Technical Advisers may regularly and completely apprise the NEXT Financing Parties of the progress and other aspects of the Project NEXT and the NEXT Work. Design Builder shall cooperate fully and promptly with the NEXT Financing Parties’ Technical Advisers as requested by Concessionaire, including providing schedule and progress documentation, participating in monthly review meetings and granting access to the Work site(s) for field inspections. Any acceptance or comment by the NEXT Financing Parties’ Technical Advisers or the NEXT Financing Parties shall not be construed to impose on the NEXT Financing Parties’ Technical Advisers or the NEXT Financing Parties any control of any portion of the NEXT Work, or relieve Design Builder of any of its duties, liabilities or obligations under the NEXT Contract Documents. All communications to and from the NEXT Financing Parties’ Technical Advisers regarding the NEXT Work shall be made through Concessionaire, except as Design-Builder is otherwise directed by Concessionaire.

Article 4

Ownership of NEXT Work Product

4.1 **NEXT Work Product Defined.** The term “NEXT Work Product” includes all drawings, specifications, calculations, reports, and documentation, whether in paper copy or electronic format, produced or obtained by or through Design-Builder that is furnished to Concessionaire.

4.2 **Ownership of NEXT Work Product.** Concessionaire shall own all rights, title and interest in the NEXT Work Product upon its receipt and payment for such of such NEXT Work Product in accordance with the payment terms specified in the Contract Documents. Concessionaire’s ownership rights, include, without restriction or limitation, the right of Concessionaire, VDOT (with respect to such NEXT Work Product Concessionaire has assigned to VDOT), and any of Concessionaire’s counterparties, to incorporate any ideas or information from the NEXT Work Product into: (a) any other contract awarded in reference to the Project NEXT; or (b) any subsequent procurement by Concessionaire or VDOT for another project, whether during or after the completion of this NEXT Design-Build Contract. In receiving all rights, title and interest in the NEXT Work Product, Concessionaire is deemed to own all intellectual property rights, copyrights, patents, trade secrets, trademarks, and service marks in NEXT Work Product, and Design-Builder agrees that it shall, at the request of Concessionaire, execute all papers and perform all other acts that may be necessary (if any) to ensure that Concessionaire’s rights, title and interest in the NEXT Work Product are protected. The rights

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conferred herein to Concessionaire include, without limitation, Concessionaire's ability to use the NEXT Work Product without the obligation to notify or seek permission from Design-Builder. In addition, upon expiration, termination, or default of the Comprehensive Agreement, Concessionaire is required to turn over to VDOT a copy of all NEXT Work Product Concessionaire owns. At such time, all such NEXT Work Product (other than Concessionaire's own proprietary NEXT Work Product) will be considered the sole and exclusive property of VDOT without compensation due to Design-Builder or any other party.

4.3 Use of NEXT Work Product at Concessionaire's Risk. Concessionaire's use of the NEXT Work Product on any subsequent procurement for Project NEXT by Concessionaire or on another project shall be at Concessionaire's sole risk, except for any NEXT Work Product which has been fully approved (signed and sealed, if applicable) and fully paid for by Concessionaire. Design-Builder neither warrants nor represents that the NEXT Work Product is suitable for use on another project without modification. Concessionaire waives any rights to seek recovery from Design-Builder for any claims, damages, liabilities, losses and expenses arising out of or resulting from Concessionaire's use of the NEXT Work Product on another project.

Article 5
NEXT Contract Time

5.1 Limited Notice to Proceed and Notice to Proceed.

5.1.1 Limited Notice to Proceed. At any time after the execution of this NEXT Design-Build Contract, Concessionaire may issue a Limited Notice to Proceed ("LNTP") authorizing and obligating Design-Builder to commence the Early Works. Design-Builder shall commence the Early Works within seven (7) days of its receipt of the LNTP, unless the Parties mutually agree otherwise in writing. The scope, schedule, payment amount and payment terms for such Early Works are set forth in the Early Works Scope of Work attached hereto as Exhibit 5.1.1.

5.1.2 Notices to Proceed

(a) **Work Notice to Proceed.** Except with respect to any Early Works approved and undertaken pursuant to Exhibit 5.1.1 and except as may be authorized in a LNTP, Design-Builder will not commence any Work and will not be compensated for any Work unless and until the following conditions have been satisfied (or Concessionaire has advised that it will waive such condition) and Concessionaire has delivered notice to that effect to Design-Builder (such notice being referred to as the "Work Notice to Proceed" or "Work NTP"):

- (i) Concessionaire and the NEXT Financing Parties have reached NEXT Financial Close;
- (ii) Design-Builder has delivered to Concessionaire and obtained its approval of the Submittal Register described in Part 2 (NEXT Technical Requirements);

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- (iii) Design-Builder has submitted and Concessionaire has approved the following Project Development Plans: (A) Design-Builder Management Plan; (B) Document Management Plan; (C) Quality Management System Plan; (D) Design Quality Management Plan; (E) Communications Plan; (F) DBE/SWaM and Workforce Plan; (G) Right of Way Acquisition and Relocation Plan; and (H) Utilities Plan;
 - (iv) there exists no court order which restrains, enjoins, or delays performance of the Work;
 - (v) Design-Builder certifies to Concessionaire that all insurance policies required under Part 4 (NEXT General Conditions), Section 5.1.1 necessary for the Work, have been obtained and will be in full force and effect, and in the case of Project-specific policies, Design-Builder has delivered to Concessionaire electronic copies thereof certified by Design-Builder's insurance broker to be true and correct copies of the originals; and
 - (vi) Design-Builder has furnished performance and payment bonds for the full Contract Price in accordance with Part 3 (NEXT Design-Build Contract), Section 10.2 and Part 4 (NEXT General Conditions), Section 5.1.2.
 - (vii) there exists no Design-Builder Event of Default for which Design-Builder has received notice from Concessionaire, and Design-Builder certifies to Concessionaire that, to the best of its knowledge after diligent inquiry, there exists no condition, which with the lapse of time or delivery of notice to Design-Builder, would constitute a Design-Builder default.
 - (viii) The delivery of the LNTP or Work NTP does not constitute authorization to commence construction activities.
- (b) **Construction Segment Approval.** In addition to the conditions set forth in Section 5.1.2 (a), Design-Builder will not commence construction of the NEXT Work or other ground disturbing activities unless and until the following conditions have been satisfied (or Concessionaire, in its discretion, waives such conditions) and Concessionaire has delivered notice to that effect to Design-Builder (such notice being referred to as the "Construction Segment Approval"):
- (i) Design-Builder has delivered to Concessionaire correct and complete copies of all Construction Documentation required for the commencement of construction on a Construction Segment in accordance with the NEXT Contract Documents, and Design-Builder has received from Concessionaire any prior written approvals thereof required by the NEXT Contract Documents and Federal Requirements;
 - (ii) all Governmental Approvals (including any applicable VDOT and Federal approvals and agreements) necessary for the commencement of Construction Segment construction have been acquired (and copies provided to

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Concessionaire), and Design-Builder has satisfied all applicable pre-construction requirements of the Government Approvals;

- (iii) all rights of access or other property rights necessary for the commencement of Construction Segment construction have been obtained;
 - (iv) Design-Builder has submitted and Concessionaire has approved the following: (A) Baseline Schedule; (B) Construction Quality Management Plan; (C) Project-wide Maintenance of Traffic Plan; (D) Environmental Management Plan; (E) Health, Safety and Security Plan; and (G) Sustainability Plan; and
 - (v) Design-Builder certifies to Concessionaire that all insurance policies required under Part 4 (NEXT General Conditions), Section 5.1.1 necessary for the Work, have been obtained and will be in full force and effect, and in the case of Project-specific policies, Design-Builder has delivered to Concessionaire electronic copies thereof certified by Design-Builder's insurance broker to be true and correct copies of the originals.
- (c) Concessionaire may waive any condition precedent set forth in Section 5.1.2 (a) and Section 5.1.2 (b); *provided*, that no person or entity will be entitled to assume that Concessionaire will waive any condition precedent. Unless Concessionaire waives in writing (as distinguished from a deemed waiver) a condition precedent that requires action by Design-Builder to be satisfied, Design-Builder will remain bound to use diligent efforts to satisfy the condition precedent.
- (d) Concessionaire intends to issue the LNTP concurrently with the Commercial Close between VDOT and Concessionaire (coincident with the NEXT Design-Build Contract execution) and intends to issue the Work NTP concurrently with the NEXT Financial Close between the NEXT Financing Parties and Concessionaire, *provided* that all conditions precedent in Section 5.1.2(b) have been met by the time the Work NTP is issued.
- (e) The NEXT Work shall commence upon Design-Builder's receipt of the Work NTP, unless the parties mutually agree otherwise in writing. The obligation of Design-Builder to commence the NEXT Work is subject to the condition precedent that Design-Builder shall have received, from or on behalf of Concessionaire, notice from Concessionaire's Representative in a form and substance satisfactory to Design-Builder confirming that: (i) NEXT Financial Close for Project NEXT has occurred; (ii) Concessionaire has adequate funds available and committed to fulfill all of Concessionaire's contractual obligations under the NEXT Contract Documents; and (iii) there has been no default or adverse condition that will prevent Concessionaire from making the payments required under this NEXT Design-Build Contract as they come due.

5.1.3 Delays to Notice to Proceed. If the Work NTP is not issued by Concessionaire by February 1, 2022, through no fault of Design-Builder (i.e., Design-Builder has met all required conditions precedent for the Work NTP by that time), then, as Design-Builder's sole and exclusive remedy

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for any increased costs, impacts, delays and disruptions due to the delayed issuance, Design-Builder shall be entitled to the following:

- (i) Additional payments, not to exceed \$1,500,000 per month for actual costs incurred on approved Early Works activities included in Exhibit 5.1.1 (Early Works Scope of Work), if applicable, for the period between December 1, 2021 and the date of the issuance of the Work NTP. Any such payments shall not increase the NEXT Contract Price.
- (ii) The NEXT Contract Price, excluding amounts to be paid for Early Works under the LNTP, shall be increased at a three percent (3.00%) annualized rate (i.e., 0.008219% per day), based on the number of days between December 1, 2021 and the date of issuance of the Work NTP.
- (iii) The Scheduled Service Commencement Date shall be 1,412 days following the date of issuance of the Work NTP.
- (iv) Notwithstanding the above, if Concessionaire notifies Design-Builder that the Work NTP will not be issued on or before February 1, 2022, or if the Work NTP is not issued by Concessionaire on or before February 1, 2022, the NEXT Contract Price, Scheduled Service Commencement Date, and the Scheduled Final Completion Date shall be subject to good faith renegotiation, in accordance with the following protocol:
 - (1) Concessionaire shall direct Design-Builder in writing to provide a proposal, with Concessionaire identifying those assumptions upon which the proposal is to be based.
 - (2) Design-Builder shall promptly furnish its proposal after receipt of Concessionaire's directive.
 - (3) If the parties do not reach agreement on a revised NEXT Contract Price, Scheduled Service Commencement Date, and Scheduled Final Completion Date within thirty (30) days from the date Concessionaire receives Design-Builder's proposal, either Concessionaire or Design-Builder may terminate this NEXT Design-Build Contract. Should either party terminate for convenience under this Section 5.1.3(iv)(3), Design-Builder shall be compensated in accordance with Section 8.1.1 below.

5.1.4 Termination Prior to Notice to Proceed. If Concessionaire terminates all of the NEXT Work for convenience before issuing an NTP, the provisions set forth in Section 8.1.1 shall be applicable.

5.2 Completion Dates

5.2.1 Scheduled Service Commencement Date. The **Scheduled Service Commencement Date** shall be the date that is **1,412 days** following the date of issuance of the Work NTP. Except

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as set forth in 5.1.3, as applicable, if NEXT Financial Close is achieved on the anticipated date of December 1, 2021 or later, but Design-Builder has not satisfactorily met the Work NTP conditions in Section 5.1.2(a), then the Scheduled Service Commencement Date will be 1,412 days following the date of NEXT Financial Close.

(a) No later than thirty (30) days prior to Design-Builder's planned Service Commencement Date, Design-Builder shall submit an initial Notice of Service Commencement, a written notice of Service Commencement readiness, in accordance with the Exhibit 5.2.1 requirements.

(b) After receipt of the initial Notice of Service Commencement, Concessionaire shall have twenty (20) days to review the Notice and inspect the NEXT Work completed by Design-Builder. During this period, Design-Builder and Concessionaire will meet, confer and exchange information on a regular basis with the goal of supporting Concessionaire's orderly, timely and expeditious inspection of the completed NEXT Work.

(c) If reasonable cause exists for doing so, Concessionaire shall notify Design-Builder that the NEXT Work is not yet ready for Service Commencement and stating in detail the reasons therefore. Design-Builder shall subsequently provide revised and updated Notice(s) of Service Commencement providing any updates or amendments necessary to satisfy the conditions set forth in Exhibit 5.2.1. The foregoing process, shall be repeated until Concessionaire is satisfied that all conditions set forth within Exhibit 5.2.1 have been met. A final Notice of Service Commencement shall be provided no later than ten (10) days prior to Design-Builder's planned Service Commencement Date. For any Work remaining as of the date of Design-Builder's final Notice of Service Commencement, Design-Builder shall verify and certify in writing no later than Design-Builder's planned Service Commencement Date that these items have been satisfactorily completed.

(d) The Service Commencement Date shall be deemed to be the date that Concessionaires determines that Design-Builder has fully met the Exhibit 5.2.1 conditions and has issued the Service Commencement Certificate. Service Commencement shall only be achieved hereunder if Concessionaire has provided a signed Service Commencement Certificate.

5.2.2 Scheduled Final Completion Date. The Scheduled Final Completion Date shall be **180 days** after the Scheduled Service Commencement Date or the achieved Service Commencement Date, whichever is earlier. Subject to Sections 5.5.2, 5.5.3 and 5.5.4, Design-Builder guarantees that it will achieve the Final Completion Date by the Scheduled Final Completion Date, or at the latest, by the Scheduled Long Stop Date.

(a) No later than thirty (30) days prior to the Scheduled Final Completion Date, Design-Builder shall submit an initial Notice of Final Completion, a written notice of Final Completion readiness, in accordance with the Exhibit 5.2.2 requirements.

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(b) After receipt of the initial Notice of Final Completion, Concessionaire shall have twenty (20) days to review the Notice and inspect the NEXT Work completed by Design-Builder since Service Commencement. During this period, Design-Builder and Concessionaire will meet, confer and exchange information on a regular basis with the goal of supporting Concessionaire’s orderly, timely and expeditious inspection of the completed NEXT Work.

(c) If reasonable cause exists for doing so, Concessionaire shall notify Design-Builder that the NEXT Work is not yet ready for Final Completion and stating in detail the reasons therefore. Design-Builder shall subsequently provide revised and updated Notice(s) of Final Completion providing any updates or amendments necessary to satisfy the conditions set forth in Exhibit 5.2.2. The foregoing process, shall be repeated until Concessionaire is satisfied that all conditions set forth within Exhibit 5.2.2 have been met. A final Notice of Final Completion shall be provided no later than ten (10) days prior to the Scheduled Final Completion Date. For any Work remaining as of the date of Design-Builder’s final Notice of Final Completion, Design-Builder shall verify and certify in writing no later than the Scheduled Final Completion Date that these items have been satisfactorily completed.

(d) The Final Completion Date shall be deemed to be the date that Concessionaire determines that Design-Builder has fully met the Exhibit 5.2.2 conditions and has issued the Final Completion Certificate. Final Completion shall only be achieved hereunder if Concessionaire has provided a signed Final Completion Certificate.

(e) If required by Concessionaire, no later than one-hundred eighty days (180) calendar days prior to the Scheduled Long Stop Date, Design-Builder shall prepare a detailed plan describing the actions it plans to take to achieve Final Completion by the NEXT Long Stop Date (“**NEXT Final Completion Recovery Plan**”), and in any case as soon as reasonably practicable. The NEXT Final Completion Recovery Plan may contain a new proposed NEXT Long Stop Date, if applicable. Design-Builder agrees to prepare a second NEXT Final Completion Recovery Plan as needed. Design-Builder acknowledges that approval and the terms of any NEXT Final Completion Recovery Plan is solely in the discretion of Concessionaire, and subject to VDOT’s approval.

5.2.3 Early Service Commencement. The Concessionaire will pay the Design Builder the amount of Four Million, Twenty-Five Thousand Dollars (\$4,025,000) (“No Excuses Incentive Payment for Early Service Commencement”) if the Design-Builder achieves Service Commencement on or before May 5, 2025. If the Design-Builder achieves Service Commencement after May 5, 2025 but before the Scheduled Service Commencement Date, the No Excuses Incentive Payment for Early Service Commencement shall be reduced at a rate of One Hundred Seventy-Five Thousand Dollars (\$175,000) for each week or portion of a week the achieved Service Commencement Date is later in time than May 5, 2025. If the Design-Builder achieves Service Commencement on or later in time than the Scheduled Service Commencement Date, Design-Builder shall have no right to any portion of the No Excuses Incentive Payment for Early Service Commencement.

5.2.4 Payment of a No Excuses Incentive Payment. Any amounts due the Design-Builder for the No Excuses Incentive Payments set forth in 5.2.3 will be paid in addition to and separate from the Contract Price.

5.2.5 No Right to Seek Adjustment to the Contract Time. For purposes of establishing Design-Builder’s ability to receive a No Excuses Incentive Payment, the Scheduled Service Commencement Date shall be the date established as of the Agreement Date. For the avoidance of doubt, and notwithstanding anything to the contrary in the Contract Documents, such Date shall not be subject to any adjustment for any reason, including but not limited to those events identified under Section 8.2.1 of the NEXT General Conditions (Part 4) that would entitle the Design-Builder to an extension of the NEXT Contract Time.

5.2.6 Procedure to Receive No Excuses Incentive Payment. In order to receive a No Excuses Incentive Payment, Design-Builder shall, in its notification to Concessionaire under Section 5.2.1(a) above, notify Concessionaire that Design-Builder intends to request a No Excuses Incentive Payment. The amount of such No Excuses Incentive payment shall be as set forth in Section 5.2.3 above. As a condition precedent to receiving such payment, Design-Builder shall furnish Concessionaire with an executed release, the applicable form for which is found in Exhibit 5.2.3. No modification to the form shall be allowed. Should the Design-Builder fail to comply with the preceding requirements, Design-Builder shall be deemed to have waived its rights, and shall have no entitlement to receive the applicable No Excuses Incentive Payment.

5.3 Adjustments. Except as set forth in Section 5.2.5 above, the Scheduled Service Commencement Date and the Scheduled Final Completion Date (collectively referred to as “NEXT Contract Time”) shall be subject to adjustment in accordance with the NEXT General Conditions (Part 4).

5.4 Time is of the Essence. Concessionaire and Design-Builder mutually agree that time is of the essence with respect to the NEXT Contract Time.

5.5 Liquidated Damages. Design-Builder understands that if the Service Commencement Date or the Final Completion Date are not attained by the respective NEXT Contract Time, Concessionaire will suffer damages which are difficult to determine and accurately specify. To compensate Concessionaire for such damages, Design-Builder hereby agrees as follows:

5.5.1 If the Service Commencement Date is not attained by the Scheduled Service Commencement Date, Design-Builder shall pay Concessionaire Sixty Thousand Dollars (\$60,000.00) as liquidated damages for each day that the Service Commencement Date extends beyond the Scheduled Service Commencement Date.

5.5.2 If the Final Completion Date is not attained by the Scheduled Final Completion Date, Design-Builder shall pay Concessionaire Eighteen Thousand Five Hundred Dollars (\$18,500.00) as liquidated damages for each day that Final Completion Date extends beyond the Scheduled Final Completion Date.

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5.5.3 If Final Completion Date is not attained by the Scheduled Long Stop Date, Design-Builder shall pay Concessionaire Sixty Thousand Dollars (\$60,000.00) as liquidated damages for each day that Final Completion Date extends beyond the Scheduled Long Stop Date, if the Concessionaire does not terminate the NEXT Design-Build Contract. These liquidated damages are in addition to any damages due for Design-Builder's failure to achieve other milestones within the specified NEXT Contract Time.

5.5.4 The total amount of liquidated damages paid pursuant to this Section 5.5 shall not exceed ten percent (10%) of the NEXT Contract Price.

5.5.5 Any liquidated damages payable under this Section 5 or lane closure penalties payable by Design-Builder under the NEXT Contract Documents shall be paid by Design-Builder or withheld by Concessionaire, as applicable, in arrears at the next scheduled monthly payment intervals applicable after the Scheduled Service Commencement Date or Scheduled Final Completion Date, as applicable, with the last such payment to occur on the date on which Service Commencement or Final Completion, as applicable, actually occurs. All liquidated damages payments due and unpaid by Design-Builder shall bear interest commencing ten (10) days after payment is due at an interest variable rate per annum equal to the reference rate announced by Bank of America, N.A., from time-to-time, plus one percent (1%).

5.6 **Liquidated Damages Not Penalty.** The parties acknowledge, recognize and agree on the following:

- (a) that because of the unique nature of Project NEXT, it is difficult or impossible to determine with precision the amount of damages that would or might be incurred by Concessionaire as a result of Design-Builder's failure to complete the NEXT Work on or before the applicable NEXT Contract Time;
- (b) that any sums which would be payable under Section 5.5 are in the nature of liquidated damages, and not a penalty, and are fair and reasonable and such payment represents a reasonable estimate of fair compensation for the losses that may reasonably be anticipated from such failure; and
- (c) that any sums which would be payable herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties and any other damages, whether special or consequential, and of whatsoever nature incurred by Concessionaire which are occasioned by any delay in achieving the applicable NEXT Contract Time for the above-referenced NEXT Work. Notwithstanding the above, liquidated damages are not intended to excuse Design-Builder from liability for any other breach of its obligations under the NEXT Contract Documents.

Article 6
NEXT Contract Price

6.1 NEXT Contract Price. As a full and fixed consideration to Design-Builder for completing and furnishing the NEXT Work in accordance with the terms hereof and all costs incurred in connection therewith, Concessionaire shall pay Design-Builder in accordance with Article 6 of the NEXT General Conditions (Part 4) a firm, fixed-price, lump sum of **Four Hundred Forty-One Million, Seven Hundred Thousand Dollars (\$441,700,000)** (“NEXT Contract Price”), subject to adjustments made in accordance with the NEXT General Conditions (Part 4). Unless otherwise provided in the NEXT Contract Documents, Design-Builder shall furnish to the appropriate taxing authorities all required information and reports in connection with such taxes and promptly furnish to the appropriate taxing authorities all required information and reports in connection with such taxes, which taxes will be administered and paid by Design-Builder. The NEXT Contract Price is deemed to include any amounts paid for Early Works, all sales, use, consumer and other taxes mandated by applicable Legal Requirements.

6.2 Cost of Changes. If the NEXT Contract Price requires an adjustment due to changes in the NEXT Work, the cost of markups shall be as determined under Section 9.4.1 of Part 4 (NEXT General Conditions).

6.3 Price of Asphalt, Fuel and Steel. Design-Builder shall be responsible for all costs related to the use of asphalt, fuel and steel and other similar materials required to perform the NEXT Work. For the avoidance of doubt, there will be no change to the NEXT Contract Price due to a change in the market of asphalt, fuel and/or steel or any other similar materials used by Design-Builder during the performance of the NEXT Work.

6.4 Royalties and License Fees. Design-Builder shall pay all applicable royalties and license fees (it being understood that Design-Builder is not responsible for ongoing maintenance and support fees) and shall procure for the benefit of Concessionaire and/or VDOT, as applicable, at Design-Builder’s sole expense (other than ongoing maintenance and support fees), the appropriate rights, licenses, agreements and permissions for materials, methods, processes and systems incorporated in the Project NEXT. In performing the NEXT Work, Design-Builder shall not incorporate into the Project NEXT any materials, methods, processes or systems which involve the use of any confidential information, intellectual property or property rights which Concessionaire, VDOT or Design-Builder does not have the right to use or which may result in claims or suits against Concessionaire, VDOT or Design-Builder arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other proprietary rights, or applications for any such rights, or use of confidential information. Any such rights held by Design-Builder with respect to items incorporated in the NEXT Work shall be assigned or licensed to VDOT or Concessionaire, as applicable, at no additional cost to VDOT or Concessionaire, in connection with the use or operation of Project NEXT.

Article 7

Procedure for Payment

7.1 Progress Payments

7.1.1 Design-Builder shall submit to Concessionaire on or before the fifteenth (15th) day of each month, beginning with the first month after Design-Builder's receipt of Concessionaire's LNTP or Work NTP as applicable, Design-Builder's Application for Payment in accordance with Article 6 of the General Conditions (Part 4). Applications for Payment received after the fifteenth (15th) day of the month shall not be considered properly submitted and may not be processed until the subsequent payment period.

7.1.2 Concessionaire shall make payment of undisputed amounts within thirty (30) days after Concessionaire's receipt of each properly submitted and accurate Application for Payment in accordance with Article 6 of the NEXT General Conditions (Part 4), but in each case less the total of payments previously made, and less amounts properly withheld under Section 6.3 of the NEXT General Conditions (Part 4).

7.1.3 Design-Builder agrees that, within seven (7) days following receipt of monies from Concessionaire for work performed by any Subcontractor, Design-Builder shall either: (a) pay the Subcontractor for the proportionate share of the total payment received from Concessionaire attributable to the work performed by the Subcontractor; or (b) notify Concessionaire and Subcontractor, in writing, of Design-Builder's intention to withhold all or a part of the Subcontractor's payment, specifying the reason for the non-payment. Design-Builder also agrees that it shall include in all of its subcontracts a provision that: (a) obligates Design-Builder to pay interest to Subcontractors on all amounts owed by Design-Builder that remain unpaid after seven (7) days following receipt of monies from Concessionaire for work performed by any Subcontractor, except for amounts withheld as allowed in the preceding sentence; (b) states, "Unless otherwise provided under the terms of this contract, interest shall accrue at the rate of one percent per month."; and (c) obligates each Subcontractor to include or otherwise be subject to the same payment and interest requirements as specified in this Section 7.1.3 with respect to each lower-tier Subcontractor.

7.1.4 Design-Builder's obligations to pay an interest charge to a Subcontractor pursuant to Section 7.1.3 shall not be construed to be an obligation of Concessionaire, nor shall any modification to this NEXT Design-Build Contract be allowed for the purpose of providing reimbursement for the interest charge. Cost reimbursement claims shall not include any amount for reimbursement for the interest charge.

7.1.5 Design-Builder agrees to provide Concessionaire, within five (5) days of the NEXT Design-Build Contract Date, its federal employer identification number.

7.2 Retainage on Progress Payments. If Concessionaire determines Design-Builder's progress is unsatisfactory according to applicable Contract documents, Concessionaire will send a notice of unsatisfactory progress to Design-Builder advising it of such determination. This notification will also advise Design-Builder that five percent (5%) retainage of the monthly

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Application for Payment is being withheld and will continue to be withheld for each month Design-Builder's actual progress is determined to be unsatisfactory.

When Concessionaire determines that Design-Builder's progress is satisfactory in accordance with these requirements, the five percent (5%) retainage previously withheld because of unsatisfactory progress will be released in the next monthly Application for Payment, and the remaining monthly Application for Payment will be paid in full provided Design-Builder's progress continues to be satisfactory.

7.3 Mobilization Payment. Immediately upon receipt of the Work NTP, Design-Builder may elect to submit a request for payment, outside of the Progress Payment cycle, for the first installment for mobilization, which installment shall be an amount equal or less than Design-Builder's actual costs for bonds and insurances, as evidenced by Design-Builder documentation submitted with the request for payment. Concessionaire shall make payment for the first mobilization installment within thirty (30) days after receipt of Design-Builder's request for payment with adequate documentation. The second installment for mobilization will be for the remainder of the total mobilization and will be made with the first approved progress payment request following the first Construction Segment Approval. In no case may the total mobilization payment exceed two percent (2%) of the NEXT Contract Price.

7.4 Final Payment. Design-Builder shall submit its Final Application for Payment to Concessionaire in accordance with Section 6.6 of the NEXT General Conditions (Part 4). Concessionaire shall make payment of undisputed amount on Design-Builder's properly submitted and accurate Final Application for Payment within thirty (30) days after Concessionaire's receipt of the Final Application for Payment, provided that Design-Builder has satisfied the requirements for Final Payment set forth in Section 6.6.3 of the NEXT General Conditions (Part 4).

7.5 Interest. Payments due and unpaid by Concessionaire to Design-Builder, whether progress payments or Final Payment, shall bear interest commencing ten (10) days after payment is due at an interest at a variable rate per annum equal to the reference rate announced by Bank of America, N.A., from time-to-time, plus one percent (1%).

7.6 Record Maintenance and Retention of Records. Design-Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles and as may be provided in the NEXT Contract Documents. During the performance of the NEXT Work and for a period of five (5) years after Final Payment, Concessionaire and Concessionaire's accountants shall be afforded access from time-to-time, upon reasonable notice, to Design-Builder's records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda and other data, including but not limited to electronic schedules and other electronic data (all collectively referred to as "**Books and Records**") relating to: (a) changes in the NEXT Work performed on a cost basis; or (b) any request by Design-Builder for an adjustment in the NEXT Contract Price or NEXT Contract Time. Design-Builder shall preserve all of its Books and Records for a period of five (5) years after Final Payment. Design-Builder shall permit Concessionaire to audit, examine, and copy all documents, computerized records, electronic mail, or other records of Design-Builder during the life of the Contract and for a period for not less than

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five years after the earliest of: (i) the date of Final Payment, (ii) the date Design-Builder is declared in default of Contract, and (iii) the date of termination of the Contract.

Article 8

Termination for Convenience

8.1 Upon ten (10) days written notice to Design-Builder, Concessionaire may, for its convenience and without cause, elect to terminate all or part of the NEXT Work if Concessionaire, in its sole discretion, determines that such a termination is in Concessionaire's best interests. Concessionaire shall notify Design-Builder of the decision to terminate by delivering to Design-Builder a written notice of termination specifying the extent of termination and its effective date (a "**Notice of Termination**"). Pursuant to this Section 8.1, Concessionaire shall have the right to terminate the NEXT Design-Build Contract immediately upon VDOT's termination of the Comprehensive Agreement.

8.1.1 If Concessionaire terminates all of the NEXT Work for convenience before issuing a Work Notice to Proceed, Design-Builder's sole remedy shall be the payment of monies due for Early Works properly performed by Design-Builder, the amount of which shall be explicitly enumerated in the Exhibit 5.1.1 (Early Works Scope of Work). The amounts owed under any such payment will be limited to the actual costs incurred, subject to risk sharing agreement and verified by Concessionaire. Such monies will be paid in accordance with the terms of the Early Works Scope Document. Other than its rights to be paid for Early Works properly performed, Design-Builder specifically waives any and all rights to claim from Concessionaire for any cost, profit, overhead contribution or any other monetary relief associated with the NEXT Contract Documents or Project NEXT, including but not limited to bid and proposal costs, or any services that might have constituted NEXT Work under the NEXT Contract Documents.

8.1.2 If Concessionaire terminates all or part of the NEXT Work for convenience after issuing a Work Notice to Proceed, then Sections 8.2 through 8.8 below shall apply.

8.2 After receipt of a Notice of Termination, and except as directed by Concessionaire, Design-Builder shall immediately proceed as follows, regardless of any delay in determining or adjusting any amounts due under this Article 8:

- (a) Stop any NEXT Work as specified in the notice;
- (b) Enter into no further Subcontracts and place no further orders for materials, services or facilities, except as necessary to complete the continued portion of the NEXT Work, if any, or for mitigation of damages;
- (c) Unless instructed otherwise by Concessionaire, terminate all Subcontracts to the extent they relate to the NEXT Work terminated and except to the extent that continuation of the Subcontract is necessary in order to mitigate damages;
- (d) Assign to Concessionaire or its designee in the manner, at the times, and to the

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extent directed by Concessionaire, all of the right, title, and interest of Design-Builder under the Subcontracts so terminated, in which case Concessionaire will have the right, in its sole discretion, to accept performance, settle or pay any or all claims under or arising out of the termination of such Subcontracts;

(e) Settle outstanding liabilities and claims arising out of such termination of Subcontracts, with the approval or ratification of Concessionaire, to the extent it may require, which approval or ratification shall be final;

(f) Transfer and deliver to Concessionaire or its designee, as directed by Concessionaire: (1) possession and control of the Project NEXT; and (2) all right, title and interest of Design-Builder in and to: (i) the NEXT Work in process, completed NEXT Work, supplies and other materials produced or acquired for the NEXT Work terminated; (ii) the Construction Documents and all other completed or partially completed drawings (including plans, elevations, sections, details and diagrams), specifications, records, reports, books, samples, information and other NEXT Work Product that would have been required to be furnished to Concessionaire if the NEXT Work had been completed; and (iii) all intellectual property developed specifically for the Project NEXT; provided, however, that in the event of such transfer, Design-Builder shall not be liable for any warranties for NEXT Work which has not achieved Final Completion, nor shall Design-Builder have any liability with respect to any design materials produced with respect to the Project NEXT;

(g) Complete performance in accordance with the NEXT Contract Documents of all NEXT Work not terminated;

(h) Take all action that may be necessary, or that Concessionaire may direct, for the protection and preservation of the property related to the NEXT Contract Documents that is in the possession of Design-Builder and in which Concessionaire has or may acquire an interest; and

(i) As authorized by Concessionaire, use its best efforts to sell at fair market value any property of the types referred to in Section 8.3; provided, however, that Design-Builder: (1) shall not take any such action with respect to any items for which title has previously transferred to Concessionaire; (2) is not required to extend credit to any purchaser; and (3) may acquire the property itself, under the conditions prescribed and at prices approved by Concessionaire. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by Concessionaire under the NEXT Contract Documents or paid in any other manner directed by Concessionaire.

8.3 Inventory. Design-Builder shall submit to Concessionaire a list of termination inventory not previously disposed of and excluding items authorized for disposition by Concessionaire; and within thirty (30) days of receipt of the list, Design-Builder shall deliver such inventory to Concessionaire and Concessionaire shall accept title to such inventory as appropriate.

8.4 Settlement Proposal. After termination, Design-Builder shall submit a final termination settlement proposal to Concessionaire in the form and with the certification prescribed by

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Concessionaire. Design-Builder shall submit the proposal promptly, but no later than thirty (30) days from the effective date of termination unless Design-Builder has requested a time extension in writing within such 30-day period and Concessionaire has agreed to allow such an extension.

8.5 Amount of Termination Settlement. Design-Builder and Concessionaire shall negotiate in good faith to reach agreement on the settlement amount to be paid to Design-Builder by reason of the termination of NEXT Work pursuant to this Article 8 and any such settlement shall be subject to the provisions of Article 10 of Part 4 (NEXT General Conditions). Such negotiated settlement shall include an allowance for profit solely on NEXT Work that has been performed as of the termination date. Such agreed amount or amounts payable for the terminated NEXT Work, exclusive of demobilization costs and subcontractor breakage costs, shall not exceed the total NEXT Contract Price as reduced by the NEXT Contract Price of NEXT Work not performed. Upon determination of the settlement amount, this NEXT Design-Build Contract will be amended accordingly, and Design-Builder will be paid the agreed amount as described in this Section 8.5. Concessionaire's execution and delivery of any settlement agreement shall not be deemed to affect any of its rights with respect to compliance of the NEXT Work which has achieved Final Completion, with all applicable NEXT Contract Documents requirements, or any of its rights under payment and performance bonds or any of its rights against Subcontractors.

8.6 No Agreement as to Amount of Claim. In the event of failure of Design-Builder and Concessionaire to agree upon the amount to be paid Design-Builder by reason of the termination of NEXT Work pursuant to this Article 8, the amount payable (exclusive of interest charges) shall be determined in accordance with the dispute resolution procedures of the NEXT General Conditions (Part 4).

8.7 Reduction in Amount of Claim. The amount otherwise due Design-Builder under this Article 8 shall be reduced by: (a) the amount of any valid claim which Concessionaire may have against Design-Builder in connection with this NEXT Design-Build Contract; and (b) the agreed price for, or the proceeds of sale of, materials, supplies or other things previously paid for by Concessionaire and to be retained by Design-Builder or sold by Design-Builder (with the proceeds being retained by Design-Builder), pursuant to the provisions of this Article 8.

8.8 Payment. Concessionaire 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 Design-Builder in connection with the terminated portion of this NEXT Design-Build Contract, whenever in the opinion of Concessionaire the aggregate of such payments shall be within the amount to which Design-Builder will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this Article 8, such excess shall be payable by Design-Builder to Concessionaire upon demand.

8.9 Inclusion in Subcontracts. Design-Builder shall insert in all Subcontracts that the Subcontractor shall stop NEXT Work on the date of, and to the extent specified in, a Notice of Termination from Concessionaire, and shall require that Subcontractors insert the same provision in each Subcontract at all tiers. Design-Builder shall communicate, immediately upon receipt thereof, any Notice of Termination issued by Concessionaire to all affected Subcontractors.

8.10 No Consequential Damages. In the event of a termination for convenience under this Article 8, Design-Builder acknowledges and agrees that it shall not be entitled to any compensation in excess of the value of the NEXT Work performed plus its settlement and demobilization and subcontractor breakage costs. Under no circumstances shall Design-Builder or any Subcontractor be entitled to anticipatory or unearned profits, unabsorbed overhead, opportunity costs, or consequential or other damages as a result of a termination for convenience under this Article 8. The payment to Design-Builder determined in accordance with this Article 8 constitutes Design-Builder's exclusive remedy for a termination hereunder.

8.11 No Waiver. Anything contained in this NEXT Design-Build Contract to the contrary notwithstanding, a termination under this Article 8 shall not waive any right or claim to damages which Concessionaire may have with respect to NEXT Work which has achieved Final Completion prior to the date of termination, and Concessionaire may pursue any cause of action which it may have by law or under this NEXT Design-Build Contract on account of such completed NEXT Work. Design-Builder makes no warranties with respect to NEXT Work which has not achieved Final Completion prior to the date of termination. Concessionaire's termination of this NEXT Design-Build Contract shall not relieve any rights Concessionaire has under any performance bonds issued on the Project NEXT.

8.12 Dispute Resolution. The failure of the parties to agree on amounts due under Article 8 shall be a dispute to be resolved in accordance with the requirements of Article 10 of Part 4 (NEXT General Conditions).

8.13 Right to Use NEXT Work Product. If Concessionaire terminates this NEXT Design-Build Contract pursuant to this Article 8, Concessionaire's rights to use the NEXT Work Product shall be as set forth in Article 4 hereof.

8.14 Limitation of Certain Contractor Liabilities. Notwithstanding anything herein to the contrary, the total liability of Design-Builder in contract, tort, equity or otherwise (including negligence, warranty, strict liability or otherwise) relative to or arising out of NEXT Contract Documents shall not exceed an amount equal to twenty-five percent (25%) of the NEXT Contract Price; provided, that the foregoing limitation shall not apply to or include:

- (i) the proceeds of insurance, not to exceed amounts required to be maintained by Design-Builder in accordance with the terms of the NEXT Contract Documents;
- (ii) costs, liabilities or obligations that arise from gross negligence, willful misconduct or fraud of Design-Builder;
- (iii) costs, liabilities or obligations that arise from (i) Design-Builder's abandonment of the NEXT Work, (ii) failure to maintain the insurance and bonds required pursuant to Article 5 of Part 4 (NEXT General Conditions), (iii) fines or penalties assessed under Applicable Law, or (iv) interest due with respect to any unpaid amounts;
- (iv) Design-Builder's breach of its representations made in any of its Applications for Payment contained in Section 6.2.3 of Part 4 (NEXT General Conditions); or

- (v) Design-Builder's indemnity obligations under Article 7 of Part 4 (NEXT General Conditions).

Article 9

Representatives of the Parties

9.1 Concessionaire's Representative

9.1.1 (Not Used)

9.1.2 Concessionaire designates Victoria Jones as its Concessionaire's Representative, which individual has the authority and responsibility set forth in Section 3.4 of the General Conditions (Part 4).

9.2 Design-Builder's Representatives

9.2.1 (Not Used)

9.2.2 Design-Builder designates Brian Basnight as its Design-Builder's Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the NEXT General Conditions (Part 4).

9.3 Concessionaire and Design-Builder shall, in the spirit of cooperation, exchange information in a timely manner. While the NEXT Contract Documents establish a timeline and process for making decisions and managing communications on Project NEXT, the parties recognize it is not possible to specify processes for all activities that may occur.

Article 10

Bonds and Insurance

10.1 Insurance. Design-Builder shall provide and maintain insurance in accordance Section 5.1.1 of Part 4 (NEXT General Conditions). Evidence of insurance shall be submitted following Notice of Intent to Award the NEXT Design-Build Contract in accordance with the Part 1 (NEXT RFP) requirements and shall be a condition precedent to Concessionaire executing the NEXT Design-Build Contract and issuance of any Notice(s) to Proceed.

10.2 Performance Security. Design-Builder shall provide and maintain performance securities for the NEXT Work in accordance with Section 5.2 of Part 4 (NEXT General Conditions). Performance and payment bonds and evidence of Design-Builder's liquid security shall be submitted following the Notice of Intent to Award the NEXT Design-Build Contract in accordance with Part 1 (NEXT RFP) requirements. Receipt of acceptable forms of performance and payment bonds shall be a condition precedent to Concessionaire executing the NEXT Design-Build Contract, achieving Financial Close, and issuance of any Notice(s) to Proceed.

10.3 Parent Company Guarantee. If Design-Builder is not the ultimate parent entity (i.e., it is an affiliate, subsidiary or joint venture member), then a Parent Company Guarantee in a form acceptable to Concessionaire shall be provided by such ultimate parent entity following the Notice of Intent to Award the NEXT Design-Build Contract in accordance with Part 1 (NEXT RFP) requirements. If Design-Builder is a joint venture, then each JV member shall provide such a Parent Company Guarantee. Receipt of such Parent Company Guarantee by Concessionaire shall be a condition precedent to Concessionaire executing the NEXT Design-Build Contract.

Article 11 **Other Provisions**

11.1 Project Management and Reporting Requirements

11.1.1 Initial Baseline Schedule. Design-Builder submitted an Initial Baseline Schedule with their Proposal in accordance with the Section 1.4 of Part 2 (NEXT Technical Requirements) and the NEXT RFP (Part 1). This Initial Baseline Schedule, as revised and approved, shall be used to manage the Work until such time it is replaced by the approved Baseline Schedule.

11.1.2 Baseline Schedule. Within ninety (90) days of Design-Builder's receipt of Concessionaire's Limited Notice to Proceed or Work NTP as applicable, Design-Builder shall submit to Concessionaire, for its review and approval, a Baseline Schedule in accordance with Section 1.4 of Part 2 (NEXT Technical Requirements). Concessionaire reserves the right to withhold approval for all or part of Design-Builder's Applications for Payment until such time Design-Builder furnishes an approved Baseline Schedule. Concessionaire approval of the Baseline Schedule is a condition precedent to issuance of any Construction Segment Approval per Section 5.1.2(b).

11.1.3 Schedule Updates. Design-Builder shall submit Schedule Updates in accordance with Section 1.4 of Part 2 (NEXT Technical Requirements). Concessionaire reserves the right to withhold approval for all or part of Design-Builder's Applications for Payment until such time Design-Builder furnishes an approved Schedule Update.

11.1.4 Revised Baseline Schedule. Design-Builder shall submit a Revised Baseline Schedule when required in accordance with Section 1.4 of Part 2 (NEXT Technical Requirements). Concessionaire reserves the right to withhold approval of all or part of Design-Builder's Applications for Payment until such time Design-Builder furnishes an approved Revised Baseline Schedule.

11.1.5 Final As-Built Schedule. Design-Builder shall submit a Final As-Built Schedule in accordance with Section 1.4 of Part 2 (NEXT Requirements). Concessionaire reserves the right to withhold approval for all or part of Design-Builder's Applications for Final Payment until such time Design-Builder furnishes an approved Final As-Built Schedule.

11.1.6 Other Information and Alteration. Design-Builder shall, whenever required by Concessionaire, provide in writing a general description of the arrangements and methods which

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Design-Builder proposes to adopt for the execution of the NEXT Work. No significant alteration to the Baseline Schedule, or to such arrangements and methods, shall be made without informing Concessionaire and any alterations made shall reflect the requirement for coordination of the NEXT Work with the actions and obligations of Concessionaire and the work to be carried out by Separate Contractors. If any alteration affects any such actions, obligations or NEXT Work, it shall not be made without the prior approval of Concessionaire. If the progress of the NEXT Work does not conform to the Baseline Schedule, as updated herein, Concessionaire may instruct Design-Builder to revise the Baseline Schedule, showing the modifications necessary to achieve completion within the NEXT Contract Time.

11.1.7 TMS Subcontractor and Separate Contractors. Design-Builder agrees to include the activities of the TMS Subcontractor and Separate Contractors into the Baseline Schedule. Design-Builder shall reasonably cooperate with the TMS Subcontractor and Separate Contractors and coordinate its activities with those of such Separate Contractors so that Project NEXT can be completed in an orderly and coordinated manner without unreasonable disruption.

11.1.8 Concessionaire’s Review and Approval of Schedule Submissions. Concessionaire’s review and approval of the Baseline Schedule or subsequent Schedule Updates and Revised Baseline Schedule shall not be construed as relieving Design-Builder of its complete and exclusive control and responsibility over the means, methods, sequences and techniques for executing the NEXT Work and does not constitute approval or acceptance of Design-Builder’s ability to complete the NEXT Work within the NEXT Contract Time.

11.1.9 Monthly Reports. Monthly reports shall be prepared by Design-Builder and submitted to Concessionaire in accordance with Part 2 (NEXT Technical Requirements). The first report shall cover the period up to the end of the calendar month after that in which the NEXT Design-Build Contract Date occurred; reports shall be submitted monthly thereafter, on or before the fifteenth (15th) day of each month. Reporting shall continue until Concessionaire’s determination that the Project NEXT has achieved Final Completion.

Failure of Design-Builder to provide complete monthly reports, including but not limited to the monthly schedule updates, shall be grounds for Concessionaire to withhold approval for all or part of Design-Builder’s Applications for Payment until such time Design-Builder furnishes such complete reports.

11.1.10 Project NEXT Records. Design-Builder shall organize and maintain its Project NEXT records in a manner that complies with the applicable provisions of Part 2 (NEXT Technical Requirements).

11.1.11 Estoppel Certificate. Design-Builder shall at any time and from time to time furnish promptly upon request by Concessionaire or any NEXT Financing Party a written statement or a legal opinion in such form as may be required by the requesting party stating that this NEXT Design-Build Contract is a valid and binding obligation of Design-Builder, enforceable against Design-Builder in accordance with its terms, except to the extent that its enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting the rights of creditors generally or by general principles of equity; that this NEXT Design-Build

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Contract has not been released, subordinated or modified; and that there are no offsets or defenses against the enforcement of this NEXT Design-Build Contract against Design-Builder; or if any of the foregoing statements are qualified or unable to be made in their entirety, specifying the reasons therefor.

11.2 Miscellaneous

11.2.1 In executing this NEXT Design-Build Contract, Concessionaire and Design-Builder each individually represents that it has the necessary financial resources to fulfill its obligations under this NEXT Design-Build Contract, and each has the necessary approvals to execute this NEXT Design-Build Contract and their applicable obligations described herein.

11.2.2 Design Builder specifically represents and warrants the following:

.1 that it is duly organized and validly existing under the law of its state of organization, and is duly licensed or qualified to do business in the Commonwealth of Virginia and in each other jurisdiction wherein the nature of the business transacted by them makes such licensing or qualification necessary;

.2 that it has the power and authority to do all acts and things to execute and deliver all NEXT Contract Documents and other documents as are required to be done, observed or performed by in connection with the performance of the NEXT Work;

.3 that it has all necessary expertise, qualifications, experience, competence, skills and know-how to perform the NEXT Work;

.4 that it is not in violation of any applicable law that would have a material adverse effect on the performance of the NEXT Work;

.5 none of itself nor any of its affiliates, including their respective officers, directors and employees, have been debarred or prohibited from participating in state or federally-funded projects, or indicted, convicted, pled guilty or nolo contendere to a violation of law involving fraud, conspiracy, collusion, bribery, perjury, material misrepresentation, or any other violation that shows a similar lack of moral or ethical integrity;

.6 that it owns or possesses all the patents, trademarks, service marks, trade names, copyrights, licenses, franchises, Governmental Approvals and rights with respect to the foregoing necessary to perform the NEXT Work and to carry on its business as presently conducted and presently planned to be conducted without conflict with the rights of others;

.7 no representation or warranty by Design-Builder contained herein or in any other document furnished by Design-Builder to Concessionaire contains or will contain any untrue statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading in light of the circumstances under which it was made. All financial and other information furnished by Design-Builder to Concessionaire is true and correct in all material respects;

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.8 to the best of Design-Builder’s knowledge after diligent inquiry, no event, which, with the passage of time or the giving of notice, would constitute a default under the NEXT Contracts, has occurred; and

.9 that it is prequalified with VDOT to perform all aspects of the NEXT Work in accordance with VDOT’s Rules Governing Prequalification Privileges, and covenants that it will not subcontract any part of the NEXT Work to a Subcontractor at any tier who is not prequalified with VDOT in accordance with VDOT’s Rules Governing Prequalification Privileges; provided, that this restriction does not apply to contract specialty items, consultants, manufacturers, suppliers, haulers or snow removal service providers.

11.3 Federal Requirements

Design-Builder shall comply with all federal requirements set forth in Exhibit 11.3.

11.4 Exhibits

11.4.1 The following exhibits are made part of and incorporated into this NEXT Design-Build Contract:

EXHIBIT 1.2 – OPTION FOR MODIFIED BASE CONFIGURATION WORK

EXHIBIT 5.1.1 – EARLY WORKS SCOPE OF WORK

EXHIBIT 5.2.1 – REQUIREMENTS FOR SERVICE COMMENCEMENT

EXHIBIT 5.2.2 – REQUIREMENTS FOR FINAL COMPLETION

EXHIBIT 5.2.3 – RELEASE OF ALL CLAIMS FOR SERVICE COMMENCEMENT

EXHIBIT 11.3 – FEDERAL REQUIREMENTS

**END OF PART 3
NEXT DESIGN-BUILD CONTRACT**

EXHIBIT 1.2

OPTION FOR MODIFIED BASE CONFIGURATION WORK

[ATTACHED]

Option for Modified Base Configuration Work

At any time Concessionaire may, by delivery of a written notice to Design-Builder, exercise this option, which directs Design-Builder to proceed with the “Modified Base Scope Configuration Work” attached hereto as Attachment A. Design-Builder agrees that if so directed, Design-Builder will perform the Modified Base Configuration Work subject to the following:

- a. the cost associated with the Modified Base Configuration Work will be performed within the NEXT Contract Price of \$441,700,000, and any decrease to overall Project Next cost as a result of this option will be handled as a Work Order pursuant to Part 4, Article 9;
- b. there will be no adjustment to the NEXT Service Commencement Date or NEXT Final Completion Date;
- c. there will be no adjustment to the Scope Validation Period.

Provided, however, that if the Concessionaire exercises the option any time after October 1, 2021 and/or if Design-Builder is not permitted to proceed, in the hold-point area as designated in Attachment A, beyond Preliminary Engineering by April 1, 2022, Design-Builder will no longer be bound by the conditions in a. and b. above, and any associated delay or cost will be treated in accordance with Part 4, Article 10.

Upon receipt of the written notice exercising the option, Design-Builder will revise and resubmit its Initial Baseline Schedule within ten (10) business days to incorporate the Modified Base Scope Configuration Work consistent with the provisions above. Until such time as a Work Order is issued, the Initial Baseline Schedule shall remain cost-loaded with the NEXT Contract Price.

Design-Builder shall advance the Baseline Schedule to include the Modified Base Scope Configuration Work and submit for review as required by Part 3, Article 11.1.2.

Attachment A

Modified Base Configuration Scope of Work

This Modified Base Configuration scope includes revisions, as generally described below and reflected in Figures 1-6, to the Base Scope geometric configuration concept.

This Modified Base Configuration scope also includes, and is not limited to, revisions to other elements, such as drainage culverts and structures, retaining walls, noise barriers, ITS device locations, Right of Way/Easement Acquisitions, etc. required to align with the Modified Base Configuration roadways and paths and the Not to Preclude Potential Future Works at this interchange. All work shall be performed in accordance with the requirements of the NEXT Contract Documents.

As the Design-Builder advances the design and construction of this scope, it will be responsible for adjacent project coordination as required under Part 2, Section 1.14.

Modified Base Configuration, general geometric modifications:

- I-495 Northbound (Express and General Purpose Lanes)
 - Minor realignment of interim NBC alignment and profile
 - Revised gore area for Ramp G23
 - Revision of “interface line”
- GW Parkway WB to I-495 General Purpose Lanes SB (Ramp G21):
 - Construct stub-out for Ramp EG (future Maryland Exchange Ramp) at approx. station 37+00
 - Construct two-lane ramp from gore area with Georgetown Pike Ramp NW (approx. station 15+00) to stub-out for Ramp EG (approx. station 37+00)
 - Revision of “interface line”
- GW Parkway WB to 495 Express Lanes SB (Ramp E21)
 - Removal of excess pavement for future ramps
 - Revision of “interface line”
- 495 Express Lanes NB to GW Parkway EB (Ramp E22)
 - Realignment of Ramp and Flyover bridge to cross I-495 SB
 - Revision of “interface line”
- I-495 General Purpose Lanes SB to GW Parkway EB (Ramp G22)
 - Realignment of Loop Ramp to support new location of Ramp E22
 - Extension of two-lane ramp from gore with Ramp E22 (approx. station 26+50) into the NPS right of way (approx. station 42+75)
 - Acceleration Lane for Ramp G23 (three-lane roadway section) from gore with Ramp G23 (approx. station 42+75) to ending taper (approx. station 52+50)
 - Revision of “interface lines”
- I-495 General Purpose Lanes NB to GW Parkway EB (Ramp G23)
 - Re-establish connection to existing Ramp G23 pavement
 - Connection to Ramp G22 at NPS right of way
 - Revision of “interface lines”
- Noise Barrier 9

Execution Version

- Realignment of noise barrier (horizontal and vertical) to support future construction of Ramps G23 and E23 (NB Exchange Ramp)
- Balls Hill Shared Use Path
 - Realignment of path to support changes to Noise Barrier 9
 - Revision of “interface lines”

Not to Preclude Potential Future Works

- The final design and construction of the Modified Base Configuration shall not preclude the potential planned roadways and paths shown in Figure 4.

Figures – Description

- Figure 1 – *Comparison Exhibit - RFP Base Configuration to Modified Base Configuration*
 - Base vs Modified Base Configuration Infrastructure Overlay to depict differences in alignments.
- Figure 2 – *Areas of GWMP Interchange subject to additional Department Approvals*
 - Depicts the hold-point area, which the Design-Builder shall not advance beyond preliminary engineering until such time that the Department completes its additional review and provides necessary Department Approvals.
- Figure 3 – *Modified Base Configuration - GW Memorial Parkway Interchange - Phase 1*
 - Depicts the final roadway configuration of Modified Base Configuration for Project NEXT.
- Figure 4 – *Modified Base Configuration - Not to Preclude Potential Future Works*
 - Depicts the final roadway configuration for the GW Memorial Parkway Interchange and identifies the not to preclude potential future works.
- Figure 5 – *Modified Base Configuration - GWMP Interchange Profiles*
 - For reference only, supplemental information that depicts vertical profiles of select potential future ramps and paths.
- Figure 6 – *Comparison Exhibit - RFP Base to Modified Base Configuration (ROW Area)*
 - For reference only, supplemental information that depicts likely impacts to ROW and easements acquisitions at the interchange.

LEGEND - PROJECT NEXT

- SCOPE ITEMS COMMON TO ORIGINAL RFP BASE CONFIGURATION AND MODIFIED BASE CONFIGURATION
- ORIGINAL RFP BASE CONFIGURATION SCOPE TO BE REMOVED BY MODIFIED BASE CONFIGURATION
- SCOPE TO BE ADDED BY MODIFIED BASE CONFIGURATION

495 Express Lanes Northern Extension (NEXT)

Comparison Exhibit - RFP Base Configuration to Modified Base Configuration

These Plans are Unfinished and Unapproved and are not to be used for any type of construction or the Acquisition of Right of Way.

September 29, 2021

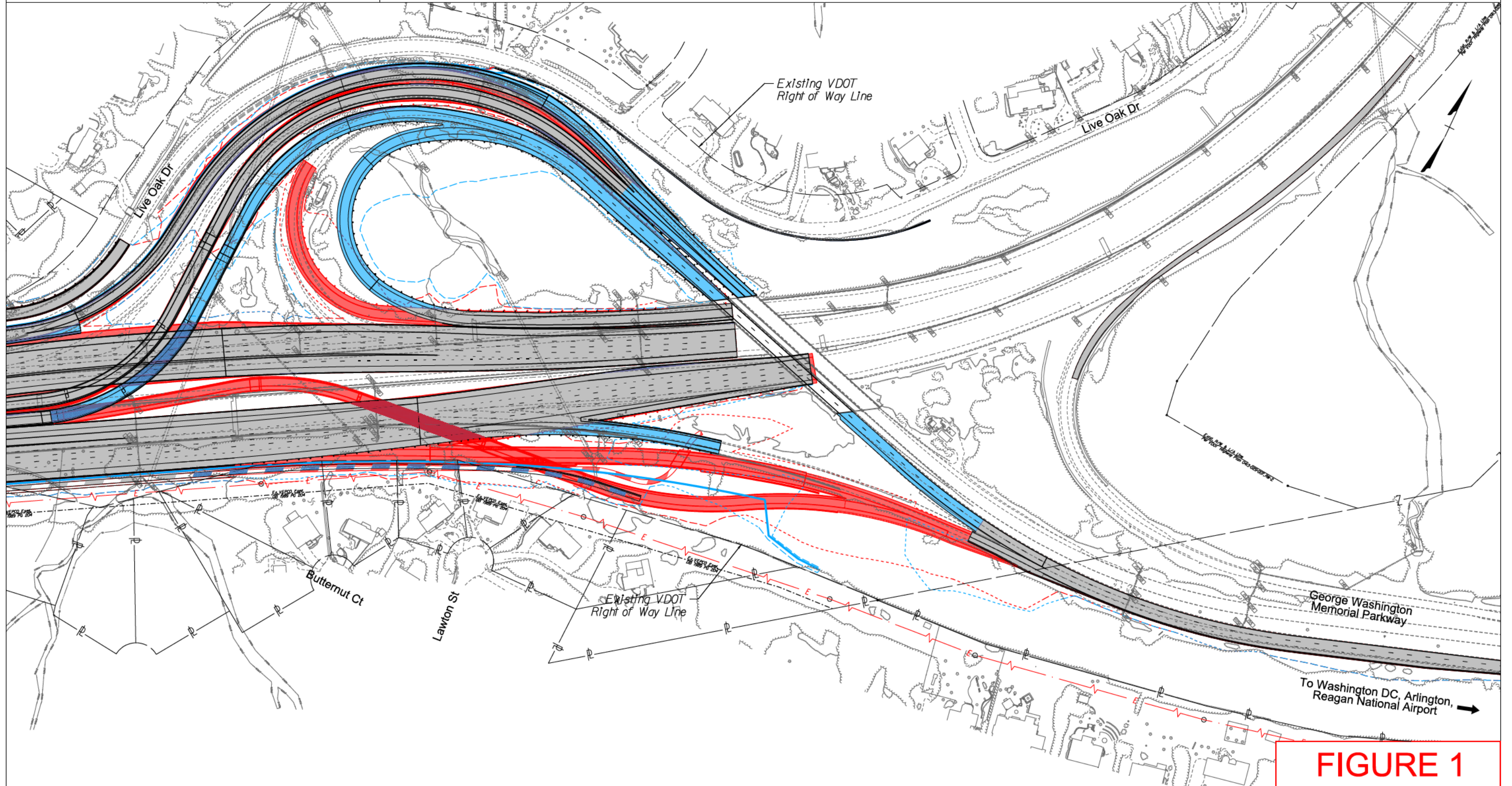
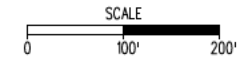


FIGURE 1

LEGEND - PROJECT NEXT

PROJECT NEXT SCOPE ITEMS

PROJECT NEXT SCOPE ITEMS SUBJECT TO ADDITIONAL DEPARTMENT APPROVALS PRIOR TO ASSOCIATED WORK ADVANCING BEYOND PRELIMINARY ENGINEERING

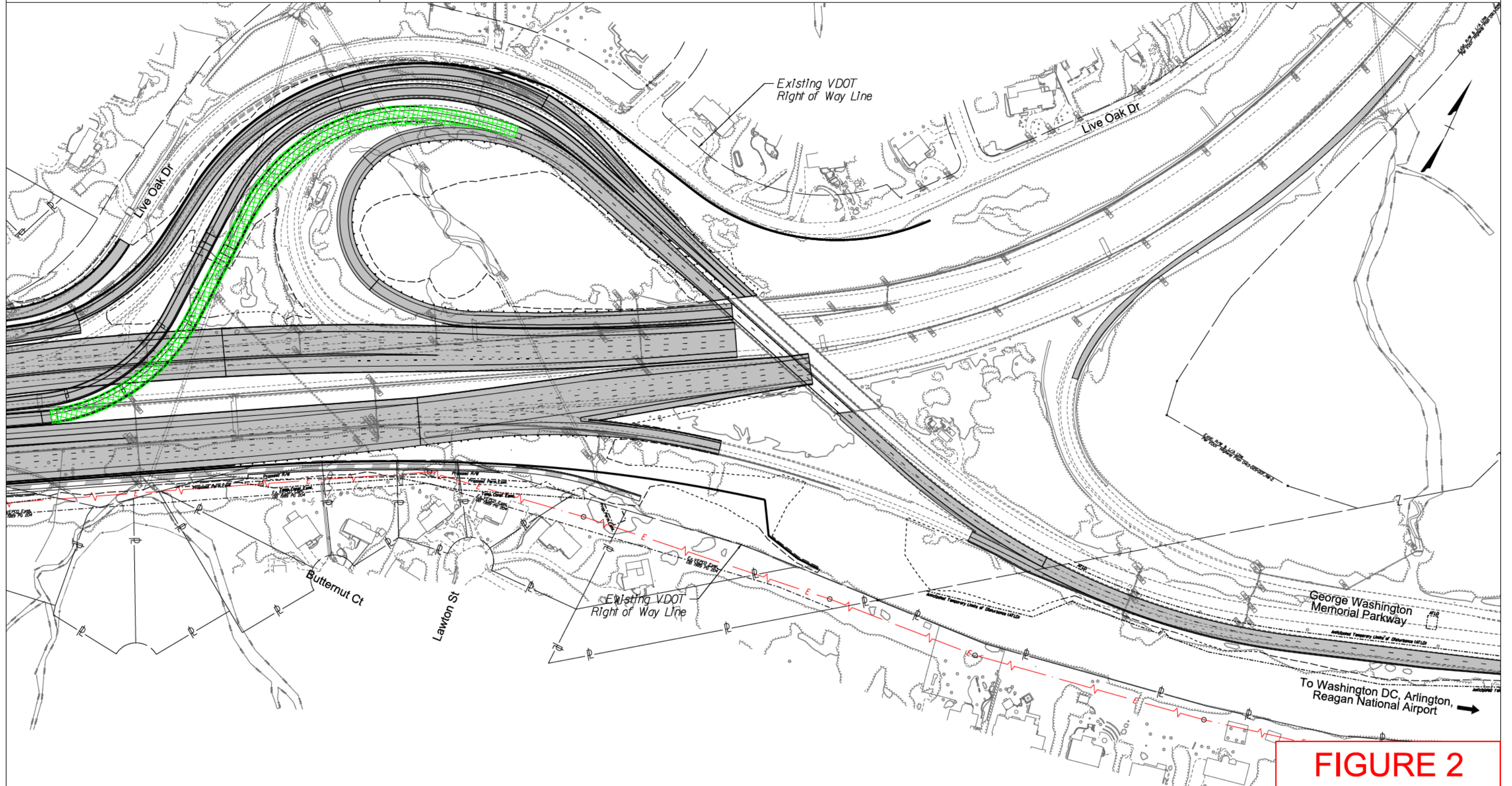
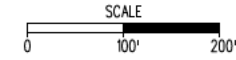


495 Express Lanes Northern Extension (NEXT)









Areas of GWMP Interchange Subject to Additional Department Approvals

September 29, 2021

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LEGEND - PROJECT NEXT

PROPOSED EXPRESS LANES & RAMPS		PROPOSED SIDEWALK	
PROPOSED GENERAL PURPOSE IMPROVEMENTS		PROPOSED GRADING AND GRAVEL TRAIL FOR FUTURE SHARED USE PATH BY OTHERS	
PROPOSED SHOULDER/RAISED MEDIANS		PROPOSED STORMWATER MANAGEMENT BASIN	
PROPOSED BRIDGE			
PROPOSED SHARED USE PATH			

495 Express Lanes Northern Extension (NEXT)

Modified Base Configuration - GW Memorial Parkway Interchange - Phase 1

September 29, 2021

These Plans are Unfinished and Unapproved and are not to be used for any type of construction or the Acquisition of Right of Way.

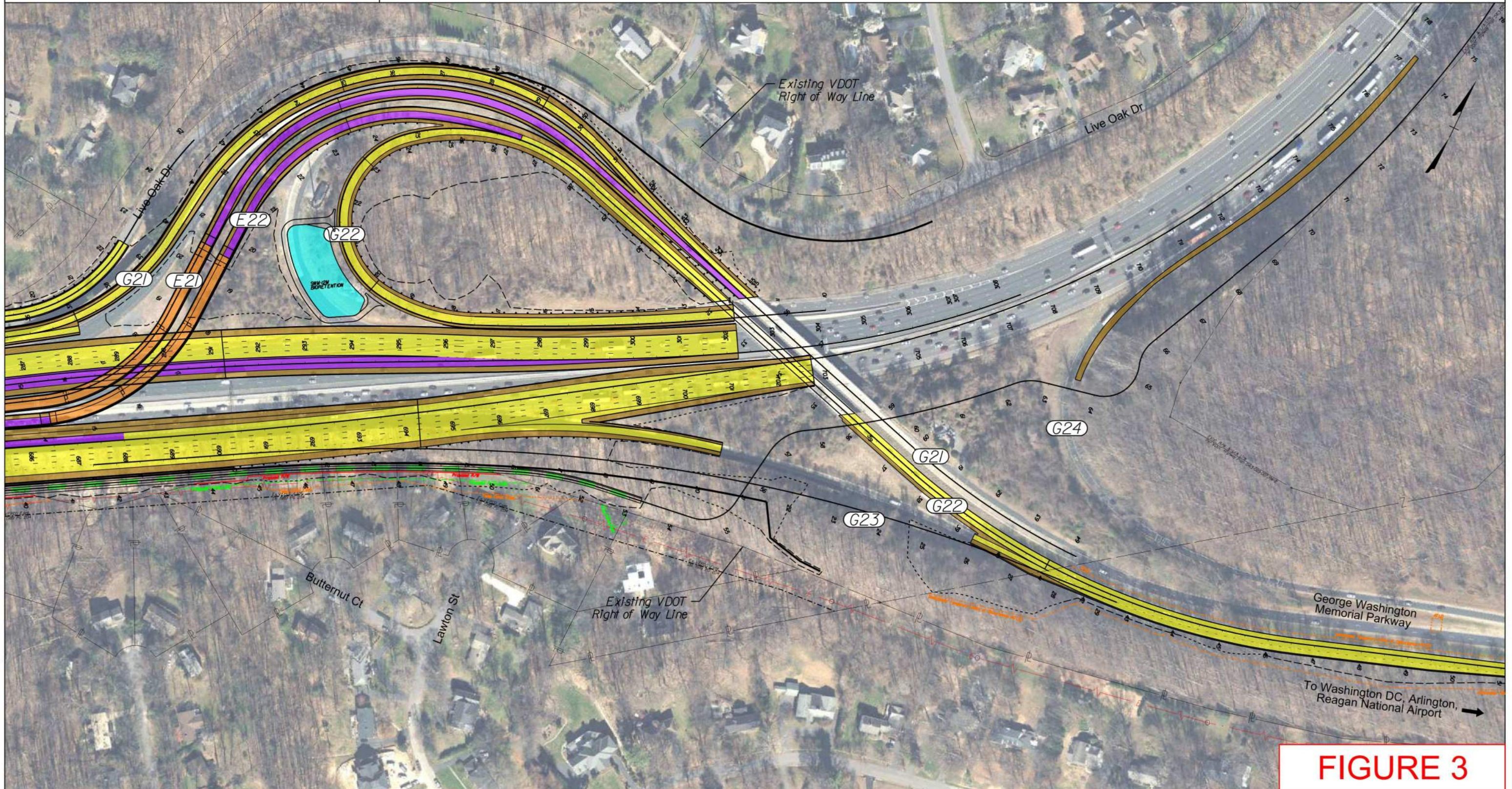
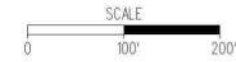


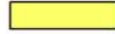








FIGURE 3

LEGEND - PROJECT NEXT

PROPOSED EXPRESS LANES & RAMPS		PROPOSED SIDEWALK	
PROPOSED GENERAL PURPOSE IMPROVEMENTS		PROPOSED GRADING AND GRAVEL TRAIL FOR FUTURE SHARED USE PATH BY OTHERS	
PROPOSED SHOULDER/RAISED MEDIANS		PROPOSED STORMWATER MANAGEMENT BASIN	
PROPOSED BRIDGE		PREVIOUSLY COMPLETED CONSTRUCTION WORKS	
PROPOSED SHARED USE PATH			

495 Express Lanes Northern Extension (NEXT)

Modified Base Configuration - Not to Preclude Potential Future Works

September 29, 2021

CONFIDENTIAL PPTA EVALUATION/NEGOTIATION RECORD AFFECTING VDOT FINANCIAL INTEREST OR BARGAINING POSITION

These Plans are Unfinished and Unapproved and are not to be used for any type of construction or the Acquisition of Right of Way.

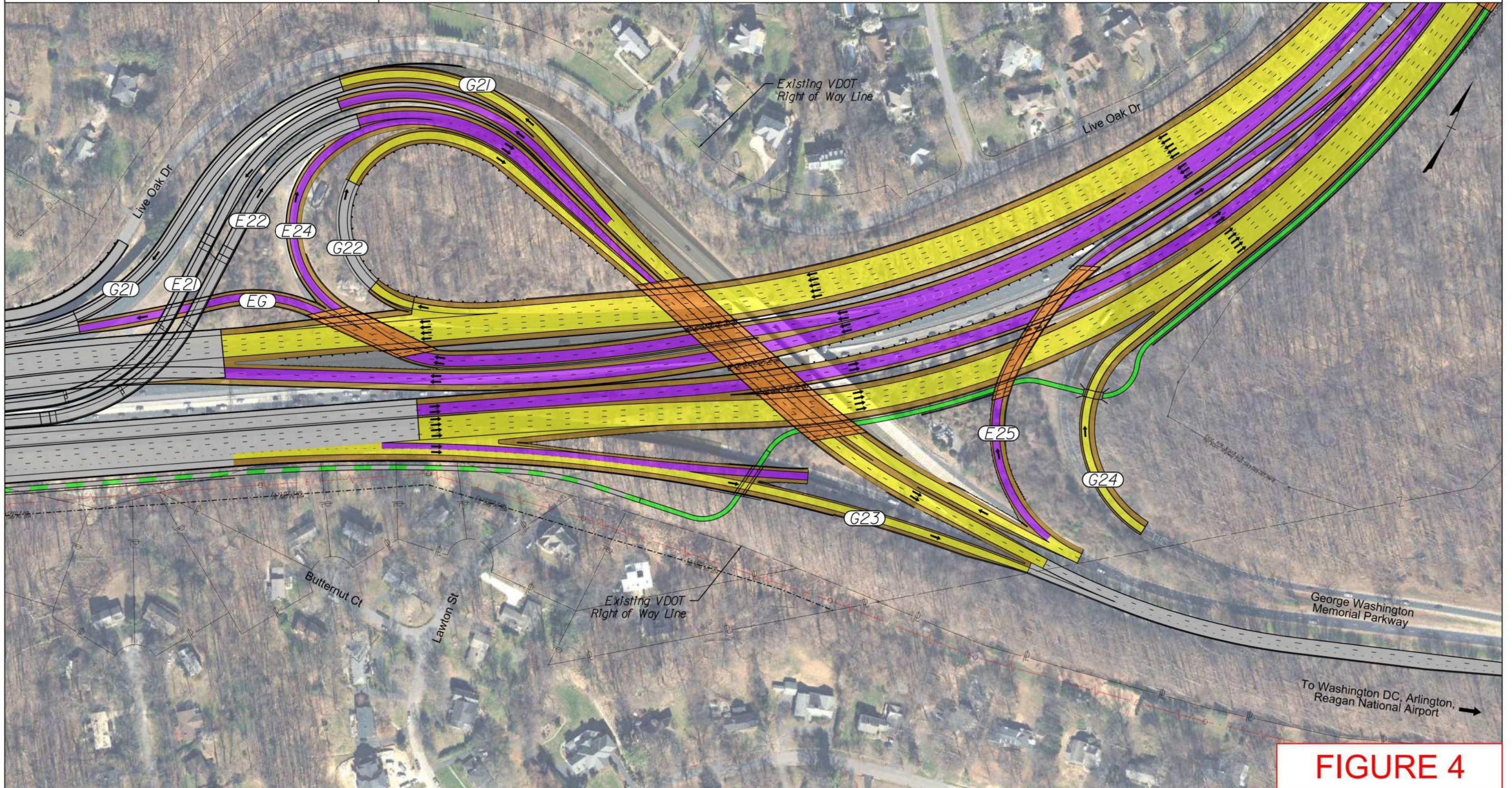


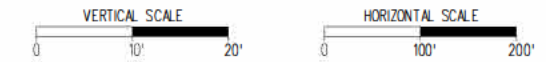
FIGURE 4

495 Express Lanes Northern Extension (NEXT)

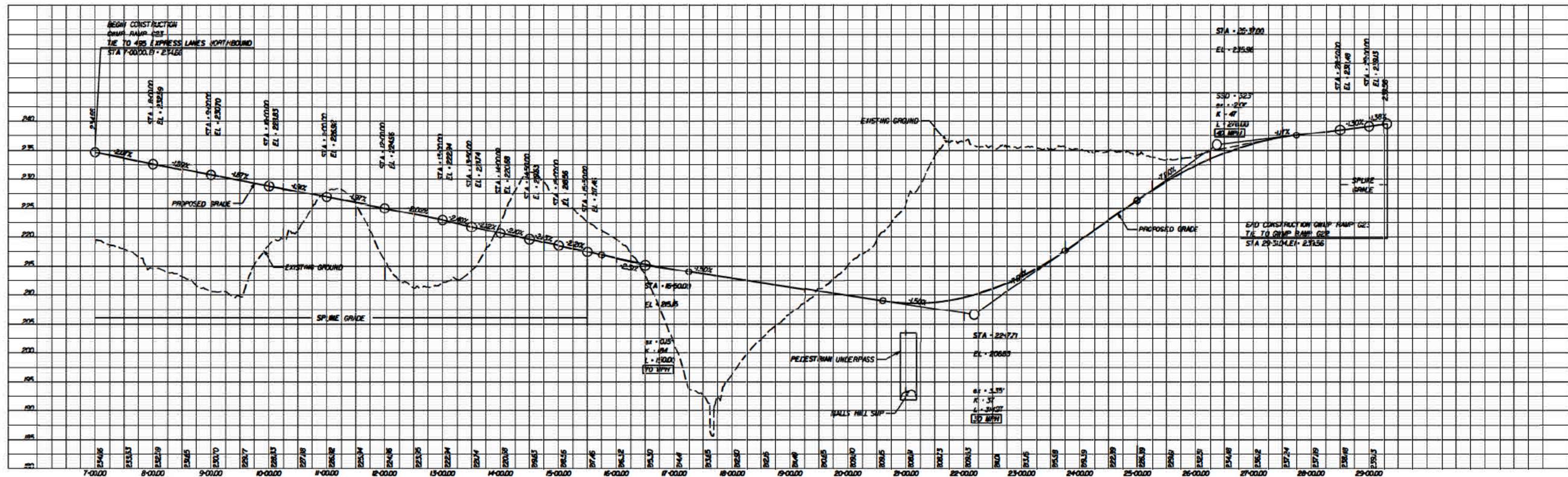
Modified Base Configuration - GWMP Interchange Profiles

September 29, 2021

These Plans are Unfinished and Unapproved and are not to be used for any type of construction or the Acquisition of Right of Way.



Potential Future Works By Others - GWMP Ramp G23



Potential Future Works By Others - GWMP Ramp E23

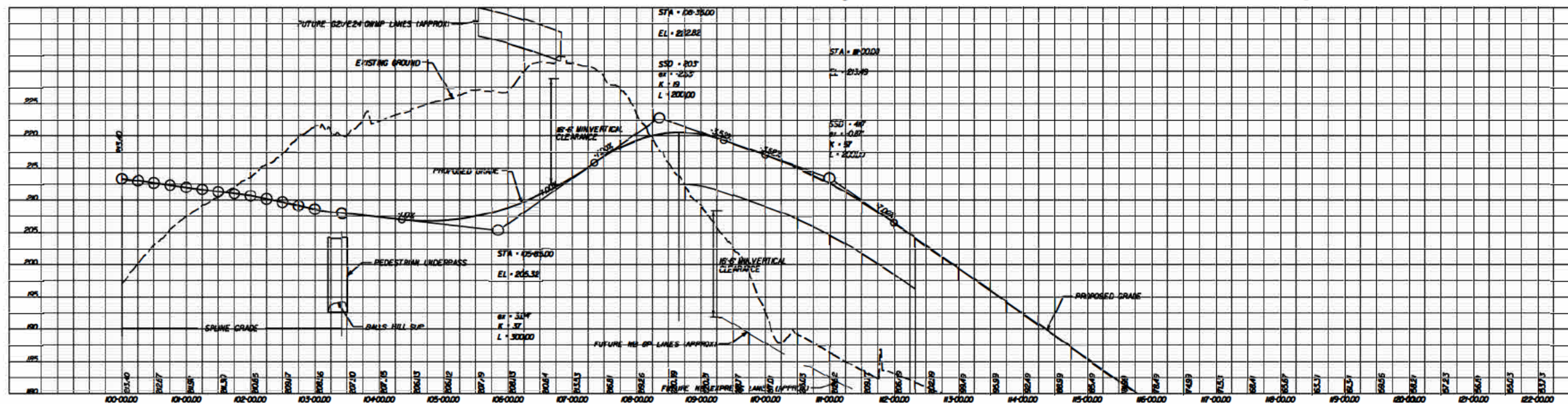


FIGURE 5

LEGEND - PROJECT NEXT

- SCOPE ITEMS COMMON TO ORIGINAL RFP BASE CONFIGURATION AND MODIFIED BASE CONFIGURATION
- ORIGINAL RFP BASE CONFIG PROPOSED ROW/EASEMENT AREAS TO BE REMOVED BY MODIFIED BASE CONFIGURATION
- PROPOSED ROW/EASEMENT AREAS TO BE ADDED BY MODIFIED BASE CONFIGURATION

495 Express Lanes Northern Extension (NEXT)

Comparison Exhibit - RFP Base to Modified Base Configuration (ROW Areas)

These Plans are Unfinished and Unapproved and are not to be used for any type of construction or the Acquisition of Right of Way.

September 29, 2021

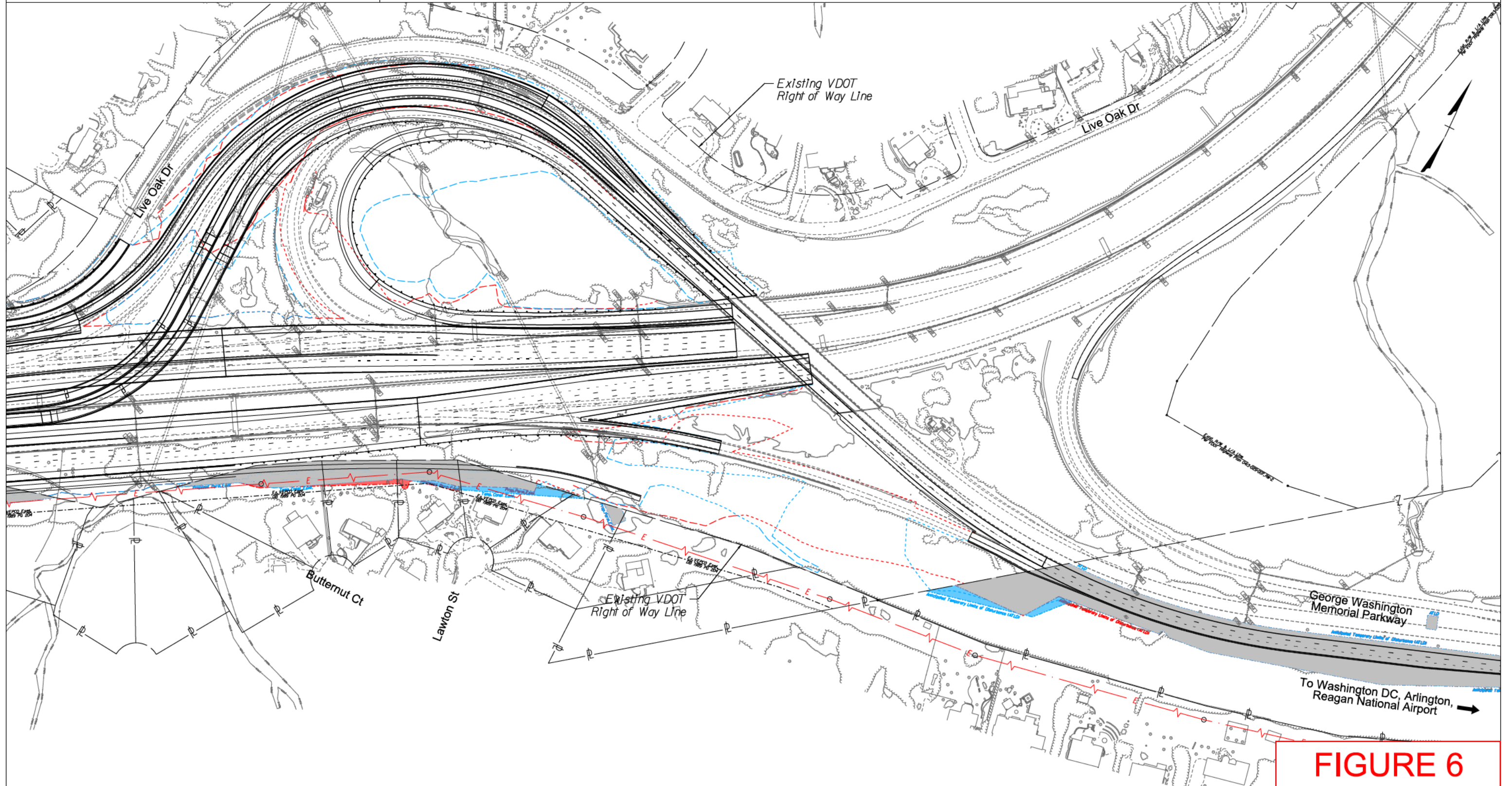
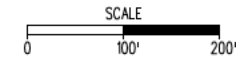


FIGURE 6

EXHIBIT 5.1.1
EARLY WORKS SCOPE OF WORK

[ATTACHED]

495 NEXT Early Works

Scope of Work

Introduction

The Lane Team will utilize the Early Works program to maximize time gain on Project NEXT's Critical Path. To that end, our objective for Early Works is to strategically develop as much of the design as possible, expediting construction activities for the 2021/2022 construction season. In the attached DRAFT Works Fragnet Schedule, we depict our planned activities and costs for the Early Works with a total cost not to exceed the \$10,000,000.00 maximum reimbursement set by the Concessionaire in RFP Part 1 Section 4.9.1

Schedule risk activities include any delay to environmental or storm water management permits and subsequent impacts to design/construction of the associated project elements.

The Early Works Schedule activities are organized into a Work Breakdown Structure (WBS) with the WBS groups and their sub-WBS groups as follows:

1. Early Works

- a. Scope Validation
- b. Project Development Plans (PDP)
- c. Submittal Register
- d. Baseline Schedule
- e. Environmental Permitting / Coordination – Early Works
- f. Coordination with MWAA
- g. Draft Design Waivers / Design Exceptions
- h. Early Works Roadway Design (SWM/ESC Overall, MOT, Clearing & Demo, ITS, ROW, Shoulder Strengthening)

2. Project Management / Admin

- a. General Conditions & Project Management

3. Design Activities

- a. Geotechnical
- b. Survey
- c. Roadway Design
- d. Structures Design
- e. Right of Way Acquisition
- f. Environmental

Early Work At-Risk NOI → LNTP

As detailed in the RFP Part 1 Section 1.3.7, this schedule activity is for the work that the Lane Team will perform at risk (PROPOSED RISK ALLOCATION) once NOIA is received. These activities include staffing for the project, early design processes to enhance the opportunities to achieve the expedited Service Commencement and project office costs. It is fully understood that this work is NON-BILLABLE prior to execution of the contract (LNTP). Lane will coordinate this work with the Concessionaire to ensure concurrence for these activities.

Early Work-LANE Team Project Plan Development (PDP's)

The schedule shows starting on the PDPs. The scope of work includes eight (8) PDP's needed for full Notice to Proceed (NTP) as detailed in RFP Part 3 Section 5.1.2

1. Utilities Plan
2. Environmental Management Plan
3. Design Quality Management Plan
4. Document Management Plan
5. Quality Management System Plan
6. ROW Acquisition Plan
7. Communications Plan
8. DBE/SWaM and Workforce Plan

The following additional PDPs will be worked on during the early works period:

1. Design-Build Management Plan
2. Construction Quality Management Plan
3. Project-Wide Maintenance of Traffic (MOT) Plan
4. Health / Safety & Security Plan
5. Sustainability Plan

Early Work-LANE TEAM-Scope Validation Period

The Scope Validation Period is the 120-day period that begins with receipt of LNTP. During this period, the Lane Team will thoroughly review and evaluate all the Project NEXT Contract Documents to verify and validate our proposed design concept and we will identify any defects, errors, or inconsistencies in the RFP documents that affect the Lane Team's ability to complete the Project within the proposed Contract Price and Schedule.

During the scope validation period, the Lane Team will prioritize areas of particular interest to ensure maximum attention is given to items that could affect the schedule adversely.

Early Design Activities

1. Initial Geotechnical Investigations: Develop the Geotechnical Exploration Plan and Access Plan start field investigations.
2. Design Survey
3. ROW Acquisition: Performed ROW workshops to evaluate and determine impacts to ROW and require additional fee take and begin the Limited Access Line Changes necessary. All design components are part internal design coordination and will prepare ROE letters.
4. Environmental Investigation-Wetland Delineations, Tree Survey, Threatened and Endangered Species Coordination
5. Permitting: Nationwide Permit for Geotechnical Borings, Special Use permits, VPDES Permit
6. Roadway Advance Work Packages (AWP): Early MOT, ITS, ROW and Shoulder Strengthening Plan Development
7. Structure AWP: Initiate Preliminary structure plans for Old Dominion, Scotts Run NB and SB, Georgetown Pike, 495 NB and Retaining Walls 04, 08-1, 11, 18, 28,29,30,30A.
8. Begin drafting the design exceptions and design waivers for review. This work will be part of the FI/ROW roadway design package that begins in the early works period.
9. Design Kickoff meeting will be held with the Lane Team, Transurban and invites will be forwarded to VDOT and Third parties as needed. Agenda for the kickoff meeting at a minimum will provide the roles, responsibilities, organizational chart, project set up, project access, document control, and schedule discussions.

Early Pre-Construction Activities

1. Procurement of office lease agreement and the physical set-up of the project office, utility setup, etc.
2. Continued project staffing
3. Support Scope Validation
4. Utility Investigations
5. Development and submission of Baseline Schedule

Conclusion

This Early Works Fragnet shows the Lane Team's commitment to the project and intention to accelerate the design effort during the Early Works period to optimize the construction schedule and gain a rapid start once NTP is issued.

Attached to this Exhibit are the Early Works activities schedule and associated costs.

Early Works Schedule of Values

Activity ID	Activity Name	OD	Start	Finish	Budgeted Revenue
3461-001 EARLY WORKS		188	Jun-08-21	Feb-24-22	\$10,000,000.00
Project: 3461 - EW 495 Express Lane Northern Extension (NEXT) Early Works Schedule		188	Jun-08-21	Feb-24-22	\$10,000,000.00
WBS: 3461 - EW.4 Early Works		158	Jun-08-21	Jan-13-22	\$3,575,837.48
WBS: 3461 - EW.4.6 Scope Validation Period		86	Aug-25-21	Dec-22-21	\$725,837.48
SV-1000	Perform Scope Validation Investigations	120	Aug-25-21	Dec-22-21	\$600,000.00
SV-1010	Prepare & Submit Scope Validation General Notice (If Required)	10	Nov-22-21	Dec-01-21	\$40,837.48
SV-1020	Prepare & Submit Scope Validation Documentation (If Required)	21	Dec-02-21	Dec-22-21	\$85,000.00
WBS: 3461 - EW.4.4.1 Project Development Plans		83	Jul-01-21	Oct-25-21	\$1,430,000.00
WBS: 3461 - EW.4.4.1.1 Design-Builder Management Plan		74	Jul-01-21	Oct-12-21	\$110,000.00
PDP-1000	Prepare & Submit - Design-Builder Management Plan	50	Jul-01-21	Sep-10-21	\$100,000.00
PDP-1020	Lane Issues Approved - Design-Builder Management Plan	1	Oct-12-21	Oct-12-21	\$10,000.00
WBS: 3461 - EW.4.4.1.2 Document Management Plan		78	Jul-01-21	Oct-18-21	\$110,000.00
PDD-1500	Prepare & Submit - Document Management Plan	55	Jul-01-21	Sep-17-21	\$100,000.00
PDD-1520	Lane Issues Approved - Document Management Plan	1	Oct-18-21	Oct-18-21	\$10,000.00
WBS: 3461 - EW.4.4.1.3 Quality Management Systems Plan		74	Jul-01-21	Oct-12-21	\$110,000.00
PDD-2000	Prepare & Submit - Quality Management Systems Plan	50	Jul-01-21	Sep-10-21	\$100,000.00
PDD-2020	Lane Issues Approved - Quality Management Systems Plan	1	Oct-12-21	Oct-12-21	\$10,000.00
WBS: 3461 - EW.4.4.1.4 Design Quality Management Plan		62	Jul-01-21	Sep-24-21	\$110,000.00
PDP-2500	Prepare & Submit - Design Quality Management Plan	40	Jul-01-21	Aug-26-21	\$100,000.00
PDP-2520	Lane Issues Approved - Design Quality Management Plan	1	Sep-24-21	Sep-24-21	\$10,000.00
WBS: 3461 - EW.4.4.1.5 Communications / Outreach & Community Engagement Plan (Communications Plan)		78	Jul-01-21	Oct-18-21	\$110,000.00
PDP-3000	Prepare & Submit - Communications / Outreach & Community Engagement Plan (Communications Plan)	55	Jul-01-21	Sep-17-21	\$100,000.00
PDP-3020	Lane Issues Approved - Communications / Outreach & Community Engagement Plan (Communications Plan)	1	Oct-18-21	Oct-18-21	\$10,000.00
WBS: 3461 - EW.4.4.1.6 DBE / SWaM & Workforce Development Plan		74	Jul-01-21	Oct-12-21	\$110,000.00
PDP-3500	Prepare & Submit - DBE / SWaM & Workforce Development Plan	50	Jul-01-21	Sep-10-21	\$100,000.00
PDP-3520	Lane Issues Approved - DBE / SWaM & Workforce Development Plan	1	Oct-12-21	Oct-12-21	\$10,000.00
WBS: 3461 - EW.4.4.1.7 ROW Acquisition & Relocation Plan		74	Jul-01-21	Oct-12-21	\$110,000.00
PDP-4000	Prepare & Submit - ROW Acquisition & Relocation Plan	50	Jul-01-21	Sep-10-21	\$100,000.00
PDP-4020	Lane Issues Approved - ROW Acquisition & Relocation Plan	1	Oct-12-21	Oct-12-21	\$10,000.00
WBS: 3461 - EW.4.4.1.8 Utilities Plan		78	Jul-01-21	Oct-18-21	\$110,000.00
PDP-4500	Prepare & Submit - Utilities Plan	55	Jul-01-21	Sep-17-21	\$100,000.00
PDP-4520	Lane Issues Approved - Utilities Plan	1	Oct-18-21	Oct-18-21	\$10,000.00
WBS: 3461 - EW.4.4.1.9 Construction Quality Management Plan		83	Jul-01-21	Oct-25-21	\$110,000.00
PDP-5000	Prepare & Submit - Construction Quality Management Plan	60	Jul-01-21	Sep-24-21	\$100,000.00
PDP-5020	Lane Issues Approved - Construction Quality Management Plan	1	Oct-25-21	Oct-25-21	\$10,000.00
WBS: 3461 - EW.4.4.1.10 Project-Wide Maintenance of Traffic (MOT) Plan		83	Jul-01-21	Oct-25-21	\$110,000.00
PDD-5500	Prepare & Submit - Project-Wide Maintenance of Traffic (MOT) Plan	60	Jul-01-21	Sep-24-21	\$100,000.00
PDD-5520	Lane Issues Approved - Project-Wide Maintenance of Traffic (MOT) Plan	1	Oct-25-21	Oct-25-21	\$10,000.00
WBS: 3461 - EW.4.4.1.11 Environmental Management Plan		74	Jul-01-21	Oct-12-21	\$110,000.00
PDP-6000	Prepare & Submit - Environmental Management Plan	50	Jul-01-21	Sep-10-21	\$100,000.00
PDP-6020	Lane Issues Approved - Environmental Management Plan	1	Oct-12-21	Oct-12-21	\$10,000.00
WBS: 3461 - EW.4.4.1.12 Health / Safety & Security Plan		62	Jul-01-21	Sep-24-21	\$110,000.00
PDP-6500	Prepare & Submit - Health / Safety & Security Plan	40	Jul-01-21	Aug-26-21	\$100,000.00
PDP-6520	Lane Issues Approved - Health / Safety & Security Plan	1	Sep-24-21	Sep-24-21	\$10,000.00
WBS: 3461 - EW.4.4.1.13 Sustainability Plan		74	Jul-01-21	Oct-12-21	\$110,000.00
PDD-7000	Prepare & Submit - Sustainability Plan	50	Jul-01-21	Sep-10-21	\$100,000.00
PDD-7020	Lane Issues Approved - Sustainability Plan	1	Oct-12-21	Oct-12-21	\$10,000.00
WBS: 3461 - EW.4.1 Submittal Register		82	Jun-08-21	Sep-29-21	\$95,000.00
SUBR-1000	Prepare & Submit - Submittal Register for Review & Approval	55	Jun-08-21	Aug-24-21	\$60,000.00
SUBR-1020	Design Kickoff Meeting	1	Sep-22-21	Sep-22-21	\$15,000.00
SUBR-1030	Lane Incorporate CBE Review Comments Issues - Submittal Register	5	Sep-23-21	Sep-29-21	\$20,000.00
WBS: 3461 - EW.4.2 Baseline Schedule		102	Aug-25-21	Jan-13-22	\$465,000.00
BLS-1000	Prepare & Submit - Baseline Schedule	90	Aug-25-21	Nov-22-21	\$400,000.00
BLS-1030	Incorporate CBE Review Comments & Submit - Final Baseline Schedule	15	Dec-22-21	Jan-13-22	\$65,000.00
WBS: 3461 - EW.4.4 Environmental Permitting / Coordination - Early Works		60	Aug-18-21	Nov-09-21	\$675,000.00

Early Works Schedule of Values

Activity ID	Activity Name	OD	Start	Finish	Budgeted Revenue
ENV-1010	Discussion w/ CORPS/DEQ Regarding Early Works Conditional Permit for Fill at DTR	10	Aug-18-21	Aug-31-21	\$100,000.00
ENV-1020	Initiate Wetland Delineations (w/in ROW)	17	Aug-27-21	Sep-24-21	\$225,000.00
ENV-1030	Initiate Tree Survey (w/in ROW)	40	Aug-27-21	Nov-09-21	\$200,000.00
ENV-1000	Obtain Nationwide 6 / VPDES Permit for Geotech Borings	30	Sep-01-21	Sep-30-21	\$150,000.00
WBS: 3461 - EW.4.5 Coordination with MWAA					
MWAA-1000	Early MWAA Coordination Regarding Design Revisions at DTR	40	Jul-01-21	Aug-26-21	\$125,000.00
WBS: 3461 - EW.4.7 Early Works Roadway Design					
EWRDW-1000	Develop E&S/SWM for GEP (If Required for Permits)	40	Jun-29-21	Aug-24-21	\$25,000.00
EWRDW-1010	Prepare Live Oak Dr Design at Pump Station	40	Jul-01-21	Aug-26-21	\$25,000.00
EWRDW-1020	Meeting w/ CBE to Discuss Live Oak Dr Design at Pump Station	1	Aug-27-21	Aug-27-21	\$10,000.00
WBS: 3461 - EW.8 Project Management / Admin					
WBS: 3461 - EW.8.3 General Conditions & Project Management					
PM-1000	Project Management for Early Works	98	Aug-25-21	Nov-30-21	\$744,162.52
WBS: 3461 - EW.495 Next - Design Activities					
WBS: 3461 - EW.495 Next -.4.2 Geotechnical					
WBS: 3461 - EW.495 Next -.4.2.4.2.1 Initial Geotechnical Investigation (For Scope Validation & Bridge Foundations)					
GEO-1000	Develop & Submit Geotechnical Exploration Plan & Access Plan (GEP)	15	Jun-08-21	Jun-28-21	\$100,000.00
GEO-1010	Obtain Permits (LD 445i) for GEP	30	Jun-29-21	Aug-10-21	\$125,000.00
GEO-1030	Incorporate CBE Review Comments & Resubmit - GEP	5	Jul-27-21	Aug-02-21	\$25,000.00
GEO-1050	Initial Geotechnical Field Investigations	40	Sep-02-21	Nov-01-21	\$400,000.00
WBS: 3461 - EW.495 Next -.4.2.4.2.2 Supplemental Geotechnical Investigation					
GEO-2000	Develop Geotechnical Exploration Plan - Supplemental Geotechnical Investigation	40	Jun-29-21	Aug-24-21	\$10,000.00
GEO-2020	Field Investigations - Supplemental Geotechnical Investigation	40	Oct-29-21	Dec-29-21	\$300,000.00
WBS: 3461 - EW.495 Next -.4.3 Survey					
SURV-1000	Initiate Right of Entry Notification Letters	40	Jul-01-21	Aug-26-21	\$115,000.00
SURV-1010	Establish Project Control (w/in ROW)	10	Aug-27-21	Sep-10-21	\$150,000.00
SURV-1040	Field Verifications & Updates Outside of Right of Way	30	Aug-27-21	Oct-08-21	\$125,000.00
SURV-1030	Field Verifications & Updates in Right of Way	30	Sep-13-21	Oct-25-21	\$150,000.00
SURV-1050	Utility Designations in Right of Way	75	Sep-13-21	Jan-03-22	\$310,000.00
SURV-1020	Utility Designations Outside of Right of Way	10	Sep-13-21	Sep-24-21	\$100,000.00
WBS: 3461 - EW.495 Next -.1 Advanced Work Packages					
WBS: 3461 - EW.495 Next -.1.4.5.1 AWP 1 - Early MOT Plan, Clearing & Demolition (Areas Outside of JPA), SWM/ESC Conc					
DES160	Prepare AWP 1 Plans - Early MOT / Clearing & Demo / SWM/ESC Concept	30	Aug-25-21	Oct-06-21	\$125,000.00
DES310	QA/QC AWP 1Plans - Early MOT / Clearing & Demo / SWM/ESC Concept	10	Oct-07-21	Oct-21-21	\$40,000.00
WBS: 3461 - EW.495 Next -.1.4.5.2 AWP 2 - Early ITS Plan					
DES10	Prepare AWP Plans - Early ITS Plans	30	Aug-25-21	Oct-06-21	\$125,000.00
DES370	QA/QC Plans - Early ITS Plans	10	Oct-07-21	Oct-21-21	\$40,000.00
WBS: 3461 - EW.495 Next -.1.4.5.3 AWP 3 - Shoulder Strengthening					
DES170	Prepare AWP - Shoulder Strengthening Plans	15	Sep-27-21	Oct-18-21	\$70,000.00
DES250	QA/QC Plans - Shoulder Strengthening Plans	10	Oct-19-21	Nov-01-21	\$40,000.00
WBS: 3461 - EW.495 Next -.4.5 Roadway Design					
WBS: 3461 - EW.495 Next -.4.5.4.5.4 FI / ROW Plans					
DES180	Prepare AWP - FI/ROW Plans	90	Sep-27-21	Feb-08-22	\$375,000.00
WBS: 3461 - EW.495 Next -.4.6 Structures Design					
WBS: 3461 - EW.495 Next -.4.6.4.6.9 Ramp E1 Over DTR WB & 495 NB + RW01					
DES2670	Prepare Preliminary Plans (Stage I) - Ramp E1 Over DTR WB & 495NB+ RW01	30	Oct-08-21	Nov-22-21	\$150,000.00
WBS: 3461 - EW.495 Next -.4.6.4.6.2 495 NB + RW29, RW30, RW30A					
DES30	Prepare Preliminary Plans (Stage I) - 495 NB + RW29 / RW30 / RW30A	30	Aug-25-21	Oct-06-21	\$150,000.00
WBS: 3461 - EW.495 Next -.4.6.4.6.1 Old Dominion Drive + RW11					
DES20	Prepare Preliminary Plans (Stage I) - Old Dominion Dr + RW11	30	Aug-25-21	Oct-06-21	\$150,000.00
DES430	Submit Preliminary Plans for Review (Stage I) - Old Dominion Dr + RW11	1	Oct-07-21	Oct-07-21	\$10,000.00
DES610	Incorporate CBE Comments Preliminary Plans for Review (Stage I) - Old Dominion Dr + RW11	10	Nov-05-21	Nov-19-21	\$40,000.00
DES760	CBE Approves Preliminary Bridge Plans (Stage I) - Old Dominion Dr + RW11	15	Nov-22-21	Dec-14-21	\$60,000.00
WBS: 3461 - EW.495 Next -.4.6.4.6.3 Georgetown Pike + RW8-1, RW18					
DES40	Prepare Preliminary Plans (Stage I) - Georgetown Pike + RW8-1 & RW18	30	Aug-25-21	Oct-06-21	\$150,000.00

Early Works Schedule of Values

Activity ID	Activity Name	OD	Start	Finish	Budgeted Revenue
WBS: 3461 - EW.495 Next -.4.6.4.6.4 Scott's Run 495 NB + RW04		32	Oct-07-21	Nov-19-21	\$125,000.00
DES390	Prepare Preliminary Plans (Stage I) - Scott's Run 495NB + RW04	30	Oct-07-21	Nov-19-21	\$125,000.00
WBS: 3461 - EW.495 Next -.4.6.4.6.5 Scott's Run 495 SB + RW28		32	Oct-07-21	Nov-19-21	\$150,000.00
DES400	Prepare Preliminary Plans (Stage I) - Scott's Run 495SB + RW28	30	Oct-07-21	Nov-19-21	\$150,000.00
WBS: 3461 - EW.495 Next -.4.6.4.6.13 GW Parkway Repair		32	Oct-08-21	Nov-22-21	\$125,000.00
DES2680	Prepare Preliminary Plans - GW Parkway Repair	30	Oct-08-21	Nov-22-21	\$125,000.00
WBS: 3461 - EW.495 Next -.4.12 Right of Way Acquisition		64	Sep-27-21	Dec-23-21	\$375,000.00
DES260	ROW Workshop	30	Oct-13-21	Nov-24-21	\$125,000.00
WBS: 3461 - EW.495 Next -.4.12.4.12.2 Limited Access Line Change Request		64	Sep-27-21	Dec-23-21	\$250,000.00
DES190	Establish Limited Access Line Changes - Limited Access Line Change Request	60	Sep-27-21	Dec-23-21	\$250,000.00
WBS: 3461 - EW.495 Next -.4.4 Environmental		132	Aug-25-21	Feb-24-22	\$1,470,000.00
WBS: 3461 - EW.495 Next -.4.4.4.4.1 Environmental Investigations		109	Sep-27-21	Feb-24-22	\$950,000.00
DES140	Wetland Delineations	30	Sep-27-21	Nov-09-21	\$150,000.00
DES320	Tree Survey	20	Oct-13-21	Nov-10-21	\$85,000.00
DES330	Threatened and Endangered Species Coordination	25	Oct-13-21	Nov-17-21	\$100,000.00
DES340	CZMA	90	Oct-13-21	Feb-24-22	\$375,000.00
DES470	Hazardous Materials - Phase I ESA	20	Dec-01-21	Dec-29-21	\$80,000.00
DES490	Cultural Resources	20	Dec-01-21	Dec-29-21	\$80,000.00
DES500	4(f) & 6(f) Compliance	20	Dec-01-21	Dec-29-21	\$80,000.00
WBS: 3461 - EW.495 Next -.4.4.4.4.2 Permitting		123	Aug-25-21	Feb-11-22	\$520,000.00
DES150	Nationwide 6 for Geotech Borings	45	Aug-25-21	Oct-28-21	\$185,000.00
DES350	Special Use Permits (FCPA & NPS)	82	Oct-13-21	Feb-11-22	\$335,000.00

EXHIBIT 5.2.1**REQUIREMENTS FOR SERVICE COMMENCEMENT**

Design-Builder will achieve Service Commencement when the conditions set forth in this Exhibit 5.2.1 have been satisfied (or Concessionaire, in its sole discretion, waives any such condition) and Concessionaire has delivered notice to that effect to Design-Builder in the form of the Service Commencement Certificate.

1. Design-Builder has provided a full and complete Notice of Service Commencement in accordance with the requirements in Section 5.2.1 of Part 3 (NEXT Design-Build Contract) and this Exhibit 5.2.1. Any such Notices shall include evidence that: a) all Design Documentation and Construction Documentation has been approved by Concessionaire, b) all Work necessary for Service Commencement is complete or will be completed by the date(s) specified in the Notice, and c) that the conditions set forth in Subsections 2(a)–2(n) below have been achieved or will be achieved by the date(s) specified in the Notice. Any Work remaining at the time any such Notice is provided shall be specifically identified by type and location. Each Notice shall also include Design-Builder’s proposed Punch List for items to be completed following Service Commencement but prior to Final Completion.
2. Design-Builder has demonstrated and certified to Concessionaire in writing that the conditions set forth in subsections below meet the requirements of the Contract Documents and have been satisfied for the NEXT Work as of the date of Design-Builder’s final Notice of Service Commencement issued pursuant to Section 5.2.1 of Part 3 (NEXT Design-Build Contract).
 - a. Design-Builder has completed the NEXT Work in accordance with the NEXT Contract Documents, Design Documentation and Construction Documentation, such that the Project NEXT Work is in a physical condition that it can be used for normal and safe vehicular travel in all lanes and at all points of entry and exit, subject only to Punch List items;
 - b. Design-Builder has received approval from Concessionaire for all Project NEXT Development Plans, Design Documentation and Construction Documentation all other Project NEXT Development Plans required by the Contract Documents to be submitted on or before the Service Commencement Date;
 - c. all lanes of traffic (including ramps, interchanges, overpasses, underpasses, and other crossings) have been provided in accordance with Part 2 (NEXT Technical Requirements) and as set forth in the Design Documentation and Construction Documentation are in their final configuration and ready to be open to traffic;
 - d. all major safety features including, as required, shoulders, guard rails, striping and delineations, concrete traffic barriers, bridge railings, cable safety systems, metal beam guard fences, safety end treatments, terminal anchor sections and crash attenuators are

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- installed and functional in accordance with Part 2 (NEXT Technical Requirements) and as set forth in the Design Documentation and Construction Documentation;
- e. all required illumination for normal and safe use and operation is installed and functional in accordance with Part 2 (NEXT Technical Requirements) and as set forth in the Design Documentation and Construction Documentation;
 - f. all required signs and signals for normal and safe use and operation are installed and functional in accordance with Part 2 (NEXT Technical Requirements) and as set forth in the Design Documentation and Construction Documentation;
 - g. the Traffic Management System equipment and safety features for TMS components are installed and functional in accordance with Part 2 (NEXT Technical Requirements) and as set forth in the Design Documentation and Construction Documentation;
 - h. the Design-Builder has completed the TMS commissioning process described in Part 2 (NEXT Technical Requirements), and the TMS system is fully functional and ready for normal operations, having passed all demonstration and performance testing in accordance with the Design Documentation, Construction Documentation, and Part 2 (NEXT Technical Requirements) requirements;
 - i. the need for temporary traffic controls or for lane closures at any time has ceased (except for any then required for routine maintenance, and except for temporary lane closures in accordance with and as permitted by a Concessionaire approved traffic management plan solely in order to complete Punch List items);
 - j. Design-Builder has provided to Concessionaire the training required to have been provided prior to Service Commencement as required by Part 2 (NEXT Technical Requirements);
 - k. Design-Builder has received and delivered to Concessionaire copies of all Governmental Approvals necessary to construct and operate Project NEXT and has satisfied all conditions and requirements thereof which must be satisfied before Project NEXT can be lawfully opened for regular public use; that all such Governmental Approvals remain in full force and effect, and there exists no uncured material violation of the terms and conditions of any such Governmental Approval;
 - l. Any agreements between Design-Builder and third parties necessary to construct and operate Project NEXT have been delivered to Concessionaire and remain in full force and effect, or have been terminated pursuant to the terms of the respective agreements;
 - m. Design-Builder has paid or caused to be paid to Concessionaire all amounts due and payable from Design-Builder to Concessionaire, including, but not limited to, lane closure penalties, in connection with this NEXT Design-Build Contract, including any applicable interest thereon (except such amounts subject to dispute in accordance with the dispute resolution procedures);

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- n. The parties will disregard the status of the landscaping and aesthetic features included in the Construction Documentation in determining whether Service Commencement has occurred, except to the extent that its later completion will affect public safety.
3. Concessionaire's determination that Design-Builder has satisfied the conditions precedent for achieving Service Commencement and issuance of the Service Commencement Certificate will be subject in all respects to compliance with the submittal and review procedures set forth in the Contract Documents.
4. Concessionaire's issuance of the Service Commencement Certificate will not constitute a waiver by Concessionaire of any then-existing breach of this NEXT Design-Build Contract by Design-Builder.
5. Service Commencement for Design-Builder will be achieved when Concessionaire determines based on Design-Builder's Notice(s) of Service Commencement and associated supporting documentation and Concessionaire's verification thereof, including VDOT approval, that the necessary conditions precedent have been satisfied. Concessionaire will then issue the Service Commencement Certificate and the date of the Service Commencement Certificate shall be the Service Commencement Date. Concessionaire will provide with its Service Commencement Certificate a list of any conditions associated with such approval (if required) and a Punch List of items to be completed to achieve Final Completion.

EXHIBIT 5.2.2**REQUIREMENTS FOR FINAL COMPLETION**

Design-Builder will achieve Final Completion when the conditions set forth in this Exhibit 5.2.2 have been satisfied (or Concessionaire, in its sole discretion, waives any such condition) and Concessionaire has delivered notice to that effect to Design-Builder in the form of the Final Completion Certificate.

1. Design-Builder has provided a full and complete Notices of Final Completion in accordance with the requirements in Section 5.2.2 of Part 3 (NEXT Design-Build Contract) and this Exhibit 5.2.2. Any such Notice shall include evidence that the conditions set forth in Subsections 2(a)–2(h) below have been achieved or will be achieved by the date(s) specified in the Notice. Any Work remaining at the time any such Notice is provided shall be specifically identified by type and location.
2. Design-Builder has demonstrated and certified to Concessionaire in writing that the conditions set forth in subsections below meet the requirements of the Contract Documents and have been satisfied for the NEXT Work as of the date of Design-Builder’s final Notice of Final Completion issued pursuant to Section 5.2.2 of Part 3 (NEXT Design-Build Contract).
 - a. all the NEXT Work is complete;
 - b. all Punch List items related to the NEXT Work, including those identified in the Service Commencement Certificate issued by Concessionaire and any additional items subsequently added to the Punch List, have been completed and delivered to the satisfaction of Concessionaire;
 - c. all Design Documentation and Construction Documentation, including correct and complete copies of all as-built drawings, have been submitted by Design-Builder and accepted or approved (to the extent approval is required) by Concessionaire;
 - d. all work that Design-Builder is obligated to perform for or on behalf of third parties has been accepted by such third parties;
 - e. Design-Builder has delivered all required certifications from the Engineer of Record (or Architect of Record) to Concessionaire and all necessary Governmental Authorities; and
 - f. Design-Builder has made all deliveries of all NEXT Work Product to Concessionaire required pursuant to the NEXT Contract Documents.
 - g. Design-Builder has paid for all NEXT Work and required to achieve Final Completion

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by third parties that Design-Builder is obligated to pay (other than disputed amounts and amounts that are not yet due and payable); and

- h. the NEXT Work is free and clear of all Liens, claims, security interests or encumbrances arising out of or in connection with the performance of the NEXT Work during the Construction Period;
3. Concessionaire's determination that Design-Builder has satisfied the conditions precedent for achieving Final Completion and issuance of the Final Completion Certificate will be subject in all respects to compliance with the submittal and review procedures set forth in the Contract Documents.
4. Concessionaire's issuance of the Final Completion Certificate will not constitute a waiver by Concessionaire of any then-existing breach of this NEXT Design-Build Contract by Design-Builder.
5. Final Completion for Design-Builder will be achieved when Concessionaire determines based on Design-Builder's Notice(s) of Final Completion and associated supporting documentation and Concessionaire's verification thereof, including VDOT approval, that the necessary conditions precedent have been satisfied. Concessionaire will then issue the Final Completion Certificate and the date of the Final Completion Certificate shall be the Final Completion Date.

EXHIBIT 5.2.3

RELEASE OF ALL CLAIMS FOR EARLY SERVICE COMMENCEMENT

_____ (“Design-Builder”), Design-Builder for the NEXT Design-Build Contract, hereby certifies that:

1. Upon receipt of the amount of \$_____, which represents the No Excuses Incentive Payment for early Service Commencement, Design-Builder does hereby waive, release and relinquish all rights it may have to establish or assert any cause of action, suit, claims, or demands of whatsoever kind or nature, in law or equity, whether known or unknown, which Design-Builder or any Subcontractor, Sub-Subcontractor or Design Consultant ever had, now has or ever will have against the Concessionaire by virtue of Work performed and/or furnished in connection with Service Commencement.

2. Capitalized terms used herein but not defined shall have the meaning set forth in the Contract Documents.

Design-Builder acknowledges under the above terms that this Release of All Claims has been fully and carefully reviewed and that all the terms and provisions contained herein are understood and agreeable.

I/we am/are authorized to execute this Release of All Claims on behalf of _____ [**full company name**], this ___ day of _____, _____.

By: _____

Title: _____

State of _____

City/County of _____, To Wit

I, the undersigned, a Notary Public in and for the City\County and State aforesaid, do hereby certify that _____, whose name is signed to the foregoing instrument, bearing date of the ___ day of _____, ___ has this day acknowledged the same before me in my City\County and State aforesaid on behalf of [**full company name**].

Given under my hand this ___ day of _____, _____.

Notary Public

My commission expires _____

EXHIBIT 11.3
FEDERAL REQUIREMENTS

<u>Exhibit Description</u>	<u>No. of Pages</u>
Attachment 1 – Federal Requirements for Federal-Aid Construction Projects	3
Attachment 2 – FHWA Form 1273 (May 2012)	25
Attachment 3 – Federal Prevailing Wage Rates	6
Attachment 4 – Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)	8
Attachment 5 – Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)	1
Attachment 6 – Certification Regarding Use of Contract Funds for Lobbying	1
Attachment 7 – Compliance with Buy America Requirements	2
Attachment 8 – Special Provision for Use of Domestic Metal	3
Attachment 9 – Certification of Non-Discrimination in Employment	1
Attachment 10 – On-the Job Training Program for Federal-Aid Highway Construction Projects	3

ATTACHMENT 1**FEDERAL REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION PROJECTS**

GENERAL. — The Work herein proposed will be financed in whole or in part with Federal funds, and therefore all of the statutes, rules and regulations promulgated by the Federal Government and applicable to the Work as a result of the Project being financed in whole or part with Federal funds will apply to such Work. The "Required Contract Provisions, Federal-Aid Construction Contracts, Form FHWA 1273," are included in this Exhibit 11.3. Whenever in said required contract provisions references are made to:

- a. "contracting officer", or "authorized representative", such references shall be construed to mean the Department or its Authorized Representative;
- b. "contractor" or "Contractor", "prime contractor", "bidder", "Federal-aid construction contractor", "prospective first tier participant or First Tier Participant", such references shall be construed to mean the Concessionaire or its authorized representative and/or the Design-Build Contractor or its authorized representative, as may be appropriate under the circumstances;
- c. "contract" or "Contract" or "prime contract", "Federal-aid construction contract" or "design-build contract", such references shall be construed to mean the Design-Build Contract;
- d. "subcontractor" or "Subcontractor", "supplier", "vendor", "prospective lower tier participant", lower tier prospective participant, "Lower Tier participant" or "lower tier subcontractor", such references shall be construed to mean, as appropriate, any Contractors other than the Design-Build Contractor; and
- e. "department", "agency" or "department or agency with which this transaction originated" or "contracting agency", such references shall be construed to mean the Department, except where a different department or agency or officer is specified.

PERFORMANCE OF PREVIOUS CONTRACT. — In addition to the provisions in Section II, "Nondiscrimination," and Section VI, "Subletting or Assigning the Contract," of the Form 1273 required contract provisions, the Concessionaire shall comply with the following:

The bidder shall execute the CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS located in the proposal. No request for subletting or assigning any portion of the contract in excess of \$10,000 will be considered under the provisions of Section VI of the required contract provisions unless such request is accompanied by the CERTIFICATION referred to above, executed by the proposed subcontractor.

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NON-COLLUSION PROVISION. — The provisions in this section are applicable to all contracts except contracts for Federal Aid Secondary Projects. Title 23, United States Code, Section 112, requires as a condition precedent to approval by the Federal Highway Administrator of the contract for this work that each bidder file a sworn statement executed by, or on behalf of, the person, firm, association, or corporation to whom such contract is to be awarded, certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the submitted bid. A form to make the non-collusion affidavit statement required by Section 112 as a certification under penalty of perjury rather than as a sworn statement as permitted by 28 U.S.C., Sec. 1746, is included in the Proposal.

PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES IN SUBCONTRACTING. — Part 26, Title 49, Code of Federal Regulations applies to the Project. Pertinent sections of said Code are incorporated within other sections of the Contract and the Department Disadvantaged Business Enterprise Program adopted pursuant to 49 CFR Part 26.

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 project 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 project for use in Federal aid highway construction during the 12 month period ending July 1, 1987.

ACCESS TO RECORDS

- a. As required by 49 CFR 18.36(i)(10), the Concessionaire and its Contractors shall allow FHWA and the Comptroller General of the United States, or their duly authorized representatives, access to all books, documents, papers, and records of the Concessionaire and Contractors or Subcontractors which are directly pertinent to any grantee or subgrantee contract, for the purpose of making audit, examination, excerpts, and transcriptions thereof. In addition, as required by 49 CFR 18.36(i)(11), the Concessionaire and its Contractors shall retain all such books, documents, papers, and records for three years after final payment is made pursuant to any such contract and all other pending matters are closed.
- b. The Concessionaire agrees to include this section in each Contract at each tier, without modification except as appropriate to identify the Contractor who will be subject to its provisions.

SUBCONTRACTING

- a. Any distribution of work shall be evidenced by a written binding agreement on file at the project site. Where no field office exists, such agreement shall be readily available upon request to Department inspector(s) assigned to the project.
- b. The provisions contained in Form FHWA-1273 specifically, and other federal provisions included with the prime Contract are generally applicable to all Federal-aid construction projects and must be made a part of, and physically incorporated in all contracts as well as appropriate subcontracts for work so as to be binding in those agreements.

ATTACHMENT 2
REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

FHWA FORM 1273

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-Segregated 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. Certification Regarding Suspension, Debarment, Ineligibility and Voluntary Exclusion
- 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)

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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-Build Contractor 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

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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."

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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

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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.

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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.

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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 CF26.13(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.

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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. NON-SEGREGATED 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

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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
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

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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

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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;

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- (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

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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

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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

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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.

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- 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)

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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."

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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

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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

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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.

* * * * *

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

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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

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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

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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

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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.

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ATTACHMENT 3

FEDERAL PREVAILING WAGE RATES

"General Decision Number: VA20200116 09/04/2020

Superseded General Decision Number: VA20190116

State: Virginia

Construction Type: Highway

Counties: Fairfax, Fairfax* and Falls Church* Counties in Virginia.

*including the independent cities of Falls Church and Fairfax

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any 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 \$10.80 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 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020
1	02/07/2020
2	09/04/2020

ELEC0080-011 06/01/2019

Rates

Fringes

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ELECTRICIAN, Includes Traffic
Signalization.....\$ 28.35 3%+19.95

* LABO0011-011 09/01/2020

	Rates	Fringes
LABORER: Common or General.....	\$ 20.41	7.69

* LABO0011-012 09/01/2020

	Rates	Fringes
LABORER		
Asphalt Raker.....	\$ 21.51	7.69
Asphalt Shoveler.....	\$ 20.59	7.69

* PLAS0891-011 06/01/2020

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 20.70	8.03

SUVA2016-052 07/02/2018

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 20.97	0.00
FENCE ERECTOR.....	\$ 15.28	0.00
IRONWORKER, REINFORCING.....	\$ 34.18	0.00
IRONWORKER, STRUCTURAL.....	\$ 34.18	0.00
LABORER: Grade Checker.....	\$ 14.88	0.00
LABORER: Pipelayer.....	\$ 20.48	0.00
LABORER: Power Tool Operator....	\$ 15.69	0.00
OPERATOR:		
Backhoe/Excavator/Trackhoe.....	\$ 23.93	0.00
OPERATOR: Bobcat/Skid		
Steer/Skid Loader.....	\$ 19.00	3.49
OPERATOR: Broom/Sweeper.....	\$ 17.40	2.01
OPERATOR: Crane.....	\$ 29.46	0.00
OPERATOR: Drill.....	\$ 24.89	0.00
OPERATOR: Gradall.....	\$ 19.26	0.00

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OPERATOR: Grader/Blade.....	\$ 23.21	0.00
OPERATOR: Hydroseeder.....	\$ 16.64	0.00
OPERATOR: Loader.....	\$ 18.92	0.00
OPERATOR: Mechanic.....	\$ 22.84	0.00
OPERATOR: Milling Machine.....	\$ 23.19	2.94
OPERATOR: PAVEMENT PLANER GROUNDSMEN.....	\$ 19.75	0.00
OPERATOR: PAVEMENT PLANER.....	\$ 21.14	0.00
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 21.39	2.98
OPERATOR: Piledriver.....	\$ 21.83	4.08
OPERATOR: Roller (Finishing)....	\$ 18.73	3.23
OPERATOR: Roller.....	\$ 18.92	0.00
OPERATOR: Screed.....	\$ 22.13	4.89
OPERATOR: Asphalt Spreader and Distributor.....	\$ 20.50	2.16
OPERATOR: Bulldozer, Including Utility.....	\$ 20.64	0.00
PAVEMENT MARKING OPERATOR.....	\$ 22.15	0.00
PAVEMENT MARKING TRUCK DRIVER....	\$ 18.78	0.00
TRAFFIC CONTROL: Flagger.....	\$ 13.64	0.00
TRUCK DRIVER : HEAVY 7CY & UNDER.....	\$ 15.53	0.00
TRUCK DRIVER: Fuel and Lubricant Service.....	\$ 18.25	0.00
TRUCK DRIVER: HEAVY OVER 7 CY.....	\$ 18.05	0.00
TRUCK DRIVER: Single & Multi Axle.....	\$ 18.94	3.02

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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

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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

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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

ATTACHMENT 4**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)**

1. As, used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941;
 - d. "Minority" includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors and Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction Contractors performing contracts in geographical areas where they do not have a Federal or federally assisted construction contract

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shall apply the minority and female goals established for the geographical area where the contract is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or any Federal procurement contracting officer. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off the street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union, or if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing

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- it in the company newspaper, annual report. etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc. prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed and disposition of the subject matter.
 - h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of Contractor's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training. etc. such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are non-segregated, except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint

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contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

Nondiscrimination programs require that Federal-aid recipients, subrecipients, and contractors prevent discrimination and ensure nondiscrimination in all of their programs and activities, whether those programs and activities are federally funded or not. The factors prohibited from serving as a basis for action or inaction which discriminates include race, color, national origin, sex, age, and handicap/disability. The efforts to prevent discrimination must address, but not be limited to a program's impacts, access, benefits, participation, treatment, services, contracting opportunities, training opportunities, investigations of complaints, allocations of funds, prioritization of projects, and the functions of right-of-way, research, planning, and design.

10. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
11. The Contractor shall carry out such sanctions and penalties for violation of these specifications and the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
12. The Contractor, in fulfilling its obligations under these specifications shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director will proceed in accordance with 41 CFR 60-4.8.
13. The Contractor shall designate a responsible official to monitor all employment related activity, to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractor shall not be required to maintain separate records.
14. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

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15. In addition to the reporting requirements set forth elsewhere in this contract, the contractor and the subcontractors holding subcontracts, not including material suppliers, of \$10,000 or more, shall submit for every month of July during which work is performed, employment data as contained under Form PR 1391 (Appendix C to 23 CFR, Part 230), and in accordance with the instructions included thereon.

ATTACHMENT A

Economic Area **Goal (Percent)**

Virginia:

021 Roanoke-Lynchburg, VA	
SMSA Counties:	
4640 Lynchburg, VA	19.3
VA Amherst; VA Appomattox; VA Campbell; VA Lynchburg.	
6800 Roanoke, VA.....	10.2
VA Botetourt; VA Craig; VA Roanoke; VA Roanoke City; VA Salem	
Non-SMSA Counties	12.0
VA Alleghany; VA Augusta; VA Bath; VA Bedford; VA Bland; VA Carroll;	
VA Floyd; VA Franklin; VA Giles; VA Grayson; VA Henry; VA Highland;	
VA Montgomery; VA Nelson; VA Patrick; VA Pittsylvania; VA Pulaski;	
VA Rockbridge; VA Rockingham; VA Wythe; VA Bedford City; VA Buena Vista; VA Clifton	
Forge; VA Covington; VA Danville; VA Galax; VA Harrisonburg;	
VA Lexington; VA Martinsville; VA Radford; VA Staunton; VA Waynesboro; WV Pendleton.	

022 Richmond, VA:	
SMSA Counties:	
6140 Petersburg - Colonial Heights - Hopewell, VA	30.6
VA Dinwiddie; VA Prince George; VA Colonial Heights; VA Hopewell;	
VA Petersburg.	
6760 Richmond,	24.9
VA Charles City; VA Chesterfield; VA Goochland, VA Hanover; VA Henrico; VA New Kent;	
VA Powhatan; VA Richmond.	
Non-SMSA Counties	27.9
VA Albermarle; VA Amelia; VA Brunswick; VA Buckingham, VA Caroline;	
VA Charlotte; VA Cumberland; VA Essex; VA Fluvanna; VA Greene;	
VA Greensville; VA Halifax; VA King and Queen; VA King William;	
VA Lancaster; VA Louisa; VA Lunenburg; VA Madison; VA .Mecklenburg;	
VA Northumberland; VA Nottoway; VA Orange; VA Prince Edward;	
VA Richmond; VA Sussex; VA Charlottesville; VA Emporia; VA South Boston	

023 Norfolk - Virginia Beach - Newport News VA:	
SMSA Counties:	
5680 Newport News- Hampton, VA.....	27.1
VA Gloucester; VA James City; VA York; VA Hampton; VA Newport News;	
VA Williamsburg.	
5720 Norfolk - Virginia Beach - Portsmouth, VA - NC	26.6
NC Currituck; VA Chesapeake; VA Norfolk; VA Portsmouth; VA Suffolk;	
VA Virginia Beach.	
Non-SMSA Counties.....	29.7
NC Bertie; NC Camden; NC Chowan; NC Gates; NC Hertford;	
NC Pasquotank; NC Perquimans; VA Isle of Wight; VA Matthews;	
VA Middlesex; VA Southampton; VA Surry; VA Franklin.	

Washington, DC:

020 Washington, DC.	
SMSA Counties:	
8840 Washington, DC - MD – VA	28.0
DC District of Columbia; MD Charles; MD Montgomery MD Prince Georges;	
VA Arlington; VA Fairfax; VA Loudoun; VA Prince William	
VA Alexandria; VA Fairfax City; VA Falls Church.	

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Non- SMSA Counties 25.2
MD Calvert; MD Frederick; MD St. Marys; MD Washington; VA Clarke;
VA Culpeper; VA Fauquier; VA Frederick; VA King George; VA Page;
VA Rappahannock; VA Shenandoah; VA Spotsylvania; VA Stafford;
VA Warren; VA Westmoreland; VA Fredericksburg; VA Winchester WV Berkeley;
WV Grant; WV Hampshire; WV Hardy; WV Jefferson; WV Morgan.

Tennessee:
052 Johnson City - Kingsport - Bristol, TN – VA
SMSA Counties:
3630 Johnson City - Kingsport -Bristol, TN-VA.....2.6
TN Carter; TN Hawkins; TN Sullivan; TN Washington; VA Scott;
VA Washington; VA Bristol.

Non-SMSA Counties3.2
TN Greene; TN Johnson; VA Buchanan; VA Dickenson; VA Lee;
VA Russell; VA Smyth; VA Tazewell; VA Wise; VA Norton; WV McDowell;
WV Mercer.

ATTACHMENT 5**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. **General.** In addition to the affirmative action requirements of Attachment 4 titled “Standard Federal Equal Employment Opportunity Construction Contract Specifications” as set forth elsewhere in this Contract, the Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" set forth herein.
2. **Goals.**
 - a. The goals for female and minority participation, expressed in percentage terms of the Contractor's aggregate work force in each trade on all construction works in the covered area, are as follows:

Females - 6.9%
Minorities - See Attachment "A"
 - b. The goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area, whether or not it is Federal or federally assisted. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.
 - c. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Standard Federal Equal Employment Opportunity Construction Contract Specifications and its efforts to meet the goals. Equal Opportunity Clause, The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.
3. **Subcontracting.** The Contractor shall provide written notification to the Department within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction works under this contract. The notification shall list the name, address and telephone number of the subcontractor, employer identification number, estimated dollar amount of the subcontract, estimated starting and completion dates of the subcontract and the geographical area in which the contract is to be performed.
4. **Reports.** The Contractor is hereby notified that he may be subject to the Office of Federal Contract Compliance Programs (OFCCP) reporting and record keeping requirements as provided for under Executive Order 11246 as amended. OFCCP will provide direct notice to the contractor as to the specific reporting requirements that he will be expected to fulfill.

ATTACHMENT 6**CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

By signing and submitting its proposal or bid, and by executing the Contract or Subcontract, the prospective Design-Build Contractor and Subcontractors (at all tiers) shall be deemed to have signed and delivered the following:

1. The prospective Design-Build Contractor and Subcontractor(s) certifies, to the best of its 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, and shall include a copy of said form in its proposal or bid, or submit it with the executed Contract or Subcontract.
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 Design-Build Contractor and Subcontractor(s) 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.
4. The undersigned certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the undersigned understands and agrees that the provisions of 31 U.S.C. §3801, et seq., apply to this certification and disclosure, if any.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each expenditure or failure.]

ATTACHMENT 7**COMPLIANCE WITH BUY AMERICA REQUIREMENTS**

The Design-Build Contractor shall comply with the Federal Highway Administration (FHWA) Buy America Requirement in 23 CFR 635.410, which permits FHWA participation in the Contract only if domestic steel and iron will be used on the Project. To be considered domestic, all steel and iron used and all products manufactured from steel and iron must be produced in the United States and all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied. This requirement does not preclude a minimal use of foreign steel and iron materials, provided the cost of such materials does not exceed 0.1% of the contract price under the Contract.

Concurrently with execution of the Contract, the Design-Build Contractor has completed and submitted, or shall complete and submit, to the Department a Buy America Certificate, in format below. After submittal, the Design-Build Contractor is bound by its original certification.

A false certification is a criminal act in violation of 18 U.S.C. 1001. Should this Contract be investigated, the Design-Build Contractor has the burden of proof to establish that it is in compliance.

At the Design-Build Contractor's request, the Department may, but is not obligated to, seek a waiver of Buy America requirements if grounds for the waiver exist. However, the Design-Build Contractor certifies that it will comply with the applicable Buy America requirements if a waiver of those requirements is not available or not pursued by the Department. A request for a waiver shall be treated as a Concessionaire request for a Deviation under the Agreement.

BUY AMERICA CERTIFICATE

The undersigned certifies on behalf of itself and all proposed subcontractors (at all tiers) that only domestic steel and iron will be used in the Project.

A. The Design-Build Contractor shall comply with the Federal Highway Administration (“FHWA”) Buy America Requirements of 23 CFR 635.410, which permits FHWA participation in the Contract only if domestic steel and iron will be used on the Project. To be considered domestic, all steel and iron used and all products manufactured from steel and iron must be produced in the United States, and all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes which protect or enhance the value of the material to which the coating is applied. This requirement does not preclude a minimal use of foreign steel and iron materials, provided the cost of such materials does not exceed 0.1% of the Contract Price.

B. A false certification is a criminal act in violation of 18 U.S.C. 1001. Should this Contract be investigated, the Concessionaire has the burden of proof to establish that it is in compliance.

C. At the Design-Build Contractor’s request, the Department may, but is not obligated to, seek a waiver of Buy America requirements if grounds for the waiver exist. However, the Design-Build Contractor certifies that it will comply with the applicable Buy America requirements if a waiver of those requirements is not available or not pursued by the Department.

DESIGN-BUILD CONTRACTOR	
SIGNATURE	
NAME (Printed or Typed)	
TITLE	
DATE	

ATTACHMENT 8**S102CF2-0813**VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION**USE OF DOMESTIC MATERIAL**

July 26, 2013

SECTION 102.05 PREPARATION OF BID of the Specifications is amended to include the following:

In accordance with the provisions of Section 635.410(b) of Title 23 CFR, hereinafter referred to as "Buy America", except as otherwise specified, all iron and steel products (including miscellaneous steel items such as fasteners, nuts, bolts and washers) to be permanently incorporated for use on federal aid projects shall be produced in the United States of America regardless of the percentage they exist in the manufactured product or final form they take. Therefore, "Domestically produced in the United States of America" means all manufacturing processes must occur in the United States of America, to mean, in one of the 50 States, the District of Columbia, Puerto Rico or in the territories and possessions of the United States. Manufacturing processes are defined as any process which alters or modifies the chemical content, physical size or shape or final finish of iron or steel material) such as rolling, extruding, bending, machining, fabrication, grinding, drilling, finishing, or coating whereby a raw material or a reduced iron ore material is changed, altered or transformed into a steel or iron item or product which, because of the process, is different from the original material. For the purposes of satisfying this requirement "coating" is defined as the application of epoxy, galvanizing, painting or any other such process that protects or enhances the value of the material. Materials used in the coating process need not be domestic materials.

For the purposes herein the manufacturing process is considered complete when the resultant product is ready for use as an item in the project (e.g. fencing, posts, girders, pipe, manhole covers, etc.) or is incorporated as a component of a more complex product by means of further manufacturing. Final assembly of a product may occur outside of the United States of America provided no further manufacturing process takes place.

Raw materials such as iron ore, pig iron, processed, pelletized and reduced iron ore, waste products (including scrap, that is, steel or iron no longer useful in its present form from old automobiles, machinery, pipe, railroad rail, or the like and steel trimmings from mills or product manufacturing) and other raw materials used in the production of steel and/or iron products may, however, be imported. Extracting, handling, or crushing the raw materials which are inherent to the transporting the materials for later use in the manufacturing process are exempt from Buy America. The use of foreign source steel or iron billet is not acceptable under the provisions of Buy America. For the purposes of this provision all steel or iron material not meeting the criteria as domestically produced in the United States of America will be considered as "foreign" material. All iron and steel items will be classified hereinafter as "domestic" or "foreign", identified by and subject to the provisions herein.

Domestically produced iron or steel ingots or billets shipped outside the United States of America for any manufacturing process and returned for permanent use in a project would not comply with "Buy America" requirements.

Buy America provisions do not apply to iron or steel products used temporarily in the construction of a project such as temporary sheet piling, temporary bridges, steel scaffolding, falsework or such temporary material or product or material that remains in place for the Contractor's convenience.

Section 635.410(b) of Title 23 CFR permits a minimal amount of steel or iron material to be incorporated in the permanent work on a federal-aid contract. The cost of such materials or products

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must not exceed one-tenth of one percent of the contract amount or \$2500, whichever is greater. The cost of the foreign iron or steel material is defined as its monetary value delivered to the job site

and supported by invoices or bill of sale to the Contractor. This delivered to site cost must include transportation, assembly, installation and testing.

In the event the total cost of all "foreign" iron and steel product or material does not exceed one-tenth of one percent of the total contract cost or \$2,500, whichever is greater, the use of such material meeting the limitations herein will not be restricted by the domestic requirements herein. However, by signing the bid, the Bidder certifies that such cost does not exceed the limits established herein.

Waivers:

With prior concurrence from Federal Highway Administration (FHWA) headquarters, the Federal Highway Division Administrator may grant a waiver to specific projects provided it can be demonstrated:

1. that the use of domestic steel or iron materials would be inconsistent with the public interest; or
2. materials or products requested for use are not produced in the United States in sufficient or reasonably available quantities and are of satisfactory quality for use in the permanent work.

The waiver request shall be submitted with supportive information to include:

1. Project number\description, project cost, waiver item, item cost, country of origin for the product, reason for the waiver, and
2. Analysis of redesign of the project using alternative or approved equal domestic products

In order to grant such a waiver, the request for the waiver must be published in the Federal Register for a period not less than 15 days or greater than 60 days prior to waiving such requirement. An initial 15 day comment period to the waiver will be available to the public by means of the FHWA website: <http://www.fhwa.dot.gov/construction/contracts/waivers.cfm>. Following that initial 15day period of review and comment the request for waiver will be published by the FHWA in the Federal Register. The effective date of the FHWA finding, either to approve or deny the waiver request, will be 15 days following publication in the Federal Register.

Only the FHWA Administrator may grant nationwide waivers which still are subject to the public rulemaking and review process.

Alternative Bidding Procedures:

An alternative bidding procedure may be employed to justify the use of foreign iron and\or steel. To qualify under this procedure, the total project is bid using two alternatives, one based on the use of domestic products and the other, the use of corresponding foreign source steel and\or iron materials.

In accordance with the provisions of Section 103.02 the Contract will be awarded to the lowest responsive and responsible bidder who submits the lowest total bid based on furnishing domestic iron or steel unless such total exceeds the lowest total bid based on furnishing foreign iron and\or steel by more than 25 percent, in which case the award will be made to the lowest responsive and responsible bidder furnishing foreign iron and\or steel based upon furnishing verifiable supportive data. The bidder shall submit a bid based on permanently incorporating only domestic iron and\or steel in the construction of the project. The bidder may also submit a bid for the same proposed contract based on being allowed to permanently incorporate corresponding foreign iron and\or steel materials meeting the other contract requirements into the work on the contract. If he chooses to submit such a bid, that alternate bid shall clearly indicate which foreign iron and\or steel items will be permanently

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installed in the work as well as contain prices for all other items listed in the corresponding domestic proposal to complete a total "Foreign" bid.

In the event the contract is awarded to the bidder furnishing foreign iron and/or steel materials or items the provision for price adjustment of steel items will be permitted, however, price fluctuations shall use the U.S. index as stated in the Special Provision for Price Adjustment For Steel. The Contractor must indicate which corresponding eligible steel items he chooses price adjustment to apply. In the event the contract is awarded to a bidder furnishing foreign iron and/or steel items and during the life of that contract the Contractor discovers he cannot furnish foreign iron and/or steel material as originally anticipated and agreed upon, he shall be responsible to honor the total bid price and furnish such iron and/or steel materials meeting the contract requirements from other sources as necessary to complete the work.

In the event the Contractor proposes to furnish "foreign" iron and steel and can verify a savings in excess of 25 percent of the overall project cost if bid using domestic materials, the Contractor shall submit a second complete paper bid proposal clearly marked "Foreign" including Form C-7 and supportive data supplement on all sheets. Supportive data shall list, but not be limited to, origin of material, best price offer, quantity and complete description of material, mill analysis, evidence or certification of conformance to contract requirements, etc. The "Foreign" bid shall be completed using the best price offer for each corresponding bid item supplying foreign material in the alternative bid and submit the same with the Contractor's "Domestic" bid. The Contractor shall write the word "Foreign" by the bid total shown on Form C-7 as well as last page of Schedule of Items showing the total bid amount. The bidder shall also contact the State Contract Engineer to inform him that he is also submitting an alternate "Foreign" paper bid.

The information listed on the supportive data sheet(s) will be used to provide the basis for verification of the required cost savings. In the event comparison of the prices given, or corrected as provided in Section 103.01 of the Specifications, shows that use of "foreign" iron and steel items does not represent a cost savings exceeding the aforementioned 25 percent, "domestic" iron and/or steel and prices given there for shall be used and the "100 percent Domestic Items Total" shall be the Contractor's bid.

Certification of Compliance:

Where domestic material is supplied, prior to incorporation into the Work, the Contractor shall furnish to the Department a certificate of compliance (such as may be furnished by steel mill test reports) that all steel and/or iron products supplied to the project except as may be permitted (one-tenth of one percent of the total contract cost or \$2,500, whichever is greater) and permanently incorporated into the work satisfies the domestic requirements herein. This certification shall contain a definitive statement about the origin of all products covered under the provisions of Buy America as stated herein.

In lieu of the Contractor providing personal certification, the Contractor may furnish a stepped certification in which each handler of the product, such as supplier, fabricator, manufacturer, processor, etc. furnishes an individual certification that their step in the process was domestically performed.

ATTACHMENT 9**CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT**

By signing this Contract, the Contractor certifies that he has participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, or if he has not participated in a previous contract of this type, or if he has had previous contract or subcontracts and has not filed, he will file with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

ATTACHMENT 10**ON-THE-JOB TRAINING PROGRAM FOR FEDERAL-AID
HIGHWAY CONSTRUCTION PROJECTS**

This training special provision is the Department's implementation of 23 U.S.C. § 140 (a). The primary objective of this provision is to train and upgrade minorities and women toward journey worker status. 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.

As part of the Design-Build Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

1. The Design-Build Contractor shall ensure that on-the-job training (OJT) aimed at developing full journey worker status in the type of trade or job classification involved is provided.
2. The Department has assigned a project-specific trainee goal in accordance with the following guidelines as set forth in 23 C.F.R. §230.111:
 - 1) Dollar value of the contract;
 - 2) Duration of the contract;
 - 3) Geographic location;
 - 4) Availability of minorities, women, and disadvantaged for training;
 - 5) The potential for effective training;
 - 6) Type of work;
 - 7) Total normal work force that the average proposer could be expected to use;
 - 8) The need for additional journeymen in the area;
 - 9) Recognition of the suggested minimum goal for the State; and
 - 10) A satisfactory ratio of trainees to journeymen expected to be on the Concessionaire's work force during normal operations.
3. The OJT program trainee goal for this project is 4 trainees.
4. The Design-Build Contractor will have fulfilled its responsibilities under this provision when acceptable training has been provided to the number of trainees assigned to this project.
5. In the event that the Design-Build Contractor subcontracts a portion of the contract work, it shall determine if any of the trainees are to be trained by the subcontractor. The Design-Build Contractor should insure that this training special provision is made applicable to such subcontract. However, the Design-Build Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision.
6. The Design-Build Contractor shall make every effort to ensure minorities and women are enrolled and trained in the program. The Design-Build Contractor shall conduct systematic and direct recruitment through public and private sources likely to yield minority and

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- women trainees to the extent that such persons are available within a reasonable area of recruitment.
7. It is the intention of this provision that training is to be provided in the construction crafts. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Some offsite 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.
 8. The Department and the Federal Highway Administration (FHWA) shall approve a training program if it meets the equal employment opportunity obligations of the Concessionaire and aims to train and upgrade employees to journey worker status.
 9. The Department's OJT Program has been designed to ensure that the trainee consistently receives the level and quality of training necessary to perform as a journey worker in his/her respective skilled trade classification. Standard training programs for each skilled construction trade classification are located in the OJT program manual.
 10. Apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided the program is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts.
 11. The number of trainees shall be distributed among the work classifications on the basis of the Design-Build Contractor's needs and the availability of journey worker in the various classifications.
 12. No employee shall be employed as a trainee in any classification in which he or she has successfully completed a training course leading to journey worker status or in which he or she has been employed as a journey worker. The Design-Build Contractor may satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Design-Build Contractor's records should document the findings in each case.
 13. At or before full Notice to Proceed, the Concessionaire must submit the Contractor OJT Plan form to the Department's Office of Civil Rights (OCR). The plan shall specify how the Concessionaire intends to satisfy its goal by including the following information: the type of apprentice or training program, number of trainees, type of training, and length of training.
 14. The trainee(s) shall begin training on the project after full Notice to Proceed and remain on the project as long as training opportunities exist or until the training is completed.

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15. The trainees will be paid at minimum, 60% of the appropriate journey worker's rate specified in the contract for the first half of the training period, 75% for the third quarter of the training period, and 90 percent for the last quarter of the training period. However, if the apprentices or trainees are enrolled in another program approved by the Department of Labor or other agency, such appropriate rates shall apply.
16. The OCR must approve all proposed apprentices and trainees before training begins. The Design-Build Contractor must submit the Trainee Enrollment Form in order for training to be counted toward the project goal and be eligible for reimbursement. The Design-Build Contractor shall provide each trainee with a copy of the training program he or she will follow.
17. On a weekly basis, the Design-Build Contractor shall submit Form C-67 (Weekly Trainee Report) to the Department and the OCR. The weekly reporting form will include the required training information and certification that the information is accurate and complete. If a trainee is terminated, the Concessionaire is required to notify the Department immediately.
18. The Design-Build Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.
19. If requested, the Design-Build Contractor may be reimbursed 80 cents per hour of training for each trainee working on this project and whose participation towards the OJT project goal has been approved.

This reimbursement will be made regardless of whether the Design-Build Contractor receives additional training program funds from other sources, provided such other program requirements do not specifically prohibit the Design-Build Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Design-Build Contractor if the trainees are concurrently employed on a federal-aid project and when the Concessionaire contributes to the cost of the training, or provides the instruction to the trainee, or pays the trainee's wages during the offsite training period.

No payment shall be made to the Design-Build Contractor if either the failure to provide the required training or the failure to hire the trainee as a journeyman is caused by the Design-Build Contractor and evidences a lack of good faith on the part of the Design-Build Contractor in meeting the requirements of this Special Training Provision.

20. Detailed program reporting requirements and procedures, reporting forms, and the list of approved training classifications are found in the OJT program manual, which can be obtained upon request by contacting the OCR.

PART 4
GENERAL CONDITIONS

PART 4

General Conditions of Contract Between Concessionaire and Design-Builder

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Article 1
General

1.1 Mutual Obligations

1.1.1 Concessionaire and Design-Builder commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith, to permit each party to realize the benefits afforded under the NEXT Contract Documents.

1.2 Basic Definitions

1.2.1 For the purposes of the NEXT Contract Documents, certain words and terms are defined in Exhibit 1.2.1.

Article 2
Design-Builder’s Services and Responsibilities

2.1 General

2.1.1 Design-Builder’s Representative shall be reasonably available to Concessionaire and shall have the necessary expertise and experience required to supervise the NEXT Work. Design-Builder’s Representative shall communicate regularly with Concessionaire and shall be vested with the authority to act on behalf of Design-Builder.

2.1.2 Design-Builder will attend a kick-off meeting with Concessionaire to discuss issues affecting the administration of the NEXT Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the NEXT Contract Documents. Concessionaire will notify Design-Builder of the time and location of the kick-off meeting. All Key Personnel shall participate in this kick-off meeting.

2.1.3 Design-Builder shall provide Concessionaire with the Baseline Schedule, Schedule Updates, Schedule Revisions, monthly reports and Final As-Built Schedule set forth in Section 1.4 of Part 2 (NEXT Technical Requirements).

2.1.4 Design-Builder shall, at its sole cost and expense, perform all services associated with the acquisition of any properties that are necessary, or that Design-Builder deems necessary, to enable Design-Builder to perform the NEXT Work.

2.1.5 Design-Builder shall provide management for the NEXT Work in accordance with the organization chart set forth in the Proposal and the requirements in Exhibit 2.1.5. Design-Builder acknowledges the importance of its “Key Personnel.” For Project NEXT, “Key Personnel” shall include the Design-Build Project Manager (the “**Design-Builder’s Representative**”), Design Manager, Design-Construction Integration Manager, the Construction Manager, and the “self-

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selected” Key Personnel in the SOQ (collectively, “**Key Personnel**”). Job duties and responsibilities of Key Personnel shall not be delegated to others for the duration of the NEXT Design-Build Contract. Design-Builder shall not change or substitute any Key Personnel except due to voluntary or involuntary termination of employment, retirement, death, disability, incapacity, or as otherwise approved by Concessionaire. None of the Key Personnel may be withdrawn from Project NEXT without prior written approval of Concessionaire, with it being understood and agreed that Design-Builder will provide Concessionaire with at least forty-five (45) days written notice of any request to withdraw any Key Personnel. Concessionaire will have the right to review the qualifications of each individual to be appointed to a Key Personnel position and to approve or disapprove use of such individual in such position prior to the commencement of any NEXT Work by such individual. Design-Builder shall remove or replace, or have removed or replaced, any personnel performing the NEXT Work if Concessionaire has a reasonable objection to such person.

Any change in Key Personnel identified in Design-Builder’s Proposal is subject to liquidated damages according to Exhibit 2.1.5.

2.1.6 Design-Builder shall be responsible for acquiring the NEXT Right of Way in accordance with Part 2 (NEXT Technical Requirements), Section 1.6 (Right of Way) and the NEXT Contract Documents. All Design-Builder Right of Way Costs shall be included in the NEXT Contract Price.

1. The Concessionaire is responsible for the Right of Way Acquisition Costs. Such costs will be paid directly to the applicable property owner following the submittal and approval of a written request by the Design-Builder and all receipt of all required supporting documentation.

2. The Design-Builder Right of Way Costs shall include all other costs necessary to acquire the NEXT Right of Way.

3. Design-Builder waives any right to seek an adjustment in the NEXT Contract Price or NEXT Contract Time associated with right-of-way or easement acquisition, including but not limited to claims based on reliance on any information depicted in the RFP Documents or Supplemental Information. For the avoidance of doubt, Design-Builder acknowledges that it has been advised that: (a) the right-of-way limits shown on the RFP Documents are not based on a final property survey and, consequently, may need to be adjusted by Design-Builder during the design process; and (b) the Project NEXT Right of Way Acquisition Report included as RFP Supplemental Information made available to Design-Builder during the proposal process, is not intended to determine the specific rights-of-way that will be required for Project NEXT.

4. Design-Builder shall maintain all parts of the NEXT Right of Way until care, custody and control is transferred to Concessionaire or VDOT, as applicable, in accordance with the terms of the NEXT Contract Documents.

2.1.7 Design-Builder shall submit its QA/QC Plan to Concessionaire for review in accordance with Part 2 (NEXT Technical Requirements).

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2.1.8 Design-Builder shall coordinate and lead regular progress meetings on at least a monthly basis. If requested by Concessionaire, more frequent progress meetings shall be held. During such meetings, progress during the prior month shall be reviewed. Design-Builder shall collect information from Design Consultants and any key Subcontractors responsible for work completed during the specified duration and work scheduled during the upcoming reporting duration. These meetings shall be attended by all Key Personnel, as well as any other individuals that Concessionaire may require. Meetings will occur beginning the month after Design-Builder's receipt of Concessionaire's Limited Notice to Proceed (LNTP) or Work NTP whichever occurs first. Design-Builder shall be responsible for preparing, maintaining and distributing minutes of the meetings to all attendees for review. The meeting minutes shall be provided to Concessionaire within two (2) days of the each progress meeting.

2.1.9 Design-Builder shall perform the NEXT Work in accordance with and reasonably inferable from (collectively, the "**Standard of Performance**"): (a) the NEXT Contract Documents; (b) applicable Legal Requirements and Governmental Approvals; and (c) the degree of skill and judgment that is expected to be exercised by prudent, skilled and experienced contractors and design professionals on similar projects in the Commonwealth of Virginia, taking into consideration safety, operational requirements, level of service, and life cycle costs. Notwithstanding the above, if any of (a), (b) or (c) in the preceding sentence conflict, Design-Builder shall be obligated to perform the NEXT Work in accordance with the more stringent standard.

2.1.10 Within sixty (60) days after the issuance of the LNTP or Work NTP (whichever occurs first), Design-Builder shall develop and adopt written policies establishing ethical standards of conduct for Design-Builder's directors, officers and supervisory or management personnel in dealing with VDOT and employment relations. Design-Builder shall comply with and enforce such policies. Without limiting the foregoing, Design-Builder further agrees: (i) no gifts, gratuities, or favors of any nature whatsoever will be given or offered by it to personnel of VDOT; and (ii) it will not employ personnel of VDOT for any services during the term of the NEXT Design-Build Contract without the prior written consent of VDOT. If VDOT determines, after investigation, that Design-Builder or any of its employees, representatives, or agents of any person acting in its behalf have violated this provision, Design-Builder may, at the discretion of VDOT, be disqualified from bidding on future contracts with VDOT for a period of six (6) months from the date of VDOT's determination of such a violation. Any implicated employees, agents, or representatives of Design-Builder may be prohibited from working on any contract awarded by VDOT for the period of disqualifications.

2.2 Scope Validation and Identification of Scope Issues

2.2.1 Scope Validation Period. The term "**Scope Validation Period**" is the period of time that begins on Design-Builder's receipt of LNTP and extends for one-hundred twenty (120) days from such date of receipt. During the Scope Validation Period, Design-Builder shall thoroughly review and compare all of the then-existing NEXT Contract Documents, including without limitation the RFP Documents and the Proposal, to verify and validate Design-Builder's proposed design concept and identify any material defects, errors, or inconsistencies in the RFP Documents that would affect Design-Builder's ability to accurately determine the scope and complete its proposed

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design concept within the NEXT Contract Price and/or NEXT Contract Time (collectively referred to as “**Scope Issues**”). The term “Scope Issue” shall not be deemed to include items that Design-Builder should have reasonably discovered prior to the NEXT Design-Build Contract Date. Design-Builder’s incorrect assumptions, failure to properly assess risk or lack of due diligence does not qualify as a Scope Issue.

2.2.2 Scope Validation Period for Non-Accessible Areas of the Site. The parties recognize that Design-Builder may be unable to conduct the additional investigations contemplated by Section 4.2.2 below because it will not have access to certain areas of the Site within the Scope Validation Period set forth in Section 2.2.1 above. Design-Builder shall verbally and in writing notify Concessionaire at the meeting set forth in Section 2.1.2 of all such non-accessible areas and the dates upon which such areas are expected to become accessible. If Concessionaire agrees that such areas are non-accessible, then, for the limited purpose of determining Scope Issues that directly arise from geotechnical evaluations or other such physical investigations for such specific areas, the term “**Scope Validation Period**” shall be deemed to be the forty-five (45) day period after the date the specified area becomes accessible for purposes of conducting the geotechnical evaluation or physical investigation. Design-Builder hereby acknowledges that the areas within the Right of Way that will be necessary for the noise barrier scope of work will not be considered as “non-accessible” for purposes of Scope Validation, notwithstanding that the final locations of noise barriers may be determined after the expiration of the Scope Validation Period.

2.2.3 Submission Requirements for Scope Issues. If Design-Builder intends to seek relief for a Scope Issue, it shall promptly, but in no event later than the expiration of the Scope Validation Period, provide Concessionaire in writing with a notice (“**General Notice**”) of the existence of such Scope Issue, which General Notice shall generally explain the basis for such Scope Issue. Within twenty-one (21) days of the General Notice of a Scope Issue, but no later than 120 days after the commencement of the Scope Validation Period, Design-Builder shall provide Concessionaire with documentation that specifically explains its support for the Scope Issue (“**Supporting Documentation**”), which Supporting Documentation shall include, among other things: (a) an explanation of the defect, error or inconsistency in the RFP Documents that Design-Builder could not have reasonably identified prior to the NEXT Design-Build Contract Date; (b) the assumptions that Design-Builder made during the preparation of its proposal based on such defect, error or inconsistency in the RFP Documents that form the basis for its allegation, along with documentation verifying that it made such assumptions in developing its proposal; (c) an explanation of the specific geotechnical evaluations or other such physical investigations that differ from the assumptions that Design-Builder made during the preparation of its proposal based on a defect, error or inconsistency in the RFP Documents; and (d) the specific impact that the alleged Scope Issue has had on Design-Builder’s price and time to perform the NEXT Work. For the avoidance of doubt: (1) Design-Builder shall not be entitled to raise in its Supporting Documentation any Scope Issues that were not previously addressed in a General Notice; and (2) Design-Builder shall have no right to seek any relief for any Scope Issues that have not been specifically identified in a General Notice provided to Concessionaire during the Scope Validation Period.

2.2.4 Resolution of Scope Issues. Within a reasonable time after Concessionaire’s receipt of the Supporting Documentation described in Section 2.2.3 above, Concessionaire shall review the

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Supporting Documentation provided for each Scope Issue. If necessary, the parties shall meet and confer to discuss the resolution of such Scope Issues. If Concessionaire agrees that Design-Builder has identified a valid Scope Issue that materially impacts Design-Builder's price or time to perform the NEXT Work, a Work Order shall be issued in accordance with Article 9 hereof. If Concessionaire disagrees that Design-Builder has identified a valid Scope Issue that materially impacts Design-Builder's price or time to perform the NEXT Work, Concessionaire shall provide written notification of its determination to Design-Builder. Design-Builder's recourse to the denial of entitlement for any Scope Issue shall be the Dispute Resolution process as set forth in Section 10.2. Notwithstanding anything to the contrary in the NEXT Contract Documents or as a matter of law, Design-Builder shall have the burden of proving that the alleged Scope Issue could not have been reasonably identified prior to the NEXT Design-Build Contract Date and that such Scope Issue materially impacts its price or time to perform the NEXT Work. Concessionaire and Design-Builder shall endeavor to resolve all valid Scope Issues within 30 days of the completion of the respective Scope Validation Periods established in Sections 2.2.1 and 2.2.2.

2.2.5 Design-Builder's Assumption of Risk of Scope Issues. The Parties acknowledge that the purpose of the Scope Validation Period is to enable Design-Builder to identify those Scope Issues that could not reasonably be identified prior to the NEXT Design-Build Contract Date. The Scope Validation provisions are not intended to serve as a vehicle for Design-Builder to raise issues that would customarily arise during the iterative final design process or should have been raised prior to submission of the Technical and Price Proposals in accordance with Part 1 (NEXT RFP).

By executing this NEXT Design-Build Contract, Design-Builder acknowledges that the Scope Validation Period is a reasonable time to enable Design-Builder to identify Scope Issues that will materially impact Design-Builder's price or time to perform the NEXT Work. After the expiration of the Scope Validation Period, with the sole exception of those Scope Issues made the subject of a General Notice during the Scope Validation Period and subject to valid requests for Work Orders in accordance with Section 2.2.3 above, the parties agree as follows:

.1 Design-Builder shall assume and accept all risks, costs, and responsibilities of any Scope Issue arising from or relating to the NEXT Contract Documents, including but not limited to conflicts within or between the RFP Documents and Proposal;

.2 Design-Builder shall be deemed to have expressly warranted that the NEXT Contract Documents existing as of the end of the Scope Validation Period are sufficient to enable Design-Builder to complete the design and construction of Project NEXT without any increase in the NEXT Contract Price or extension to the NEXT Contract Time; and

.3 Concessionaire expressly disclaims any responsibility for, and Design-Builder expressly waives its right to seek any increase in the NEXT Contract Price or extension to the NEXT Contract Time for, any Scope Issue associated with any of the NEXT Contract Documents, including but not limited to the RFP Documents.

2.2.6 Waiver of Rights. The failure of Design-Builder to meet the submission requirements required under Section 2.2.3 above for a Scope Issue, including but not limited to the times for

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providing notice and documentation of the Scope Issue, shall conclusively constitute a waiver of Design-Builder's rights to seek relief for such Scope Issue.

2.2.7 Failure of Technical Proposal to Meet Requirements of the NEXT Contract Documents. Notwithstanding anything to the contrary in this Section 2.2 or elsewhere in the NEXT Contract Documents, Concessionaire shall have no responsibility in the event Design-Builder's Proposal fails to meet the requirements of the NEXT Contract Documents, regardless of whether: (a) Concessionaire modified the RFP Documents to permit Design-Builder to implement a technical approach; (b) Concessionaire accepted Design-Builder's Proposal; or (c) any other action or inaction of Concessionaire is alleged by Design-Builder. For the avoidance of doubt, Design-Builder remains responsible for completing the NEXT Work in accordance with the NEXT Contract Documents.

2.3 Design Professional Services

2.3.1 Design-Builder shall, consistent with applicable state licensing laws, provide through qualified, licensed design professionals employed by Design-Builder, or procured from qualified, independent licensed Design Consultants, the necessary design services, including architectural, engineering, surveying, and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the NEXT Work consistent with the NEXT Contract Documents. All design professional services shall be performed by professionals properly licensed in the Commonwealth of Virginia and who are well-versed in Concessionaire's design standards and practices.

2.3.2 No Design Consultant is intended to be, nor shall any Design Consultant be deemed to be, a third-party beneficiary of this NEXT Design-Build Contract. Concessionaire is intended to be and shall be deemed a third-party beneficiary of all contracts between Design-Builder and any Design Consultant. In the event that this NEXT Design-Build Contract is terminated, Design-Builder shall, upon the written demand of Concessionaire, assign such contracts to Concessionaire.

2.3.3 Design-Builder shall incorporate all obligations and understandings of the NEXT Contract Documents applicable to design services in its respective contracts with any Design Consultant, and require that such obligations be flowed down to lower-tiered Design Consultants, including the obligations relative to ownership of the NEXT Work Product set forth in Article 4 of Part 3 (NEXT Design-Build Contract).

2.4 Design Development Services

2.4.1 Design-Builder shall be responsible for the professional quality, technical accuracy, timely completion and coordination of all drawings, specifications and other design submissions required to be developed by Design-Builder under the NEXT Contract Documents and shall, without additional compensation, correct or revise any errors, omissions or other deficiencies in such design submissions.

2.4.2 Design-Builder shall, consistent with any applicable provision of the NEXT Contract Documents, provide Concessionaire with design submissions, in accordance with Part 2 (NEXT

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Technical Requirements). On or about the time of the scheduled submissions, Design-Builder and Concessionaire shall meet and confer about the submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any significant changes or deviations from the NEXT Contract Documents, or, if applicable, previous design submissions. Minutes of the meetings will be maintained by Design-Builder and provided to all attendees for review. Concessionaire shall review and provide comments on design submissions within twenty-eight (28) days after receipt of the required submissions. Design-Builder shall promptly revise and modify all such submittals so as to fully reflect all comments and shall deliver to Concessionaire revised submittals for review and comment (and approval as the case may be).

2.4.3 Design-Builder shall submit to Concessionaire Design and Construction Documentation in accordance with Part 2 (NEXT Technical Requirements).

2.4.4 Concessionaire's review, comment and/or approval of interim design submissions and the Design and Construction Documentation are for the purpose of establishing that the Design-Builder's Work is fully in compliance with the requirements of the Contract Documents. Concessionaire's review, comment and/or approval of any interim or final design submission (including but not limited to the Design and Construction Documentation) shall not be deemed to transfer any liability from Design-Builder to Concessionaire.

2.4.5 To the extent not prohibited by the NEXT Contract Documents or Legal Requirements, Design-Builder may, with the prior agreement of Concessionaire, prepare design submittals and Design and Construction Documentation for a portion of the NEXT Work to permit procurement and construction to proceed on that portion of the NEXT Work prior to completion of the Design and Construction Documentation for the entire NEXT Work.

2.5 Legal Requirements

2.5.1 Design-Builder shall keep fully informed of and perform the NEXT Work in accordance with all Legal Requirements. Design-Builder shall provide all notices, and execute and file the documents, statements and/or affidavits applicable to the NEXT Work as required by the Legal Requirements. Design-Builder shall permit Concessionaire's examination of any records made subject to such examination by any applicable Legal Requirements.

2.5.2 Design-Builder may request, by submission of a request for contract adjustment or relief pursuant to Section 10.1, that the NEXT Contract Price and/or NEXT Contract Time shall be adjusted to compensate Design-Builder for the effects of any changes in the Legal Requirements enacted after the NEXT Design-Build Contract Date, affecting the performance of the NEXT Work. Such effects may include, without limitation, revisions Design-Builder is required to make to the Design and Construction Documentation because of changes in Legal Requirements. Notwithstanding anything to the contrary, the relief afforded by this Section 2.5 shall not apply to changes in any tax laws, with Design-Builder bearing the risk of such changes.

2.6 Governmental Approvals

2.6.1 Except as identified in Section 3.5.1, Design-Builder shall obtain and pay for all necessary

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Governmental Approvals required for the prosecution of the NEXT Work by any Governmental Unit. If any such Governmental Approval is required to be formally issued in the name of Concessionaire, Design-Builder shall undertake all efforts to obtain such Governmental Approvals subject to Concessionaire's reasonable cooperation with Design-Builder, including execution and delivery of appropriate applications and other documentation in forms approved by Concessionaire. Design-Builder shall deliver to Concessionaire, promptly after Design-Builder's receipt, a copy of each such Governmental Approval, with a listing of the status of all such Governmental Approvals included in the monthly reports required by Section 1.4 of Part 2 (NEXT Technical Requirements).

2.6.2 Design-Builder shall provide reasonable assistance to Concessionaire in obtaining those Governmental Approvals that are Concessionaire's responsibility, and no construction activity will commence until: (i) all Governmental Approvals required for the relevant construction activity (including any activity that may disturb the Site) have been obtained; (ii) Concessionaire has been notified that such Governmental Approvals have been obtained; and (iii) Concessionaire has, after reviewing the validity and scope of the Governmental Approval, authorized Design-Builder to proceed.

2.6.3 Design-Builder shall ensure that the NEXT Work conforms to the requirements and stipulations of all Governmental Approvals. Any violations of or noncompliance with any Governmental Approval, including but not limited to suspensions caused by Design-Builder violating or not being in compliance with a Governmental Approval, shall be at the sole risk of Design-Builder, and shall not be a basis for adjusting the NEXT Contract Price and/or NEXT Contract Time.

2.6.4 Design-Builder shall provide reasonable assistance to Concessionaire in obtaining all other Governmental Approvals that are Concessionaire's responsibility, which assistance may include providing information, documents, design, schedules, and plans associated with such Governmental Approvals.

2.7 Design-Builder's Construction Phase Services

2.7.1 Unless otherwise stated in the NEXT Contract Documents to be the responsibility of Concessionaire, TMS Subcontractor, or a Separate Contractor, Design-Builder shall provide through itself or Subcontractors the necessary supervision, labor, inspection, testing, start-up, material, equipment, machinery, temporary utilities and other temporary facilities to permit Design-Builder to complete construction of Project NEXT consistent with the NEXT Contract Documents.

2.7.2 Design-Builder (or in the case where Design-Builder is a Joint Venture, the equity members of the Joint Venture) shall self-perform Work having a value in the amount of no less than thirty percent (30%) of the NEXT Contract Price.

2.7.3 Design-Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the NEXT Contract Documents, and shall maintain or cause to be maintained all licenses required of Design-Builder or its employees

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in connection with the NEXT Work. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.

2.7.4 Design-Builder shall employ only Subcontractors who are duly licensed and qualified to perform the NEXT Work lawfully in the Commonwealth of Virginia and consistent with the NEXT Contract Documents. Design-Builder shall not use any Subcontractor to whom Concessionaire has a reasonable objection, and shall obtain Concessionaire's written consent before making any substitutions or additions to Subcontractors previously identified to Concessionaire as being members of Design-Builder's Project NEXT team, including those who may have been identified in the Proposal.

2.7.5 Design-Builder assumes responsibility to Concessionaire for the proper performance of the NEXT Work of Subcontractors and any acts and omissions in connection with such performance. Design-Builder shall provide Concessionaire prompt notice of any breach of its obligations related to the NEXT Work by any Subcontractor, which notice shall in any event be no later than seven (7) days after Design-Builder discovers such breach. Nothing in the NEXT Contract Documents is intended or deemed to create any legal or contractual relationship between Concessionaire and any Subcontractor at any tier, including but not limited to any third-party beneficiary rights.

2.7.6 Design-Builder shall coordinate the activities of all Subcontractors. If Concessionaire performs other work on Project NEXT or at the Site with the TMS Subcontractor and Separate Contractors under Concessionaire's control, Design-Builder agrees to reasonably cooperate and coordinate its activities with those of such contractors so that Project NEXT can be completed in an orderly and coordinated manner without unreasonable disruption.

2.7.7 Design-Builder shall keep the Site reasonably free from debris, trash and construction wastes to permit Design-Builder to perform its construction services efficiently, safely and without interfering with the use of adjacent land areas. Upon Final Completion of the NEXT Work, or a portion of the NEXT Work, Design-Builder shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the NEXT Work or applicable portions thereof to permit Concessionaire to occupy the Site or a portion of the Site for its intended use.

2.7.8 Design-Builder shall be responsible for the safety and security of the Site, including any and all materials, equipment, and machinery on the Site, until Final Completion of the NEXT Work

2.8 Design-Builder's Responsibility for Project Safety

2.8.1 Design-Builder recognizes the importance of performing the NEXT Work in a safe manner so as to prevent damage, injury or loss to: (i) all individuals at the Site, whether working or visiting; (ii) the NEXT Work, including materials and equipment incorporated into the NEXT Work or stored on-Site or off-Site; and (iii) all other property at the Site or adjacent thereto. Design-Builder assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the NEXT Work. Design-Builder shall, prior to commencing construction, designate Safety Representative(s) with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the NEXT Work, including a Safety Manager. Unless otherwise required by the NEXT Contract

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Documents, Design-Builder's Safety Representative shall be an individual stationed at the Site who may have responsibilities on Project NEXT in addition to safety. The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with Design-Builder's personnel, Subcontractors and others as applicable. Design-Builder shall provide minutes of each safety meeting to Concessionaire within five (5) days of such meeting.

2.8.2 Design-Builder shall provide a Health, Safety and Security (HS&S) Plan and qualified safety personnel in accordance with Part 2 (NEXT Technical Requirements), Section 1.13.

2.8.3 Design-Builder and Subcontractors shall comply with: (i) all Legal Requirements relating to safety; (ii) Design-Builder's HS&S Plan; and (iii) any Concessionaire-specific safety requirements set forth in the NEXT Contract Documents, provided that such Concessionaire-specific requirements do not violate any applicable Legal Requirement. Design-Builder will immediately report in writing any safety-related injury, loss, damage or accident arising from the NEXT Work to Concessionaire's Representative and, to the extent mandated by Legal Requirements, to all Governmental Units having jurisdiction over safety-related matters involving Project NEXT or the NEXT Work.

2.8.4 Concessionaire shall have the right to immediately suspend any or all NEXT Work if Design-Builder fails to comply with its obligations hereunder.

2.8.5 Design-Builder's responsibility for safety under this Section 2.8 is not intended in any way to relieve Subcontractors at any tier of their own contractual and legal obligations and responsibility for: (i) complying with all Legal Requirements, including those related to health and safety matters; and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injury, losses, damages or accidents resulting from their performance of the NEXT Work.

2.9 Design-Builder's Warranty

2.9.1 Design-Builder warrants to Concessionaire, VDOT, and the NEXT Financing Parties that the design and construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the NEXT Contract Documents, of good quality, in conformance with the NEXT Contract Documents and the Standard of Performance and free of defects in materials and workmanship and fit for its intended purpose in accordance with the NEXT Contract Documents. Design-Builder further warrants that the final as-built drawings and documentation are accurate and complete, comply with the Standard of Performance and accurately reflect the condition of NEXT Work as of the Final Completion Date. Design-Builder's warranty obligation excludes defects caused by abuse, damage, alterations, or failure to maintain the NEXT Work, in each case by persons other than Design-Builder or anyone for whose acts Design-Builder may be liable. All warranties received by Design-Builder from Subcontractors shall be passed through to Concessionaire in full. Nothing in this warranty is intended to limit any manufacturer's warranty which provides Concessionaire with greater warranty rights than set forth in this Section 2.9 or the NEXT Contract Documents. Design-Builder will provide Concessionaire with all manufacturers' warranties prior to the Final Completion Date.

2.10 Correction of Defective NEXT Work

2.10.1 Design-Builder agrees to correct any NEXT Work that is found not to be in conformance with the NEXT Contract Documents, including that part of the NEXT Work subject to Section 2.9 hereof, within a period of two (2) years from the date of Final Completion of the NEXT Work or prior to the Final Completion Date, or within such longer period to the extent required by the NEXT Contract Documents or applicable Legal Requirements or Government Approvals (the “Warranty Period”).

2.10.2 Design-Builder shall, within seven (7) days of receipt of written notice from Concessionaire or the QA Manager that the NEXT Work is not in conformance with the NEXT Contract Documents, take meaningful steps to commence correction of such nonconforming NEXT Work, including the correction, removal or replacement of the nonconforming NEXT Work and any damage caused to other parts of the NEXT Work affected by the nonconforming NEXT Work. If Design-Builder fails to commence the necessary steps within such seven (7) day period, Concessionaire, in addition to any other remedies provided under the NEXT Contract Documents, may provide Design-Builder with written notice that Concessionaire will commence correction of such nonconforming NEXT Work with its own forces. If Concessionaire does perform such corrective NEXT Work, Design-Builder shall be responsible for all reasonable costs incurred by Concessionaire in performing such correction. If the nonconforming NEXT Work creates an emergency requiring an immediate response, the seven (7) day period identified herein shall be deemed inapplicable. If the nonconforming NEXT Work interrupts or interferes with the operations or tolling of the existing Express Lanes network, Design-Builder shall correct the nonconforming NEXT Work within 24 hours of the written notice and the seven (7) day period identified herein shall be deemed inapplicable.

2.10.3 The Warranty Period referenced in Section 2.10.1 above applies only to Design-Builder’s obligation to correct nonconforming NEXT Work and is not intended to constitute a period of limitations for any other rights or remedies Concessionaire may have regarding Design-Builder’s other obligations under the NEXT Contract Documents.

2.10.4 Nothing herein limits Design-Builder’s obligation to correct latent defects within the statutory period provided under Virginia law or Concessionaire’s right to claim such latent defects and seek remedies from Design-Builder to correct the defects.

2.11 Concessionaire’s Rights to Direct Design-Builder

2.11.1 When any act, omission, or other action of Design-Builder occurs that violates the requirements, conditions, or terms of the NEXT Contract Documents; or affects the health, safety, or welfare of the public or natural resources, Concessionaire will have the right, but not the obligation, to direct Design-Builder to take necessary corrective actions and/or promptly repair, replace, or restore the damage or injury within a time frame established by Concessionaire. If Design-Builder fails to take the necessary corrective actions or make any required repairs, replacements, or restorations within the established time frame, Concessionaire may have the damage or injury addressed, repaired, replaced, or restored by others and will deduct the cost of

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such repair, replacement, or restoration (plus 25% for supervisory, management and administrative personnel costs) from monies due Design-Builder.

Article 3**Concessionaire's Services and Responsibilities****3.1 Duty to Cooperate**

3.1.1 Concessionaire shall, throughout the performance of the NEXT Work, cooperate with Design-Builder and perform its responsibilities, obligations and services in a timely manner to facilitate Design-Builder's timely and efficient performance of the NEXT Work.

3.1.2 Concessionaire shall provide timely reviews and (where required) approvals of required submittals, interim design submissions and Construction Documentation within twenty-eight (28) days after receipt of compliant submissions, unless stated otherwise in the NEXT Contract Documents. This Section 3.1.2 shall not be construed to apply to the acquisition of Governmental Approvals by either Design-Builder or Concessionaire.

3.1.3 Concessionaire's Representative will participate in monthly progress meetings for the duration of Project NEXT.

3.2 Furnishing of Services and Information

3.2.1 Concessionaire has provided the RFP Documents for Design-Builder to consider in developing its Proposal for executing the NEXT Work. To the extent that any Scope Issues arise during the Scope Validation Period, Concessionaire shall consider such issues in accordance with Section 2.2 above.

3.3 Financial Information

3.3.1 Not Used.

3.3.2 Design-Builder shall cooperate and comply with the requirements of NEXT Financing Parties. Notwithstanding the preceding sentence, after the Notice to Proceed Date, Design-Builder shall have no obligation to execute for Concessionaire or Concessionaire's lenders or other financial sources any documents or agreement that require Design-Builder to assume obligations or responsibilities greater than those existing obligations Design-Builder has under the NEXT Contract Documents and the NEXT Direct Agreement.

3.4 Concessionaire's Representative

3.4.1 Concessionaire's Representative shall be responsible for providing Concessionaire-supplied information and approvals to Design-Builder. Concessionaire's Representative shall also provide Design-Builder with prompt notice if it observes any failure on the part of Design-Builder

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to fulfill its contractual obligations, including any errors, omissions or defects in the performance of the NEXT Work.

3.5 Governmental Approvals

3.5.1 VDOT has or will obtain and pay for the following Governmental Approvals:

- (i) Project NEXT Finding of No Significant Impact (FONSI) by the Design-Build execution date and required Re-evaluation associated with the Alternative Maryland Express Lanes Interface by the Project NEXT Financial Close Date.
- (ii) Project NEXT Interchange Justification Report by the Design-Build Contract execution date and required Re-evaluation associated with the Alternative Maryland Express Lanes Interface by the Project NEXT Financial Close Date.
- (iii) Other FHWA Approvals Necessary for the Initiation of Project NEXT by the Design-Build Contract execution date.
- (iv) Commonwealth Transportation Board Approvals of Project NEXT by the Design-Build Contract execution date.
- (v) FCPA 6(f) Land Transfer Agreement – Scott’s Run Nature Preserve by the Service Commencement date.

3.5.2 If any of the Government Approvals listed in Section 3.5.1 are not provided to Design-Builder by the dates specified, Design-Builder shall be entitled to an extension of the NEXT Contract Time for any delays in Design-Builder’s performance meeting the conditions set forth in Section 8.3.2 that are directly attributable to VDOT’s failure to obtain and pay for these Government Approvals on a timely basis. The Design-Builder may also be entitled to an adjustment in the Contract Price for any changes meeting the conditions set forth in Section 10.1.

3.5.3 Concessionaire shall provide reasonable assistance to Design-Builder in obtaining all other Governmental Approvals that are Design-Builder’s responsibility.

3.6 Separate Contractors

3.6.1 Design-Builder hereby acknowledges that Concessionaire, Concessionaire’s Affiliates, and/or third parties which own or control portions of the Site have, or may in the future have, concurrent contracts with Separate Contractors for performance of other work, including but not limited to operations and maintenance work, on, near, or within the same geographical area of the NEXT Work. Design-Builder shall coordinate and cooperate with Separate Contractors as required, review plans for conflicts, and shall not interfere with the ability of Separate Contractors to perform their work or impede or limit access to such work.

3.6.2 When contracts are awarded to Separate Contractor(s) that may affect the performance of the Project NEXT Work, the Design-Builder and the Separate Contractor(s), in conference with Concessionaire and VDOT or other appropriate third party, shall mutually establish a joint schedule of operations and incorporate it into the Design-Builder’s Baseline Schedule as described

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in Section 1.4 of Part 2 (NEXT Technical Requirements). The necessary Baseline Schedule updates shall be based on the requirements of the respective contracts and shall set forth the approximate dates and sequences for any Work by Separate Contractor(s) within or adjacent to the Site.

3.6.3 Design-Builder acknowledges that it has made full allowance for complying with its obligations relative to the Separate Contractors in the NEXT Contract Price and Project NEXT Schedule.

3.7 TMS Subcontractor

3.7.1 The Project NEXT TMS scope of work will be performed by the TMS Subcontractor under a subcontract directly with Design-Builder. Design-Builder acknowledges that the success of Project NEXT is dependent upon the ability of Design-Builder and the TMS Subcontractor to perform their respective obligations in a cooperative, collaborative and integrated manner. To help accomplish this, Concessionaire and Design-Builder agree to follow the TMS Interface Plan set forth in Attachment 3.16c of Part 2 (NEXT Technical Requirements) in execution of Project NEXT and will reasonably cooperate with each other to meet the mutual goals of successful and timely completion of their respective work and Project NEXT as a whole. Design-Builder shall not interfere with the ability of TMS Subcontractor to perform its work or impede or limit access to such work.

3.7.2 The TMS scope of work forms part of the NEXT Work, and, as such Design-Builder shall be responsible for: (a) scheduling, coordinating and managing all work and services of the TMS Subcontractor; (b) directly obtaining all information it requires from the TMS Subcontractor to perform the NEXT Work; and (c) providing all information the TMS Subcontractor requires to perform its work. In performing its scheduling, coordination and management services, Design-Builder shall consider the reasonable requirements of the TMS Subcontractor, recognizing that the ability of Concessionaire to use Project NEXT for its intended purpose requires the timely completion of the NEXT Work including the TMS scope of work.

3.7.3 Design-Builder acknowledges that it has made full allowance for complying with its obligations relative to the TMS Subcontractor in the NEXT Contract Price and NEXT Contract Time.

3.7.4 Design-Builder acknowledges that the amounts specified in its Price Proposal for the TMS Subcontractor's services is an allowance mandated by the Concessionaire and that the final amount will be determined based on the final subcontract between the Design-Builder and the TMS Subcontractor. If the final subcontract amount is less than the allowance specified in the Price Proposal, the Design-Builder shall credit the Concessionaire the difference. If the final subcontract amount is greater than the allowance specified in the Price Proposal, the Design-Builder shall be entitled to an adjustment in the Contract Price for the difference.

Article 4**Hazardous Environmental Conditions and Differing Site Conditions****4.1 Hazardous Environmental Conditions****4.1.1 General Obligations**

.1 The Design-Builder will be responsible for the management, treatment, handling, storage, monitoring, remediation, removal, transport and/or disposal of any Hazardous Environmental Conditions that are encountered on, in or under the Site.

.2 Design-Builder shall notify Concessionaire prior to implementing any Remedial Actions contained in Design-Builder's Environmental Management Plan for Known Pre-Existing Hazardous Materials.

.3 If Design-Builder encounters any Unknown Pre-Existing Hazardous Materials the presence of which constitutes a Hazardous Environmental Condition, then Design-Builder will promptly notify Concessionaire and, in consultation with Concessionaire, will develop a Remedial Action Plan setting out the scope of the Remedial Actions that Design-Builder proposes to take in relation to the relevant Hazardous Environmental Condition, such actions to include, but not be limited to: (i) conducting such further investigations as may be necessary or appropriate to determine the nature and extent of the Hazardous Materials and submitting copies of such data and reports to Concessionaire for its review and approval, (ii) taking reasonable steps, including in the case of excavation, construction, reconstruction or rehabilitation, modifications and/or construction techniques, to avoid or minimize excavation or dewatering in areas with Hazardous Materials, (iii) preparing and obtaining Governmental Approvals for remedial action plans, including Concessionaire approval and (iv) carrying out the Remedial Action Plan, including, as necessary, disposal of the Hazardous Materials. Design-Builder shall keep Concessionaire regularly apprised of its progress in executing any Remedial Action Plan.

.4 Before any Remedial Actions for Unknown Pre-Existing Hazardous Materials are taken that would inhibit Concessionaire's ability to ascertain the nature and extent of the Hazardous Environmental Condition, Design-Builder will afford Concessionaire the opportunity to inspect areas and locations that require Remedial Actions; *provided*, that in the case of a sudden release of any Unknown Pre-Existing Hazardous Materials, Design-Builder may take all reasonable actions necessary to stabilize and contain the release without prior notice or inspection, but will promptly notify Concessionaire of the sudden release and its location.

.5 Design-Builder will obtain all Governmental Approvals relating to all Remedial Actions. Design-Builder will be solely responsible for compliance with such Governmental Approvals and applicable Legal Requirements concerning or relating to Hazardous Materials. In carrying out Remedial Actions that are compensable by Concessionaire pursuant to Section 4.1.2, Design-Builder will not take any steps or actions which impair Concessionaire's potential claims for indemnity and contribution, statutory or otherwise.

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.6 Unless directed otherwise by Concessionaire or required by Law, Design-Builder will be responsible for seeking to recover costs from any available reimbursement program or from any third party responsible for generating or otherwise creating or contributing to conditions that led to the need for Remedial Action. Without limiting the preceding sentence, Design-Builder will seek pre-approval and pursue reimbursement from the Virginia Petroleum Storage Tank Fund (VPSTF) for qualifying expenses incurred during the course of investigation, containment, management, mitigation or remediation activities on underground storage tank sites. Concessionaire shall reasonably assist Design-Builder in such cost recovery efforts. The parties will cooperate with and notify each other with respect to activities undertaken pursuant to this Section 4.1.1.6.

.7 Except as provided in Section 4.1.2 below, Design-Builder will bear all costs and expenses of preparing and complying with any Remedial Action Plan, of complying with Legal Requirements and obtaining and complying with Governmental Approvals pertaining to Hazardous Materials, and otherwise of carrying out Remedial Actions.

4.1.2 Pre-Existing Hazardous Materials

.1 Concessionaire will reimburse, to the extent permitted by the Legal Requirements, Design-Builder for Design-Builder's costs for Remedial Actions with respect to any Unknown Pre-Existing Hazardous Materials, the presence of which constitutes a Hazardous Environmental Condition.

.2 Concessionaire will assume, to the extent permitted by the Legal Requirements, responsibility for third-party claims against Design-Builder for personal injury, damages or harm to property or business due to any Pre-Existing Hazardous Materials, the presence of which constitutes a Hazardous Environmental Condition, and all related penalties, fines and administrative or civil sanctions arising out of or related to such Pre-Existing Hazardous Materials; except to the extent Design-Builder is obliged to indemnify Concessionaire pursuant to Section 4.1.3 below.

.3 Design-Builder will provide cost estimates with respect to such Remedial Actions which may be reimbursed by Concessionaire, for Concessionaire's review and approval prior to proceeding with any such Remedial Actions, subject to Section 4.1.1.3 above.

.4 Concessionaire reserves the right to perform Remedial Actions for Unknown Pre-Existing Hazardous Materials in lieu of, and as replacement for, Design-Builder's Remedial Action obligations subject to Section 4.1.1.3 above.

.5 Design-Builder will be entitled to submit a request for an adjustment in its NEXT Contract Price and/or NEXT Contract Time in accordance with Section 10.1 to the extent Design-Builder's cost and/or time of performance meeting the conditions set forth in Section 8.3.2 have been adversely impacted by the presence, removal or remediation of Unknown Pre-Existing Hazardous Materials that constitute a Hazardous Environmental Condition.

4.1.3 Design-Builder's Indemnification Obligations Regarding Hazardous Materials

.1 Design-Builder will indemnify, protect, defend and hold harmless and release each Project NEXT Indemnitee from and against any and all claims against the Project NEXT Indemnitees by a person not party to the NEXT Design-Build Contract, including reasonable attorney's fees, expert witness fees and court costs suffered or incurred by such Project NEXT Indemnitee, to the extent caused by:

(A) Hazardous Materials introduced to or brought onto the Site by Design-Builder or its Subcontractors;

(B) failure of Design-Builder or any of its Subcontractors to comply with any requirement of the NEXT Contract Documents relating to Hazardous Materials (including any failure to perform any Remedial Action required in accordance with Section 4.1.1 above) or to otherwise comply with applicable Legal Requirements and Governmental Approvals; or

(C) the exacerbation, release, spreading, migration, or toxicity of Hazardous Materials due to the negligence, omission, recklessness, or willful misconduct of Design-Builder or any of its Subcontractors.

.2 Design-Builder shall defend such claims in accordance with Section 7 below.

.3 Design-Builder's indemnification under this Section 4.1.3 will not apply to claims to the extent caused by the negligence, recklessness, or willful misconduct of any Project NEXT Indemnitee.

4.2 Inspection of Site Conditions

4.2.1 Design-Builder represents and warrants that it has, as of the NEXT Design-Build Contract Date, ascertained the nature and location of the NEXT Work, the character and accessibility of the Site, the existence of obstacles to construction, the availability of facilities and utilities, the location and character of existing or adjacent work or structures, the surface and subsurface conditions, and other general and local conditions (including labor) which might affect its performance of the NEXT Work or the cost thereof.

4.2.2 Design-Builder will, after its receipt of LNTP, undertake such testing, inspections and investigations as may be necessary to perform its obligations under the NEXT Contract Documents, including but not limited to: additional geotechnical evaluations, utility investigations or Hazardous Materials studies. If Design-Builder intends to conduct additional testing, inspections, investigations or geotechnical evaluations to supplement or corroborate the information contained in the RFP Documents, it shall do so during the Scope Validation Period. Any Scope Issues that arise from such evaluations shall be treated in the manner set forth in Section 2.2 above. All reports or analyses generated by Design-Builder's testing, inspections and investigations, including but not limited to additional geotechnical testing, shall be furnished to Concessionaire promptly after such reports or analyses are generated. Geotechnical boring logs

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and test reports used as inputs to any associated engineering analyses or geotechnical engineering reports shall be furnished to Concessionaire promptly after such logs or tests are completed.

4.3 Differing Site Conditions

4.3.1 Concealed or latent physical conditions or subsurface conditions at the Site that: (i) materially differ from the conditions indicated in the RFP Documents (as such conditions may be further described through reports or analyses undertaken during the Scope Validation Period); or (ii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the NEXT Work are collectively referred to herein as “**Differing Site Conditions.**” If Design-Builder encounters a Differing Site Condition, Design-Builder will be entitled to submit a request for an adjustment in the NEXT Contract Price and/or NEXT Contract Time in accordance with Section 10.1 to the extent Design-Builder’s cost and/or time of performance are adversely impacted by the Differing Site Condition as allowed for herein.

4.3.2 Upon encountering a Differing Site Condition, Design-Builder shall provide prompt written notice to Concessionaire of such condition, which notice shall not be later than fourteen (14) days after such condition has been encountered. Design-Builder shall, to the extent reasonably possible, provide such notice before the Differing Site Condition has been substantially disturbed or altered.

4.3.3 Design-Builder shall not be entitled to any adjustment in the NEXT Contract Price and/or NEXT Contract Time due to impacts of Differing Site Conditions not specifically identified during the Scope Validation Period and determined to be a valid Scope Issue, unless the Concessionaire, in its sole discretion, determines that the circumstances associated with the Differing Site Conditions justify making such adjustment. Any such adjustments shall be limited to the extent of the Scope Issue identified by Design-Builder and verified by Concessionaire per Section 2.2 or as determined by the Concessionaire.

Article 5 **Insurance and Bonds**

5.1 Design-Builder’s Insurance Requirements

5.1.1 Design-Builder shall procure and maintain the insurance coverages required by Exhibit 5.1.1.

5.2 Bonds and Other Performance Security

5.2.1 Design-Builder shall procure provide and maintain payment and performance securities for the NEXT Work that meet the requirements below:

- (i) Performance and Payment Bonds executed by a surety acceptable to Concessionaire, each equal to one-hundred percent (100%) of the Contract Price in the forms provided in Exhibits 5.2.1(a) and 5.2.1(c); or

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- (ii) An Expedited Dispute Resolution (EDR) Performance Bond and Payment Bond, each equal to one-hundred percent (100%) of the Contract Price and executed by a surety acceptable to Concessionaire, in the forms provided in Exhibits 5.2.1(b) and 5.2.1(c).

The bonds and other performance securities shall remain in full effect until Final Completion, provided however, that the amounts may be adjusted upon achievement of Service Commencement with the approval of Concessionaire.

5.2.2 If Design-Builder is structured as a limited liability company, partnership or joint venture, the bonding and performance security approach used must ensure that the members of such organizations will have joint and several liability for the performance of the NEXT Work required for Project NEXT. Performance securities shall be provided regardless of any co-surety relationship.

Article 6 Payment

6.1 Schedule of Payments

6.1.1 Design-Builder shall submit to Concessionaire, for its review and approval, and as part of its submission of the Baseline Schedule, a Schedule of Values indicating Design-Builder's anticipated monthly earnings schedule in accordance with Section 1.4 of Part 2 (NEXT Technical Requirements). Concessionaire reserves the right to withhold approval for all or part of Design-Builder's Applications for Payment, except for approved Early Works payments, until such time Design-Builder furnishes an approved Baseline Schedule.

6.1.2 The parties agree that progress payments for NEXT Work performed prior to Concessionaire's approval of the Baseline Schedule is based on the approved Initial Baseline Schedule.

6.1.3 Any payments made under Section 6.1.2 above shall not exceed the Schedule of Values included in Design-Builder's approved Baseline Schedule unless Concessionaire specifically approves this in writing.

6.2 Monthly Progress Payments

6.2.1 Prior to the eighth (8th) day of each month, Design-Builder shall submit a draft Application for Payment for Concessionaire's concurrence for all NEXT Work performed as of the end of the prior month and that is consistent with the progress reflected in the monthly Baseline Schedule update. The mutually agreed upon Application for Payment details shall then be submitted formally on or before the fifteenth (15th) day of the month. The Application for Payment shall be accompanied by all supporting documentation, including the full and complete Monthly Progress Report, required by the NEXT Contract Documents and/or established at the meeting required by

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Section 2.1.2 hereof. Payment shall be made in accordance with the following earned value calculation:

.1 Design-Builder shall identify each activity, and the value in dollars of such activity, in accordance with Section 6.1.1 above. Applications for Payment shall be made based on either a mutually agreeable earned value calculation or, if the parties are unable to reach mutual agreement, the following earned values:

.1 Design-Builder shall earn twenty percent (20%) of the value of an activity upon initiation of the respective activity.

.2 Design-Builder shall earn eighty percent (80%) of the value of an activity upon completion of the respective activity.

.2 QA/QC shall be an integral part of each activity. As part of each Application for Payment that includes completed activities, Design-Builder shall submit with the Application for Payment evidence of the QA/QC reviews, including any checklists, summary data, high-level/outline calculations or design checks, and evaluations of the work and the qualifications of the responsible personnel that completed the work, and the basis on which the relevant QA or QC reviewer relied on to make its determination the Work is complete and conforms to the requirements of the NEXT Contract Documents. Furthermore, the QAM shall: (a) verify that the design included in each activity has been completed in accordance with the NEXT Contract Documents; (b) certify that the construction included in each activity has been completed in accordance with the NEXT Contract Documents; and (c) certify that all required QA/QC tests, measurements, permits or other requirements have been completed and all non-conformance reports relative to the respective activity have been resolved. The QAM's certification for monthly Application of Payment for construction activities shall include the following statement: *As the Quality Assurance Manager, I certify, to the best of my knowledge, information and belief based upon and to the extent of: (i) current on-site observations and field testing required to be performed; and (ii) material certifications and test reports, that each NEXT Work Package shown herein as complete has been completed in accordance with the NEXT Contract Documents, and that all required QA/QC tests, measurements, permits or other requirements have been completed and all non-conformance reports relative to a respective NEXT Work Package have been resolved except for the attached list of open issues.*

.3 The invoices will be in a mutually agreed upon format, and include a reasonable level of back up documentation.

6.2.2 The Application for Payment may request payment for equipment and materials not yet incorporated into Project NEXT, provided that: (i) Concessionaire, in its sole discretion, agrees that it is willing to allow payment for such equipment and materials; (ii) Concessionaire is satisfied that the equipment and materials are suitably stored at either the Site or another acceptable location; (iii) the equipment and materials are protected by suitable insurance; and (iv) upon payment, Concessionaire will receive the equipment and materials free and clear of all liens and encumbrances.

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6.2.3 The Application for Payment shall constitute Design-Builder's representation that the NEXT Work has been performed consistent with the NEXT Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all NEXT Work will pass to Concessionaire free and clear of all claims, liens, encumbrances, and security interests upon the earlier of (i) incorporation of the NEXT Work into Project NEXT and (ii) Design-Builder's receipt of payment.

6.2.4 Not Used.

6.2.5 In each Application for Payment, Design-Builder shall (a) certify to Concessionaire that the Project NEXT Work, the NEXT Right of Way and any and all interests and estates therein, and all improvements and materials placed on the Project NEXT Site, are, to the extent of the most recent payment received by Design-Builder, free from any and all claims, liens, security interests or encumbrances in the nature of mechanics', labor or materialmen's liens or otherwise, arising out of or in connection with performance by Design-Builder, or any Subcontractor with aggregate Subcontracts in excess of \$50,000, of the NEXT Work, and (b) provide an interim lien waiver, in the form of Exhibit 6.2.5(a) hereto, of Design-Builder's lien claims, to the extent of the most recent payment received by Design-Builder, and interim lien waivers, in the form of Exhibit 6.2.5(b) hereto, from each Subcontractor with aggregate Subcontracts in excess of \$50,000, to the extent of the most recent payment received by Design-Builder, as are necessary to support Design-Builder's certificate. If any claim, lien, security interest or encumbrance is filed or notification of withholding money for labor or material furnished under the NEXT Contract Documents is served on Concessionaire, VDOT or any NEXT Financing Party, Concessionaire may withhold from any payment or other amount payable to Design-Builder under the NEXT Contract Documents or otherwise, an amount sufficient to discharge any or all such liens or claims, unless Design-Builder shall furnish a bond in form, substance and amount reasonably satisfactory to Concessionaire, VDOT and the NEXT Financing Parties to protect Concessionaire, the Project NEXT Work, NEXT Right of Way, and the Project NEXT Site against such liens or claims, and, after thirty (30) days from the time such lien or claim is made, unless Design-Builder shall have furnished a bond as described above, Concessionaire may discharge such lien or claim with the moneys withheld, whereupon for purposes of the NEXT Contract Documents such moneys shall be deemed to have been paid to Design-Builder hereunder. In addition, Design-Builder shall deliver to Concessionaire a final release and waiver of liens, in the form of Exhibit 6.2.5(c) hereto, from each Subcontractor with aggregate Subcontracts in excess of \$50,000 on the payment date next following the date on which final payment to such Subcontractor is made.

6.3 Withholding of Payments

6.3.1 On or before the date established in the NEXT Design-Build Contract, Concessionaire shall pay Design-Builder all amounts properly due. If Concessionaire determines that Design-Builder is not entitled to all or part of an Application for Payment because a portion of the Application is disputed, it will notify Design-Builder in writing at least seven (7) days prior to the date payment is due. The notice shall indicate the specific amounts Concessionaire intends to withhold, the reasons and contractual basis for the withholding, and the specific measures Design-Builder must take to rectify Concessionaire's concerns. Design-Builder and Concessionaire will attempt to resolve Concessionaire's concerns prior to the date payment is due. If the parties cannot resolve

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such concerns, Design-Builder may pursue its rights under the NEXT Contract Documents, including those under Article 10 hereof.

6.3.2 Notwithstanding anything to the contrary in the NEXT Contract Documents, Concessionaire shall pay Design-Builder all undisputed amounts in an Application for Payment within the times required by the NEXT Design-Build Contract.

6.4 Right to Stop NEXT Work and Interest

6.4.1 If Concessionaire fails to pay Design-Builder any amount that becomes due, Design-Builder, in addition to all other remedies provided in the NEXT Contract Documents, may stop NEXT Work pursuant to Section 11.4 hereof. All payments due and unpaid shall bear interest at the rate set forth in the NEXT Design-Build Contract.

6.5 Design-Builder's Payment Obligations

6.5.1 Design-Builder will pay Design Consultants and Subcontractors, in accordance with its contractual obligations to such parties, all the amounts Design-Builder has received from Concessionaire on account of their work. Design-Builder will impose similar requirements on Design Consultants and Subcontractors to pay those parties with whom they have contracted. Design-Builder will indemnify and defend Concessionaire against any claims for payment and mechanic's liens as set forth in Section 7.2.1 hereof.

6.6 Completion

6.6.1 Design-Builder shall have charge and care thereof and shall take every precaution against damage to any part of the NEXT Work thereof by action of the elements or from any other cause. Design-Builder shall rebuild, repair, restore, and make good on damage to any portion of the NEXT Work occasioned by any of the foregoing causes and shall bear the expense thereof. Design-Builder's obligations under this Section 6.6.1 shall cease as of the date Concessionaire has provided a signed Service Commencement Certificate to Design-Builder.

6.6.2 (Not Used)

6.6.3 Upon obtaining Final Completion, Design-Builder will provide Concessionaire with a Final Application for Payment. Concessionaire shall make final payment by the time required in the NEXT Design-Build Contract. At the time of submission of its Final Application for Payment, Design-Builder shall provide the following information:

.1 a final lien waiver, in the form of Exhibit 6.6.3, of all liens that Design-Builder may have against Concessionaire, for the Project NEXT Work and the NEXT Right of Way, and an affidavit that there are no claims, or obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the NEXT Work which will in any way affect Concessionaire's interests;

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.2 a general release executed by Design-Builder waiving, upon receipt of final payment by Design-Builder, all claims, except those claims previously made in writing to Concessionaire and remaining unsettled at the time of final payment, which claims shall be specifically listed in an attachment to the general release;

.3 consent of Design-Builder's surety to final payment;

.4 all operating manuals, warranties and other deliverables required by the NEXT Contract Documents, including the project records required by Section 11.1.10 of the NEXT Design-Build Contract; and

.5 certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of the NEXT Contract Documents.

Article 7 **Indemnification**

7.1 Patent and Copyright Infringement

7.1.1 Design-Builder shall defend any action or proceeding brought against any Project NEXT Indemnitee based on any claim that the NEXT Work, or any part thereof, or the operation or use of the NEXT Work or any part thereof, constitutes infringement of any United States patent or copyright, now or hereafter issued. Each Project NEXT Indemnitee shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless Project NEXT Indemnitees from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against Project NEXT Indemnitees or Design-Builder in any such action or proceeding. Design-Builder agrees to keep the Project NEXT Indemnitees informed of all developments in the defense of such actions.

7.1.2 If a Project NEXT Indemnitee is enjoined from the operation or use of the NEXT Work, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the NEXT Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Design-Builder's option and at Design-Builder's expense: (i) modify the NEXT Work so as to avoid infringement of any such patent or copyright; or (ii) replace said NEXT Work with NEXT Work that does not infringe or violate any such patent or copyright.

7.1.3 Sections 7.1.1 and 7.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright: (i) relating solely to a particular process or product of a particular manufacturer specified by Concessionaire and not offered or recommended by Design-Builder to Concessionaire; or (ii) arising from modifications to the NEXT Work by Concessionaire after acceptance of the NEXT Work.

7.2 Payment Claim Indemnification

7.2.1 Providing that Concessionaire is not in breach of its contractual obligation to make payments to Design-Builder for the NEXT Work, Design-Builder shall indemnify, defend and hold harmless Project NEXT Indemnitees from any claims or mechanic's liens brought against any Project NEXT Indemnitees or against Project NEXT as a result of the failure of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the NEXT Work. Within three (3) days of receiving written notice from a Project NEXT Indemnitee that such a claim or mechanic's lien has been made and/or filed, Design-Builder shall commence to take the steps necessary to resolve and/or discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond. If Design-Builder fails to do so, the Project NEXT Indemnitees will have the right to resolve and/or discharge the claim or lien and hold Design-Builder liable for costs and expenses incurred, including attorneys' fees.

7.3 Design-Builder's General Indemnification

7.3.1 Design-Builder, to the fullest extent permitted by law, shall indemnify, hold harmless and defend Project NEXT Indemnitees and NEXT Financing Parties from and against claims, losses, damages, liabilities, including attorneys' fees and expenses, for: (i) for any liabilities or damages to the extent resulting from the acts or omissions of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable; (ii) any violation of Sections 2.5, 2.6, or 2.8 hereof by Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable, or (iii) any actual or alleged inverse condemnation, trespass, nuisance or similar taking of or harm to real property committed or caused by a Design-Builder Party, in connection with Project NEXT arising from any actual or alleged (A) failure by Design-Builder to comply with, observe or perform any of the covenants, obligations, agreements, terms or conditions in this Agreement; (B) breach by Design-Builder of its representations or warranties set forth in this Agreement or (C) misconduct, negligence or other culpable act, error or omission of a Design-Builder Party; provided, however, that Design-Builder will not be required to indemnify, defend or hold harmless a Project NEXT Indemnitee from and against any Losses actually suffered or incurred by such Project NEXT Indemnitee due to third party claims that are based upon any actual inverse condemnation arising from the establishment of the NEXT Right of Way as defined in the NEXT Contract Documents and any real estate right outside the NEXT Right of Way acquired pursuant to this Agreement.

7.3.2 If an employee of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable, has a claim against a Project NEXT Indemnitee, Design-Builder's indemnity obligation set forth in Section 7.3.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder, Design Consultants, Subcontractors, or other entity under any employee benefit acts, including NEXT Workers' compensation or disability acts.

7.4 Defense and Indemnification Procedures

7.4.1 If Concessionaire receives notice of or otherwise has actual knowledge of a claim which it believes is within the scope of Design-Builder’s indemnification under the NEXT Contract Documents, it shall by writing as soon as practicable: (i) inform Design-Builder of such claim; (ii) send to Design-Builder a copy of all written materials Concessionaire has received asserting such claim; and (iii) notify Design-Builder that either: (a) the defense of such claim is being tendered to Design-Builder; or (b) Concessionaire has elected to conduct its own defense for a reason set forth below.

7.4.2 If the insurer under any applicable insurance policy accepts tender of defense, Design-Builder and Concessionaire shall cooperate in the defense as required by the insurance policy. If no defense is provided by insurers under potentially applicable insurance policies, then the following provisions shall apply.

7.4.3 If the defense is tendered to Design-Builder, it shall within forty-five (45) days of said tender deliver to Concessionaire a written notice stating that Design-Builder: (i) accepts the tender of defense and confirms that the claim is subject to full indemnification hereunder without any “reservation of rights” to deny or disclaim full indemnification thereafter; (ii) accepts the tender of defense but with a “reservation of rights” in whole or in part; or (iii) rejects the tender of defense if it reasonably determines it is not required to indemnify against the claim under the NEXT Contract Documents. If such notice is not delivered within such forty-five (45) days, the tender of defense shall be deemed rejected.

7.4.4 If Design-Builder accepts the tender of defense, Design-Builder shall have the right to select legal counsel for the Project NEXT Indemnitees, subject to reasonable approval of Concessionaire, and Design-Builder shall otherwise control the defense of such claim, including settlement, and bear the fees and costs of defending and settling such claim. During such defense: (i) Design-Builder shall, at Design-Builder’s expense, fully and regularly inform Concessionaire of the progress of the defense and of any settlement discussions; and (ii) Concessionaire shall, at Design-Builder’s expense for all of Concessionaire’s reasonable out-of-pocket third party expenses, fully cooperate in said defense, provide to Design-Builder all materials and access to personnel it requests as necessary for defense, preparation and trial and which or who are under the control of or reasonably available to Concessionaire and maintain the confidentiality of all communications between it and Design-Builder concerning such defense to the extent allowed by law.

7.4.5 Concessionaire shall be entitled to select its own legal counsel and otherwise control the defense of such claim if: (i) the defense is tendered to Design-Builder and it refuses the tender of defense, or fails to accept such tender within forty-five (45) days, or reserves any right to deny or disclaim such full indemnification thereafter; or (ii) Concessionaire, at the time it gives notice of the claim or at any time thereafter, reasonably determines that: (a) a conflict exists between it and Design-Builder which prevents or potentially prevents Design-Builder from presenting a full and effective defense; or (b) Design-Builder is otherwise not providing an effective defense in connection with the claim and Design-Builder lacks the financial capability to satisfy potential liability or to provide an effective defense. Concessionaire may assume its own defense pursuant

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to the above by delivering to Design-Builder written notice of such election and the reasons therefore.

7.4.6 If Concessionaire is entitled and elects to conduct its own defense pursuant hereto, all reasonable costs and expenses it incurs in investigating and defending and claim for which it is entitled to indemnification hereunder (and any settlements or judgments resulting therefrom) shall be reimbursed by Design-Builder after completion of the proceeding.

7.4.7 If Concessionaire is entitled to and elects to conduct its own defense, then it shall have the right to settle or compromise the claim with Design-Builder's prior written consent, which shall not be unreasonably withheld or delayed, or with approval of the court, and with the full benefit of Design-Builder's indemnity. Notwithstanding the foregoing, if Concessionaire elects to conduct its own defense and it is later determined that no indemnification obligation existed as to the particular claim, Concessionaire shall pay its own costs and expenses relating thereto. In addition, if Concessionaire elects to conduct its own defense because it perceives a conflict of interest, Concessionaire shall pay its own costs and expenses relating thereto.

Article 8 **Time**

8.1 Obligation to Achieve the NEXT Contract Time

8.1.1 Design-Builder agrees that it will commence performance of the NEXT Work and achieve the NEXT Contract Time in accordance with Article 5 of Part 3 (NEXT Design-Build Contract).

8.2 Delays to the NEXT Work

8.2.1 If Design-Builder is delayed in the performance of the NEXT Work due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own, Subcontractors, Design Consultants, or those for whom Design-Builder, Subcontractors, or Design Consultants are responsible, Design-Builder may submit a request for a Work Order that the NEXT Contract Time for performance be reasonably extended by Work Order. By way of example, events that Concessionaire may consider for an extension of the NEXT Contract Time include acts or omissions of Concessionaire or anyone under Concessionaire's control (including separate contractors), changes in the NEXT Work, Differing Site Conditions, Hazardous Materials, wars, floods in excess of the base flood (as defined in the Division 1 Amendment), hurricane force winds, tornados, industry-wide or regional strikes or labor disputes, stop-work order or an injunction issued by a governmental authority of competent jurisdiction and earthquakes that cause ground accelerations in excess of AASHTO bridge design standards for the Site. It is specifically understood that other than floods in excess of the base flood (as defined in the Division 1 Amendment), hurricane force winds and tornados, Design-Builder assumes the risk, and will not be entitled a time extension for any delays caused by weather or conditions resulting from weather.

8.2.2 In addition to Design-Builder's right to a time extension for those events set forth in Section

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8.2.1 above, Design-Builder shall also be entitled to submit a request for an appropriate adjustment of the Contract Price provided, however, that the Contract Price shall not be adjusted for those events set forth in Section 8.2.1 above that are beyond the control of both Design-Builder and Concessionaire, including the events of wars, floods in excess of the base flood (as defined in the Division 1 Amendment), hurricane force wind, tornados, labor disputes, and earthquakes that cause ground accelerations in excess of AASHTO bridge design standards for the Site.

8.2.3 As a condition precedent to Design-Builder receiving an extension of the NEXT Contract Time, Design-Builder shall demonstrate that: (i) notice has been given by Design-Builder as provided in these General Conditions; (ii) the delay impacts the critical path (as reflected on the most recent approved monthly Baseline Schedule update) and is outside the reasonable control of Design-Builder; (iii) Design-Builder's performance would not have been concurrently delayed or interrupted by any event other than those identified in Section 8.2.1 above; (iv) Design-Builder, in view of all the circumstances, has exercised reasonable efforts to avoid the delay and did not cause the delay; and (v) Design-Builder has complied with the requirements of Section 8.3 below. Delays of Subcontractors shall be deemed to be within the reasonable control of Design-Builder, unless such delays are themselves excusable in accordance with the provisions of Section 8.2.1.

8.2.4 Should Concessionaire have a reasonable belief that the NEXT Contract Time will not be met for causes that do not constitute an excusable delay under Section 8.2.1 above, Concessionaire has the right, but not the obligation, to so notify Design-Builder, and Design-Builder shall then work additional overtime, engage additional personnel and take such other measures as necessary to complete the NEXT Work within the NEXT Contract Time. Design-Builder shall bear all costs related to such overtime, additional personnel and other measures.

8.2.5 Notwithstanding the right of Design-Builder to receive a time extension pursuant to Section 8.2.1, Design-Builder agrees that if it encounters an excusable delay, it will, if directed by Concessionaire, develop and implement a recovery schedule and plan to improve progress and take such measures to overcome such delay.

8.3 Time Impact Analysis for Proposed Time Extensions

8.3.1 If Design-Builder claims that any event, including but not limited to a change in the NEXT Work, justifies an extension to the NEXT Contract Time, Design-Builder shall submit to Concessionaire a written Time Impact Analysis (TIA) in accordance with Section 1.4 of Part 2 (NEXT Technical Requirements). Upon approval by Concessionaire, the event shall be included in the next Baseline Schedule update.

8.3.2 Activity delays shall not automatically mean that an extension of the NEXT Contract Time is warranted or due Design-Builder. Design-Builder recognizes that certain events will not affect existing critical activities or cause non-critical activities to become critical, and that such events may result in only absorbing a part of the available total float that may exist within an activity chain of the net NEXT Work, thereby not causing any effect on the NEXT Contract Time.

8.3.3 Float is not for the exclusive use or benefit of either Concessionaire or Design-Builder, but rather shall be used for the benefit of the overall Project. Activity splitting or float suppression

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techniques will not be permitted. Extension of the NEXT Contract Time(s) will be granted only to the extent the equitable time adjustments to the activity or activities affected by the event exceeds the total float of a critical activity or path and extends the NEXT Contract Time.

8.3.4 Each TIA shall be submitted in accordance with the timeframes required for the filing of a written notice for contract adjustment or relief pursuant to Section 10.1.

8.3.5 In cases where Design-Builder does not submit a TIA which meets requirements stated above, it shall be considered a waiver of any request for an extension of the NEXT Contract Time.

Article 9

Changes to the NEXT Contract Price and Time

9.1 Work Orders

9.1.1 A **Work Order** (change order), is a written instrument, issued after the NEXT Design-Build Contract Date signed by Concessionaire and Design-Builder, stating their agreement upon all of the following:

- .1 The scope of the change in the NEXT Work;
- .2 The amount of the adjustment to the NEXT Contract Price; and
- .3 The extent of the adjustment to the NEXT Contract Time.

9.1.2 All changes in the NEXT Work authorized by an approved Work Order shall be performed under the applicable conditions of the NEXT Contract Documents. Concessionaire and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes.

9.1.3 If Concessionaire requests a proposal for a change in the NEXT Work from Design-Builder, Design-Builder will respond within twenty-eight (28) days with a proposal.

9.2 Contract Change Directive

9.2.1 A **Contract Change Directive** (CCD) is a written order prepared and signed by Concessionaire, directing a change in the NEXT Work prior to agreement on an adjustment in the NEXT Contract Price and/or the NEXT Contract Time.

9.2.2 Concessionaire and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for the Contract Change Directive. Upon reaching an agreement, the parties shall prepare and execute an appropriate Work Order reflecting the terms of the agreement.

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9.2.3 Concessionaire may issue a CCD by unilateral Work Order, subject further to the terms of Section 9.4.1.4.

9.3 Minor Changes in the NEXT Work

9.3.1 Minor changes in the NEXT Work do not involve an adjustment in the NEXT Contract Price and/or NEXT Contract Time and do not materially and adversely affect the NEXT Work, including the design, quality, performance and workmanship required by the NEXT Contract Documents. Design-Builder may make minor changes in the NEXT Work consistent with the intent of the NEXT Contract Documents, provided, however that Design-Builder shall promptly inform Concessionaire, in writing, of any such changes and record such changes on the documents maintained by Design-Builder. If either party disputes that such changes are minor changes, the disputing party shall promptly notify the other party in writing.

9.4 NEXT Contract Price Adjustments

9.4.1 The increase or decrease in NEXT Contract Price resulting from a change in the NEXT Work shall be determined by one or more of the following methods:

.1 Unit prices set forth in the NEXT Design-Build Contract or as subsequently agreed to between the parties;

.2 A mutually accepted, lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by Concessionaire;

.3 Costs, fees and any other markups set forth in accordance with Section 109.05 of the Division 1 Amendments; and

.4 If an increase or decrease cannot be agreed to as set forth in items .1 through .3 above and Concessionaire issues a Contract Change Directive, the cost of the change of the NEXT Work shall be determined by the reasonable expense and savings in the performance of the NEXT Work resulting from the change, including a reasonable overhead and profit, as may be set forth in the NEXT Design-Build Contract. If the net result of both additions and deletions to the NEXT Work is an increase in the NEXT Contract Price, overhead and profit shall be calculated on the basis of the net increase to the NEXT Contract Price. If the net result of both additions and deletions to the NEXT Work is a decrease in the NEXT Contract Price, there shall be no overhead or profit adjustment to the NEXT Contract Price. Design-Builder shall maintain a documented, itemized accounting evidencing the expenses and savings associated with such changes.

9.4.2 If unit prices are set forth in the NEXT Contract Documents or are subsequently agreed to by the parties, but application of such unit prices will cause substantial inequity to Concessionaire or Design-Builder because of differences in the character or quantity of such unit items as originally contemplated, such unit prices shall be equitably adjusted. Design-Builder shall bear the burden of proving that there is a substantial inequity in the unit rates.

9.5 Emergencies

9.5.1 In any emergency affecting the safety of persons and/or property, Design-Builder shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the NEXT Contract Price and/or NEXT Contract Time on account of emergency work shall be determined as provided in this Article 9.

Article 10
Contract Adjustments and Disputes

10.1 Requests for Contract Adjustments and Relief

10.1.1 If Design-Builder believes that it is entitled to an adjustment to the NEXT Contract Price or NEXT Contract Time or other relief for any occurrence arising out of or related to the Project NEXT Work or Project NEXT, including the acts or omissions of Concessionaire, it shall submit a written request to Concessionaire stating the basis for such NEXT Contract Price or NEXT Contract Time adjustment or relief.

10.1.2 Such request shall be submitted: (a) prior to Design-Builder incurring any cost or expense, or performing any work on which the request is based; and (b) in accordance with any specific requirements contained in applicable sections of these General Conditions of Contract or, absent any specific requirement, then within a reasonable time, not to exceed twenty-one (21) days, after the time of the occurrence giving rise to the request for NEXT Contract Price or NEXT Contract Time adjustment or relief or after Design-Builder reasonably should have recognized the occurrence giving rise to the request for a NEXT Contract Price or NEXT Contract Time adjustment or relief, whichever is later.

10.1.3 Such request shall include sufficient information to advise Concessionaire of the facts and circumstances giving rise to the request for a NEXT Contract Price or NEXT Contract Time adjustment or relief, the specific contractual adjustment or relief requested and the basis for Design-Builder's entitlement to the adjustment or relief.

10.1.4 If Design-Builder in good faith is unable to provide final price or schedule information at the time of its written request, Design-Builder shall provide final price and schedule information no later than thirty (30) days from the date of submitting its request for contractual adjustment or relief.

10.1.5 In cases where Design-Builder does not submit final price and schedule information within thirty (30) days of submitting its request, it shall be considered a waiver of any request for contract adjustment or relief for a NEXT Contract Price or NEXT Contract Time adjustment, unless otherwise agreed in writing by Concessionaire.

10.2 Dispute Resolution

10.2.1 Good Faith Efforts to Resolve Disputes. The parties shall make good faith efforts to resolve any claim, dispute or controversy arising out of or relating to this Agreement, including but not limited to those arising out of or related to an alleged change to the Work or request for contract adjustment to the Contract Price or Contract Time or arising out of or related to the breach, termination or invalidity of this Agreement, and those arising in tort or contract (collectively “Disputes”).

10.2.2 Notice of Disputes. A written notice to the counter party is required if either party wishes to initiate a Dispute pursuant to Section 10.2. Any such notice shall be provided by Concessionaire to Design-Builder within 180 days of the occurrence of the event giving rise to the Dispute. Any such notice shall be provided by Design-Builder to Concessionaire within 180 days of *either*: a) Concessionaire’s denial of a Scope Issue pursuant to Section 2.2.4 or b) the occurrence of another event giving rise to a Dispute. Failure to provide timely notice shall be considered a waiver of the Design-Builder’s request for Dispute Resolution, unless otherwise agreed in writing by Concessionaire.

10.2.3 Negotiations between Representatives. Design-Builder and Concessionaire will attempt to resolve all Disputes through best efforts and good faith negotiations between Design-Builder’s Representative and Concessionaire’s Representative (“**Project Representatives**”). Prior to any meetings between the Project NEXT Representatives, the parties will exchange relevant information that will assist the Project NEXT Representatives in resolving the Dispute. All negotiations and discussions pursuant to this Section 10.2.3 shall be deemed compromise and settlement negotiations, subject to all evidentiary rules under applicable law. Both parties shall endeavor to resolve any such Disputes within 90 days of the written notice provided in accordance with Section 10.2.2.

10.3 Arbitration

10.3.1 Except as set forth in Section 10.5 below, all Disputes that have not been resolved through the process set forth in Section 10.2 shall be resolved by arbitration conducted in accordance with the then-prevailing American Arbitration Association’s Construction Industry Rules (“**AAA Rules**”) for arbitration and the procedures set forth in this Section 10.3. To the extent there is a conflict between the AAA Rules and this Section 10.3, this Section 10.3 shall govern.

10.3.2 The arbitration shall be held in the Commonwealth of Virginia or such other location if the parties mutually agree. If the aggregate amount of a Party’s claims or counterclaims, exclusive of interest, costs and attorney’s fees, does not exceed Five Hundred Thousand Dollars (\$500,000), the arbitration shall be conducted before a single arbitrator in accordance with the applicable procedures of the AAA Rules. Otherwise, the arbitration shall be conducted in accordance with the Large Case Construction Rules of the AAA, before a panel of three (3) arbitrators, with each Party selecting one arbitrator and the third arbitrator, who shall be the Chair of the panel, being selected by the two Party-appointed arbitrators. The AAA shall be empowered to appoint any arbitrator not named in accordance with the procedure herein or to appoint a Chair pursuant to the AAA Rules should the Party-appointed arbitrators not be able to agree upon a Chair within a

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reasonable time. The award of the arbitrators will be final and binding on both parties and may be enforced in any court having jurisdiction over the party against which enforcement is sought.

10.3.3 If aggregate amount of a Party's claims or counterclaims exceeds \$2,000,000, exclusive of interest, costs and attorney's fees, or if the claim or counterclaim seeks any equitable remedy, including injunctive relief or specific performance, then such claims shall not be subject to arbitration, but rather shall be subject to judicial resolution in accordance with Section 10.5 below.

10.4 Consequential Damages

10.4.1 Notwithstanding anything herein to the contrary (except as set forth in Section 10.4.2 below), neither Design-Builder nor Concessionaire shall be liable to the other for any consequential losses or damages, whether arising in contract, warranty, tort (including negligence), strict liability or otherwise, including but not limited to losses of use, profits, business, reputation or financing.

10.4.2 The consequential damages limitation set forth in Section 10.4.1 above will not affect the payment of (i) liquidated damages set forth in Article 5 of Part 3 (NEXT Design-Build Contract), which both parties recognize has been established, in part, to reimburse Concessionaire for some damages that might otherwise be deemed to be consequential, (ii) third party claims arising under Design-Builder's indemnification obligations set forth in Article 7 herein or (iii) losses or damages arising from Design-Builders gross negligence, willful misconduct or fraud.

10.5 Judicial Resolution

10.5.1 Each Party hereby agrees that any action referred to judicial process in accordance with the provisions of Section 10.3.3 shall be instituted in a court of competent jurisdiction in the Commonwealth of Virginia, which shall be the sole and exclusive jurisdiction and venue for any legal action between the parties arising out of or relating to this Contract.

10.5.2 Each of the parties hereby irrevocably consents to such jurisdiction and irrevocably waives any objections, including, without limitation, any objection to the laying of venue or based on the grounds of forum non conveniens, which it may now or hereafter have to the bringing of any such action or proceeding in such jurisdiction. The foregoing is without prejudice to the right of any prevailing party to seek enforcement of any judgment rendered in a court in any jurisdiction where the losing party or its property may be located. Each of the parties also consents to the exclusive jurisdiction of such Virginia courts for purposes of aid in support of arbitration and the enforcement of any arbitral award made under the provisions of Section 10.3.2.

10.5.3 THE PARTIES HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHTS THEY MAY HAVE TO A TRIAL BY JURY IN ANY LITIGATION ARISING OUT OF OR RELATED TO THIS AGREEMENT.

10.6 Voluntary Mediation. If the Dispute has not been resolved by the Project NEXT Representatives within a reasonable time, then either Design-Builder or Concessionaire may suggest to the other that the Dispute be referred to mediation. If the other Party is interested in

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pursuing mediation, then it shall consult with the other to determine the processes and conditions associated with the mediation, including but not limited to the exchange of reasonable information and documents relating to the Dispute and the names of potential mediators. The costs of the mediator will be shared equally by both parties. For the avoidance of doubt, mediation is voluntary and will not be a condition precedent to arbitration or the institution of judicial proceedings.

10.7 Attorneys' Fees and Costs. Each party shall bear its own expenses of any arbitration or judicial process, including but not limited to attorney's fees, provided, however, that if the arbitrator(s) or court determines that the claim or defense of a Party was frivolous (i.e. without justifiable merit), then it shall have the right to award such attorney's fees and other costs as it may deem appropriate.

10.7 Survival. The provisions of this Article 10 shall survive the termination of this NEXT Design-Build Contract. All provisions of the NEXT Contract Documents which are expressly or by implication to come into or continue in force and effect after the expiration or termination of this Agreement shall remain in effect and be enforceable following such expiration or termination.

10.8 Common Issue in Dispute under the Comprehensive Agreement. Notwithstanding any other provision in the NEXT Contract Documents to the contrary, if any issue that materializes into a Dispute is also the subject of a concurrent dispute under the Comprehensive Agreement, the parties shall cause the Dispute arising hereunder to be consolidated with the dispute resolution process occurring pursuant to the Comprehensive Agreement, the terms of which are set forth in Exhibit 10.8. If Design-Builder elects not to consolidate the applicable Dispute as set forth in the preceding sentence, or for any other reason the applicable Dispute is not consolidated with the concurrent dispute under the Comprehensive Agreement, then any ongoing proceeding regarding such Dispute shall be stayed pending final resolution of the dispute under the Comprehensive Agreement, which resolution, to the extent it resolves the issues related to the Dispute hereunder, shall be binding on the parties for all purposes of the NEXT Contract Documents.

Article 11

Stoppage of NEXT Work and Termination for Cause

11.1 Concessionaire's Right to Suspend NEXT Work

11.1.1 Concessionaire has the authority to suspend the NEXT Work wholly or in part by written order if Design-Builder: a) fails to properly carry out any provisions of the Contract Documents, including non-conforming Work or the failure to comply with any Law or Governmental Approval or conditions thereof; or b) fails to correct conditions that are deemed unsafe or to be a risk to worker or public health, safety or welfare.

11.1.2 If the suspension is due to a Design-Builder failure to perform in accordance with Section 11.1.1, Design-Builder shall commence to cure the specific failure noted in Concessionaire's written notice immediately of the notice and expedite the completion of such cure. The suspended Work shall be resumed when Concessionaire verifies that Design-Builder has completed the necessary corrective actions or when Concessionaire determines that any unsuitable conditions

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which necessitated the suspension are no longer present.

11.1.3 Unless specifically directed otherwise by Concessionaire, Design-Builder shall, during the stoppage period, continue to have full responsibility for Project NEXT, including but not limited to its obligations to take such precautions as may be necessary to prevent damage to the NEXT Work, comply with Governmental Approvals, and ensure public safety. Such obligations include, but are not limited to, erosion control and drainage and erection of any necessary temporary structures, signs, or other facilities.

11.1.4 Design-Builder shall not be entitled to any adjustment in the Contract Price and/or Contract Time in connection with any suspension issued by Concessionaire under this Section 11.1.

11.2 Concessionaire’s Right to Stop NEXT Work

11.2.1 Concessionaire may, without cause and for its convenience, order Design-Builder in writing to stop the NEXT Work. Any suspension in excess of one hundred and eighty (180) days (whether consecutive or in aggregate) shall entitle Design-Builder to terminate the NEXT Contract Documents pursuant to Section 11.4.1.1.

11.2.2 Design-Builder is entitled to seek an adjustment of the NEXT Contract Price and/or NEXT Contract Time if its cost or time to perform the NEXT Work has been adversely impacted by any stoppage of work by Concessionaire pursuant to this Section 11.2, by requesting contract adjustment or relief in accordance with Section 10.1.

11.2.3 In case of any stoppage of the NEXT Work, Concessionaire shall issue instructions and directions to Design-Builder as to the implementation of the stoppage, which may include directing Design-Builder to develop a maintenance and transition plan. Unless specifically directed otherwise by Concessionaire, Design-Builder shall, during the stoppage period, continue to have full responsibility for Project NEXT, including but not limited to its obligations to take such precautions as may be necessary to prevent damage to the NEXT Work, comply with Governmental Approvals, and ensure public safety. Such obligations include, but are not limited to, erosion control and drainage and erection of any necessary temporary structures, signs, or other facilities.

11.3 Concessionaire’s Right to Perform and Terminate for Cause

11.3.1 Each of the following with respect to the Design-Builder shall constitute a “**Design-Builder Event of Default**”:

- a. failure to begin the NEXT Work upon receipt of Concessionaire’s LNTP or Work NTP;
- b. failure to provide a sufficient number of skilled workers, equipment, or supply the materials required by the NEXT Contract Documents;
- c. failure to comply with applicable Legal Requirements;

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- d. failure to timely pay undisputed amounts owed by Design-Builder to Design Consultants or Subcontractors, for any reason other than failure of Concessionaire to pay Design-Builder;
- e. failure to prosecute the NEXT Work with promptness and diligence to ensure that the NEXT Work is completed by the NEXT Contract Time, as such times may be adjusted pursuant to the NEXT Contract Documents;
- f. failure to timely submit any NEXT Final Completion Recovery Plan required and/or failure to diligently implement such approved plan;
- g. failure to obtain or maintain any applicable performance security or insurance coverages required herein;
- h. failure to perform other obligations not otherwise specified in Section 11.3.1 under the NEXT Contract Documents;
- i. failure to complete the NEXT Work by the NEXT Long Stop Date, or otherwise abandons the NEXT Work;
- j. failure to make timely payments of any amount due to Concessionaire under the NEXT Design-Build Contract;
- k. bankruptcy of Design-Builder as described in Section 11.6.
- l. Design-Builder's aggregate liability, including liquidated damages, has reached or exceeded its limitation of liability; or
- m. VDOT terminates Concessionaire's Comprehensive Agreement for reasons attributable to Design-Builder,

then Design-Builder may be declared in default and Concessionaire, in addition to any other rights and remedies provided in the NEXT Contract Documents or by law, shall have the rights set forth in Section 11.3.2 below.

11.3.2 If any of the conditions set forth in Section 11.3.1 above exists, Concessionaire will give written notice to Design-Builder and its surety of the condition. If, subject to the terms of the NEXT Direct Agreement, within ten (10) days after such notice, Design-Builder or its surety fails to cure, or reasonably commence to cure, such condition to the satisfaction of Concessionaire, or such condition is incapable of cure, then Concessionaire may then, or at any time thereafter, send a second written notice to Design-Builder declaring Design-Builder in default. To the extent that an event set forth in Section 11.3.1 is not reasonably capable of cure within ten (10) days, the period for any such cure shall not extend beyond the reasonable period required to implement such cure, which shall in no event be longer than 60 days from the date of the original Concessionaire's

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notice. Upon declaring Design-Builder in default, Concessionaire shall have the right, among other things, to terminate this NEXT Design-Build Contract for default.

11.3.3 Upon terminating this NEXT Design-Build Contract for default, Concessionaire will have the right to, in addition to any other right available at law, take possession, for the purpose of completing the NEXT Work, of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the NEXT Work, all of which Design-Builder hereby transfers, assigns and sets over to Concessionaire for such purpose, and to employ any person or persons to complete the NEXT Work and provide all of the required labor, services, materials, equipment and other items. Design-Builder specifically agrees that it will assign all subcontracts and any other agreements with Design Consultants to Concessionaire, upon Concessionaire's written demand that it do so. In the event of such termination, Design-Builder shall not be entitled to receive any further payments under the NEXT Contract Documents until Final Completion. At such time, if the unpaid balance of the NEXT Contract Price exceeds the cost and expense incurred by Concessionaire in completing the NEXT Work, such excess shall be paid by Concessionaire to Design-Builder, subject to the terms of the NEXT Direct Agreement. If Concessionaire's cost and expense of completing the NEXT Work exceeds the unpaid balance of the NEXT Contract Price, then Design-Builder shall be obligated to pay the difference to Concessionaire. Such costs and expense shall include not only the cost of completing the NEXT Work, but also losses, damages, costs and expense, including attorneys' fees and expenses, incurred by Concessionaire in connection with the re-procurement and defense of claims or other losses, damages, costs and expenses arising from Design-Builder's Event of Default.

11.3.4 Concessionaire shall have the right, upon the occurrence of any of the conditions set forth in Section 11.3.1 above, and regardless of whether or not Design-Builder is declared in default and/or terminated, to communicate with Design-Builder's surety and compel such surety to cure such conditions.

11.4 Design-Builder's Right to Stop NEXT Work

11.4.1 Design-Builder may, in addition to any other rights afforded under the NEXT Contract Documents or at law, stop work for Concessionaire's failure to pay amounts properly due under Design-Builder's Application for Payment.

11.4.2 Should any of the events set forth in Section 11.4.1 above occur, before exercising its rights under this section, Design-Builder shall provide Concessionaire with written notice that Design-Builder will stop work unless said event is cured within fifteen (15) days from Concessionaire's receipt of Design-Builder's notice. If Concessionaire does not cure the problem within such fifteen (15) day period, Design-Builder may stop work. In such case, Design-Builder shall be entitled to make a claim for adjustment to the NEXT Contract Price and NEXT Contract Time to the extent it has been adversely impacted by such stoppage.

11.5 Design-Builder’s Right to Terminate for Cause

11.5.1 Design-Builder, in addition to any other rights and remedies provided in the NEXT Contract Documents or by law, may terminate the NEXT Design-Build Contract for cause for the following reasons:

.1 The NEXT Work has been stopped for one hundred eighty (180) consecutive days, or more than one hundred eighty (180) days during the duration of Project NEXT, because of court order, any Governmental Unit having jurisdiction over the NEXT Work, or orders by Concessionaire under Section 11.1.1 hereof, provided that such stoppages are not due to the acts or omissions of Design-Builder or anyone for whose acts Design-Builder may be responsible.

.2 Concessionaire’s failure to provide Design-Builder with any information, permits or approvals that are Concessionaire’s or VDOT’s responsibility under the NEXT Contract Documents which result in the NEXT Work being stopped for one hundred eighty (180) consecutive days, or more than one hundred eighty (180) days during the duration of Project NEXT, even though Concessionaire has not ordered Design-Builder in writing to stop and suspend the NEXT Work pursuant to Section 11.1.1 hereof.

.3 Concessionaire’s failure to cure the issues set forth in Section 11.4.1 above after Design-Builder has stopped the NEXT Work.

11.5.2 Upon the occurrence of an event set forth in Section 11.4.1 above, Design-Builder may provide written notice to Concessionaire that it intends to terminate the NEXT Design-Build Contract unless the problem cited is cured, or commenced to be cured, within ten (10) days of Concessionaire’s receipt of such notice. If Concessionaire fails to cure, or reasonably commence to cure, such problem, then Design-Builder may give a second written notice to Concessionaire of its intent to terminate within an additional ten (10) day period. If Concessionaire, within such second ten (10) day period, fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare, subject to the terms of the NEXT Direct Agreement, the NEXT Design-Build Contract terminated for default by providing written notice to Concessionaire of such declaration. In such case, Design-Builder shall be entitled to recover in the same manner as if Concessionaire had terminated the NEXT Design-Build Contract for its convenience under Article 8 of Part 3 (NEXT Design-Build Contract).

11.6 Bankruptcy of Design-Builder

11.6.1 If Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code, such event may impair or frustrate Concessionaire’s ability to perform its obligations under the NEXT Contract Documents. Accordingly, should such event occur:

.1 Design-Builder, its trustee or other successor, shall furnish, upon request of Concessionaire, adequate assurance of the ability of Design-Builder to perform all future material obligations under the NEXT Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

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.2 Concessionaire shall have the right to terminate the NEXT Design-Build Contract if the applicable case under the United States Bankruptcy Court has not been dismissed within thirty (30) days of its filing.

11.6.2 The rights and remedies under Section 11.5.1 above shall not be deemed to limit the ability of Concessionaire to seek any other rights and remedies provided by the NEXT Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code. It shall also not limit the ability of Concessionaire to seek recourse against Design-Builder's surety, who shall be obligated to perform notwithstanding the bankruptcy proceedings against Design-Builder.

Article 12 Miscellaneous

12.1 Assignment

12.1.1 Neither party shall have the right, power or authority to assign or delegate the NEXT Design-Build Contract or any portion thereof, either voluntarily or involuntarily, or by operation of law, without prior written consent, which may be granted or withheld in the sole discretion of such other party; provided that Concessionaire may without Design-Builder's consent assign all of its rights and interests in and under this Agreement to the NEXT Financing Parties as collateral security for its obligations. Upon request by Concessionaire, on or before the NEXT Financial Close Date, Design-Builder shall enter into a direct agreement substantially in the form of Exhibit 12.1.1 with Concessionaire and the NEXT Financing Parties or their agent (the "**NEXT Direct Agreement**"), which will provide for Contractor's consent to Concessionaire's assignment of all its right, title, and interest in, to and under the NEXT Design-Build Contract to the NEXT Financing Parties as collateral security for Concessionaire's obligations under agreements with the NEXT Financing Parties; the NEXT Financing Parties may further assign such rights without Design-Builder's consent thereto in connection with the exercise of remedies against Concessionaire. Concessionaire also may assign to a State Party or a non-profit special purpose entity established by the Commonwealth to deliver Project NEXT any or all of its rights under this NEXT Design-Build Contract and the other NEXT Contract Documents without Design-Builder's consent. Nothing in this Section 12.1.1 shall be deemed to preclude Design-Builder from subcontracting portions of the NEXT Work in accordance with the terms of the NEXT Design-Build Contract and these General Conditions.

12.2 Successorship

12.2.1 Design-Builder and Concessionaire intend that the provisions of the NEXT Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

12.3 Governing Law

12.3.1 The NEXT Design-Build Contract and all NEXT Contract Documents shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

12.4 Severability

12.4.1 If any provision or any part of a provision of the NEXT Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the NEXT Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

12.5 No Waiver

12.5.1 The failure of either Design-Builder or Concessionaire to insist, in any one or more instances, on the performance of any of the obligations required by the other under the NEXT Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

12.6 No Third-Party Beneficiary Status

12.6.1 The NEXT Contract Documents and all rights thereunder are intended for the benefit of Concessionaire and Design-Builder, the NEXT Financing Parties, VDOT and the Project NEXT Indemnitees, and shall not imply or create any rights on the part of, or obligations to, another person, including members of the public, third-party beneficiary status hereunder.

12.7 Headings

12.7.1 The headings used in these General Conditions of Contract, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

12.8 Notice

12.8.1 Whenever the NEXT Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given: (i) if delivered in person to the individual intended to receive such notice; (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in the NEXT Design-Build Contract; or (iii) if transmitted through the Electronic Document Management System (EDMS) as described in Part 2 – Project NEXT Technical Requirements.

Unless otherwise permitted by the NEXT Design-Build Contract, any notices provided in accordance with this Section 12.8.1 shall be sent to the following addresses:

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From Design-Builder to Concessionaire:

Capital Beltway Express LLC
6440 General Green Way
Alexandria, VA 22312
Attention: Ms. Victoria Jones
Telephone: 571-419-6100
Fax: 571-419-6101

With a copy to:

Transurban (USA) Inc.
6440 General Green Way
Alexandria, VA 22312
Attention: Mr. Jeffrey Taylor
Telephone: 571-419-6100
Fax: 571-419-6101

From Concessionaire to Design-Builder:

The Lane Construction Corporation
14500 Avion Parkway, Suite 200
Chantilly, VA 20151
Attention: Mr. Ryan C. Terry
Telephone: 703-222-5670
Fax: 703-222-5960

With a copy to:

The Lane Construction Corporation
14500 Avion Parkway, Suite 200
Chantilly, VA 20151
Attention: Mr. [Dennis Luzier](#)
Telephone: 703-222-5670
Fax: 703-222-5960

12.9 Amendments

12.9.1 The NEXT Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party, and in the event any change, alteration, or amendment deviates from, or conflicts with, the Comprehensive Agreement or the Technical Requirements set forth therein, VDOT must approve such change, alteration, or amendment.

12.9.2 Design-Builder agrees to cooperate with Concessionaire in the negotiation and execution of reasonable amendments or additions to the NEXT Design-Build Contract required by any of the

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NEXT Financing Parties providing debt financing for the construction of Project NEXT. Any proposed amendment or addition which would materially increase Design-Builder's costs or risk exposure without appropriate compensation will not be considered reasonable.

12.10 Coordination and Cooperation with VDOT and NEXT Financing Parties. Design-Builder acknowledges that VDOT and the NEXT Financing Parties shall have the right to review and approve this Agreement and that they may require as a condition to such approval certain rights for their benefit, including the rights to: (a) receive notices of default by Design-Builder and notices of inspections and tests, (b) review schedules, progress reports and payments, (c) approve Service Commencement and/or Final Completion, and (d) have the NEXT Financing Parties' Technical Advisers inspect the progress of Project NEXT and Design-Builder's NEXT Work. Design-Builder agrees to cooperate with each of VDOT and the NEXT Financing Parties to the extent reasonably required in order for Concessionaire to obtain any necessary VDOT approvals and to obtain financing for Project NEXT.

12.11 Confidentiality. Each Party shall hold in confidence for a period ending five (5) years after the earlier of (i) Final Completion of the entire Project NEXT or (ii) the earlier termination hereof, any confidential information (marked as such) supplied to it by the other party or otherwise related to the NEXT Contract Documents or Project NEXT. Design-Builder shall inform its Subcontractors, suppliers, vendors and employees of its obligations under this Section 12.12 and shall require each of its Subcontractors, suppliers, vendors and employees to execute confidentiality arrangements substantially in the form of this Section 12.11.

Notwithstanding the foregoing, each Party may disclose the following categories of information or any combination thereof:

- (i) information which was in the public domain prior to receipt thereof by such party or which subsequently becomes part of the public domain by publication or otherwise except by a wrongful act of such Party or, in the case of Design-Builder, any Subcontractor;
- (ii) information that such party can show was lawfully in its possession prior to receipt thereof from the other party through no breach of any confidentiality obligation;
- (iii) information received by such party from a third party having no obligation of confidentiality with respect thereto;
- (iv) information at any time developed independently by such party provided it is not developed from otherwise confidential information;
- (v) information disclosed pursuant to and in conformity with the Law or a judicial order or in connection with any legal proceedings or arbitration procedures; and
- (vi) information required to be disclosed under securities laws applicable to publicly traded companies and their subsidiaries or reporting required by a Governmental Authority if such party informs the other party of the need for such disclosure and, if reasonably

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requested by the other party, seeks, through a protective order or other appropriate mechanism, to maintain the confidentiality of such information.

12.11.1 [Not Used]

12.12 Recourse Limited to Certain Concessionaire's Assets. Concessionaire and Design-Builder acknowledge that Concessionaire has entered into the NEXT Design-Build Contract entirely on its own behalf, and that, except with regard to claims of fraud substantiated in a final, non-appealable adjudication, Design-Builder shall have no recourse against any parent, subsidiary or affiliate company of Concessionaire, or against any partners, shareholders, members, owners, joint venturers, officers, directors, employees, agents, successors or assigns of any thereof for any reason. In addition, Design-Builder shall have no recourse against Concessionaire assets existing prior to the execution of the NEXT Design-Build Contract, and specifically, Design-Builder shall have no recourse against any assets or revenues of Concessionaire relating to Concessionaire's operation of the 495 Express Lanes as set forth in the Comprehensive Agreement.

12.13 Exhibits

12.13.1 The following exhibits, are made part of, and incorporated into these General Conditions of Contract.

EXHIBIT 1.2.1 – PROJECT NEXT DEFINITIONS

EXHIBIT 2.1.5 – KEY PERSONNEL REQUIREMENTS

EXHIBIT 5.1.1 – INSURANCE REQUIREMENTS

EXHIBIT 5.2.1(a) – FORM OF PERFORMANCE BOND

EXHIBIT 5.2.1(b) – FORM OF PERFORMANCE BOND (EXPEDITED DISPUTE RESOLUTION)

EXHIBIT 5.2.1(c) – FORM OF PAYMENT BOND

EXHIBIT 6.2.5(a) – FORM OF DESIGN-BUILDER INTERIM LIEN WAIVER

EXHIBIT 6.2.5(b) – FORM OF SUBCONTRACTOR INTERIM LIEN WAIVER

EXHIBIT 6.2.5(c) – FORM OF SUBCONTRACTOR FINAL LIEN WAIVER

EXHIBIT 6.6.3 – FORM OF DESIGN-BUILDER FINAL LIEN WAIVER

EXHIBIT 10.8 – COMPREHENSIVE AGREEMENT DISPUTE RESOLUTION PROVISION

EXHIBIT 12.1.1 – FORM OF NEXT DIRECT AGREEMENT

**END OF PART 4
GENERAL CONDITIONS OF CONTRACT**

EXHIBIT 1.2.1**PROJECT NEXT DEFINITIONS**

495 Corridor or I-495 Corridor means the portion of Interstate 495 (Capital Beltway) located within the Commonwealth of Virginia with a northern terminus at the Maryland border at the Potomac River and a southern terminus near the Springfield Interchange.

495 HOT Lanes or 495 Express Lanes means the approximately 14 miles of high-occupancy toll lanes along Interstate 495 in the Commonwealth of Virginia extending from the vicinity of Backlick Road (Route 617) to the vicinity of Old Dominion Drive (Route 738).

Adjusted Contract Value means the amount of the Contract Price used as the basis for determining participation and compliance with the Disadvantaged Business Enterprise (DBE) Small, Women-owned, and Minority-owned (SWaM) business goals for Project NEXT per Section 107.15 of Part 5 (Division I Amendments). The Adjusted Contract Value shall be subject to Concessionaire approval prior the award of the NEXT Design-Build Contract.

Affiliate when used to indicate a relationship with a specified Person, means a Person that, directly or indirectly, through one or more intermediaries has a ten percent (10%) or more voting or economic interest in such specified Person or controls, is controlled by or is under common control with such specified Person, and a Person is deemed to be controlled by another Person, if controlled in any manner whatsoever that results in control in fact by that other Person (or that other Person and any Person or Persons with whom that other Person is acting jointly or in concert), whether directly or indirectly and whether through share ownership, a trust, a contract or otherwise. For the avoidance of doubt, Concessionaire and Design Builder are not Affiliates of each other.

Approved for Construction (AFC) Documents means all drawings, specifications, revisions thereto, and any other items necessary to construct the Work, sealed by a professional engineer licensed by the Commonwealth of Virginia.

As-Built Schedule means the last Project Schedule Update submitted to and approved by Concessionaire in accordance with the Technical Requirements.

Award means Concessionaire's decision to award a contract to an Offeror based on the selection processes identified in Part 1 (NEXT RFP).

Baseline Schedule means (a) the Initial Baseline Schedule until such time as the Baseline Schedule is approved by Concessionaire pursuant to the Section 1.4 of Part 2 (NEXT Technical Requirements) and (b) the Baseline Schedule thereafter as updated in accordance with such Section 1.4.

Business Day(s) or Day(s), whether capitalized or not, means any day(s) other than a Saturday, Sunday, Commonwealth of Virginia holiday, or a day when the New York Stock Exchange or

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banks are authorized or required to close in New York, New York or Richmond, Virginia.

Code of Virginia means the Code of Virginia of 1950, as amended from time to time.

Comprehensive Agreement or Amended and Restated Comprehensive Agreement means the Amended and Restated Comprehensive Agreement Relating to the Route 495 HOT Lanes in Virginia Project between the Department and Concessionaire dated December 19, 2007, as amended or amended and restated from time to time, including as may be amended and restated to incorporate Project NEXT.

Concessionaire means Capital Beltway Express LLC, a Delaware Limited Liability Company.

Concessionaire Representative means the individual designated in accordance with Section 9.1.2 of Part 3 (NEXT Design-Build Contract).

Construction Documentation (Documents) means all Design Documentation, AFC Documents, and all shop drawings, working drawings, fabrication plans, as-built plans, material and hardware descriptions, specifications, construction quality control reports, construction quality assurance reports and samples necessary for construction of Project NEXT and/or the performance of the Work or any component thereof, prepared in accordance with Part 2 (NEXT Technical Requirements).

Construction Segment means any segment or portion of the 495 Express Lanes Northern Extension Project (Project NEXT) which Design-Builder and Concessionaire have designated pursuant to the Design-Build Contract for the purpose of scheduling construction as approved by VDOT.

Construction Segment Approval is as defined in Part 3 (NEXT Design-Build Contract), Section 5.2.2(b).

Contract Documents or NEXT Contract Documents means the complete set of Contract Documents between Concessionaire and Design-Builder for design and construction of the Project and is comprised of five parts: Part 1 - Request for Proposals, Part 2 - Technical Requirements, Part 3 - Design-Build Contract, Part 4 - General Conditions, and Part 5 - Division 1 Amendments, and any changes or modifications issued in accordance thereof. The Contract Documents shall have the order of precedence as defined in Article 2 of Part 3 (NEXT Design-Build Contract).

Contract Price or NEXT Contract Price means the value set forth in Section 6.1 of Part 3 (NEXT Design-Build Contract).

Contract Time or NEXT Contract Time means the meaning and durations set forth in Article 5 of Part 3 (NEXT Design-Build Contract).

Contractor means Design-Builder.

Critical Path means the longest path(s) or chain(s), in terms of time, of logically connected activities on a Project Schedule ending with Final Completion.

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Department or VDOT means the Virginia Department of Transportation.

Design-Build Contract, NEXT Design-Build Contract or Agreement refers to Part 3 of the NEXT Contract Documents and means the executed, lump sum agreement for the Project NEXT between Concessionaire and Design-Builder.

Design-Build Contract Date or NEXT Design-Build Contract Date means the date that the NEXT Design-Build Contract and associated Contract Documents are executed by both parties.

Design-Builder means the entity that enters into the NEXT Design-Build Contract (Part 3 of the Contract Documents) with Concessionaire to perform the Work.

Design-Builder Party means the Design Builder and any Affiliate and any agents, representatives, officers, directors, employees, Subcontractors, suppliers and materialmen of the Design Builder or any Affiliate.

Design-Builder Representative means the individual designated in accordance with Section 9.2.2 of Part 3 (NEXT Design-Build Contract)

Design-Builder Right of Way Costs means all costs associated with: (i) the services necessary to acquire the NEXT Right of Way (e.g., certified title reports, appraisal, appraisal review, negotiations, relocation assistance service, parcel closings, attorney's fees, attorney's final certification of title, and condemnation support) provided in accordance with the NEXT Contract Documents and (ii) the acquisition and maintenance of Design-Builder's Work Area.

Design-Builder Work Area means additional real property (whether acquired in fee or easement) outside the NEXT Right of Way required for (i) site or field office(s), (ii) laydown, staging or storage areas, or (iii) to accommodate Design-Builder's unique solution and/or means, methods and resources used during construction.

Design Consultant means a qualified, licensed design professional, eligible to provide professional engineering and/or land surveying services in the Commonwealth of Virginia, who is not an employee of Design-Builder, but is retained by Design-Builder, or employed or retained by anyone under contract with Design-Builder or Subcontractor, to furnish design services required under the NEXT Contract Documents.

Design Documentation means such plans, drawings, specifications and other design documentation (including design standards, design or durability reports, models, samples and calculations) in computer readable and written formats prepared by or on behalf of the Contractor for the purposes of the performance of the Work or any component thereof in accordance with Part 2 (NEXT Technical Requirements).

Design Exception means the document(s) required for certain design elements for which it is either impractical or not economical to obtain the AASHTO minimum design criteria as shown in the Geometric Design Tables. In such a case, an exception shall be documented in accordance with the Design Exception Request for LD-440, and approved by the State Location and Design Engineer and FHWA (if applicable).

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Design Waiver means the document(s) required for certain elements of the design that meet or exceed AASHTO minimum design criteria, but deviate from VDOT’s design criteria. Design Waivers will be applicable to all projects regardless of functional classification and funding and shall be documented and approved in accordance with the Design Waiver Request form LD-448.

Deviation means any material proposed or actual change, deviation, modification, alteration or exception from any of Part 2 (NEXT Technical Requirements).

Direct Agreement or NEXT Direct Agreement shall have the meaning provided in Part 4 (NEXT General Conditions), Section 12.1.1.

Early Works means the work to be performed in accordance with Exhibit 5.1.1 of Part 3 (NEXT Design-Build Contract) following issuance of LNTP as approved by Concessionaire and shall include, but not limited to, the following: (i) preparation and approval of the Baseline Schedule, (ii) preparation and approval of various Project Development Plans and the Submittal Register needed to obtain both Work NTP and Construction Segment Approval(s), (iii) initiation of the NEXT Scope Validation Work; (ii) any design work, permitting, preparation of right of way, project management activities and other work performed by Design-Builder necessary to complete the NEXT Scope Validation Work; (iii) the commencement and completion of the final noise studies and reports; and (iv) any investigations or surveys, design work, permitting, preparation of right of way, project management activities and other work performed by Design-Builder in the approved Early Works Scope of Work necessary to meet the conditions precedent for the Work NTP.

Early Works Scope of Work means Exhibit 5.1.1 of Part 3 (NEXT Design-Build Contract) that represents the detailed scope of work based on Design-Builder’s Technical Proposal as agreed to by Concessionaire prior to LNTP.

Emergency or emergency means any unplanned event within the NEXT Right of Way that:

- (a) presents an immediate or imminent threat to the long-term integrity of any part of the infrastructure of the Project NEXT, to the Environment, to property adjacent to the Project NEXT or to the safety of road users or the traveling public;
- (b) as jeopardized the safety of road users or the traveling public; or
- (c) is a declared state of emergency pursuant to State or Federal Law.

Environment means soil, surface waters, ground waters, land, stream sediments, surface or subsurface strata and ambient air.

Environmental Assessment or NEXT Environmental Assessment means the approved Environmental Assessment document (and supporting technical reports) for Project NEXT dated February 2020.

Environmental Laws means any Laws applicable to the Project NEXT regulating or imposing liability or standards of conduct concerning or relating to the regulation, use or protection of

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human health, the Environment or Hazardous Substances, including, by way of example and not limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 USC Section 9601 *et seq.*, the Resource Conservation and Recovery Act, 42 USC Section 6901 *et seq.*, the Federal Clean Water Act, 33 USC Section 1351 *et seq.*, the Occupational Safety and Health Act, 29 USC Section 651 *et seq.*, as currently in force or as hereafter amended.

Federal means of or relating to the central government of the United States of America.

Federal Requirements means the provisions required to be part of federal-aid contracts relating to highway projects and applicable to the Project NEXT, including the provisions set forth in Exhibit 11.3 (Federal Requirements) of Part 3 (NEXT Design-Build Contract).

Final Completion means that Design-Builder has received written notice from Concessionaire that the NEXT Work is finally complete.

Final Completion Certificate means a letter or certificate issued by Concessionaire in accordance with Section 5.2.2 of Part 3 (NEXT Design-Build Contract) evidencing Concessionaire's determination that all conditions precedent for Final Completion have been achieved by Design-Builder.

Final Completion Date means the date of the Final Completion Certificate issued by Concessionaire pursuant to Section 5.2.2 of Part 3 (NEXT Design-Build Contract).

Financing Parties' Technical Advisors means BTY US LLC, as appointed by the NEXT Financing Parties.

Float means the amount of time that any given activity or logically connected sequence of activities shown on a Project Schedule may be delayed before it will affect the Contractor's ability to achieve Service Commencement by Service Commencement Date or Final Completion by the Final Completion Date. Such Float is generally identified as the difference between the early completion date and late completion date for all activities as shown on a Project Schedule.

FONSI means the Finding of No Significant Impact for the NEXT Express Lanes Work issued by FHWA, dated June 29, 2021

Governmental Approval means any authorization, consent, approval, license, lease, ruling, permit, certification, exemption, or registration by or with any Governmental Unit.

Governmental Authority means any court, Federal, state, or local government, Owner, commission, board, bureau, agency or other regulatory or governmental authority, but will not include the Owner.

Governmental Unit means any national, state or local government, any political subdivision thereof, or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or other entity having jurisdiction over the performance of the Work, the Project or the Parties; provided, however, that the term "Governmental Unit" shall

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not be construed to include Concessionaire.

Hazardous Environmental Condition means the presence at the Site of Hazardous Materials in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto on connection with the Work.

Hazardous Materials or Hazardous Substances means, but is not limited to, any solid, liquid, gas, odor, heat, sound, vibration, radiation or other substance or emission which is or could be considered a contaminant, pollutant, dangerous substance, toxic substance, Hazardous Waste, solid waste, hazardous material or hazardous substance which is or becomes regulated by Legal Requirements or Law or which is classified as hazardous or toxic under Legal Requirement or Law.

Hazardous Waste means a waste that is: (a) listed as a hazardous waste in 40 CFR Section 261.31 to 261.33; or (b) exhibits one of the following characteristics: ignitability, corrosivity, reactivity or toxicity, or is otherwise defined as a hazardous waste by the Legal Requirements.

Initial Baseline Schedule means the preliminary schedule provided as part of Design-Builder's Technical Proposal which shall be used by Concessionaire to monitor and the progress of the Work and verify payments to Design-Builder until the approval of the Baseline Schedule.

Interim Milestone(s) means any completion and/or delivery date(s) for parts of the Work specified by Section 5.2 of Part 3 (NEXT Design-Build Contract).

Interchange Justification Report means the Interchange Justification Report prepared for Project NEXT dated June 14, 2021, and approved by the Federal Highway Administration

Key Personnel means those Design-Builder team members designated in Part 4 (NEXT General Conditions), Exhibit 2.1.5.

Known Pre-Existing Hazardous Materials means any Hazardous Materials identified in Part 2 (NEXT Technical Requirements).

Law means all laws, treaties, ordinances, judgments, Federal Requirements, decrees, injunctions, writs and orders of any Governmental Authority, and all rules, regulations, orders, formal interpretations and permits of any Governmental Authority having jurisdiction over construction of the Project NEXT on the NEXT Right of Way, performance of the NEXT Work, or operation of the Project NEXT, or the health, safety or environmental condition of the Project NEXT or the NEXT Right of Way, as the same may be in effect from time to time. Laws include the Code of Virginia and the Uniform Act.

Legal Requirements means all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any Governmental Unit that are applicable to the Project NEXT.

Lien means 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

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in the nature of a security instrument and the filing of or agreement to file any financing statement under the Virginia Uniform Commercial Code).

Limited Notice to Proceed or LNTP means the document issued by Concessionaire to authorize the start of work associated with Design-Builder developed, and Concessionaire approved, Early Works Scope of Work.

[**Major Maintenance or Major Rehabilitation** means maintenance, repair, renewal, reconstruction or replacement of any portion or component of the 495 Express Lanes Project or (Project NEXT), as applicable, of a type that is not normally included as an annually recurring cost in roadway maintenance and repair budgets.]

Maximum Cumulative Drawdown Schedule means the schedule setting forth a cap on the aggregate amount of payments of the NEXT Contract Price that can be made to Design-Builder hereunder as of any month during the Work period.

Monthly Progress Reports means those reports prepared in accordance with Part 2 (NEXT Technical Requirements) by the Design Builder or its contractors that are required pursuant to the NEXT Design-Build Contract for monthly delivery to the Owner Representative that reflect the status of and information related to the development and operation of the Project.

NEPA means the National Environmental Policy Act, 42 U.S.C. Section 4321 *et seq.*, as amended and as it may be amended from time to time.

NEPA Decision means a Finding of No Significant Impact or an approved Categorical Exclusion, as amended from time to time.

NEPA Document means the NEXT Environmental Assessment, as amended from time to time.

NEXT Final Completion Recovery Plan shall have the meaning provided in Section 5.2.2 of Part 3 (NEXT Design-Build Contract).

NEXT Financial Close shall have the meaning set forth in the Amended and Restated Comprehensive Agreement.

NEXT Financial Close Date means the date on which the NEXT Financial Close occurs under the Amended and Restated Comprehensive Agreement that incorporates Project NEXT.

NEXT Financing Parties means (i) any and all lenders providing the construction, interim or long-term financing (including a leveraged lease or any other refinancing thereof) for Project NEXT, and any trustee or agent acting on their behalf, and (ii) any and all equity investors providing leveraged lease financing or refinancing for Project NEXT, and any trustee or agent acting on their behalf.

Notice of Final Completion means the notice(s) Design-Builder is required provide to Concessionaire in which Design-Builder demonstrates that it has achieved Final Completion in accordance with Section 5.2.2 and Exhibit 5.2.2 of Part 3 (NEXT Design-Build Contract).

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Notice of Service Commencement means the notice(s) Design-Builder is required provide to Concessionaire in which Design-Builder demonstrates that it has achieved Service Commencement in accordance with Section 5.2.1 and Exhibit 5.2.1 of Part 3 (NEXT Design-Build Contract).

Notice to Proceed or NTP means an authorization issued by Concessionaire to Design-Builder authorizing the commencement of portions of the Work in accordance with the Contract Documents.

Offeror means those entities which submitted Statements of Qualifications (SOQs) pursuant to Concessionaire's January 7, 2020 Request for Qualifications (RFQ) and were invited to submit proposals in response to Part 1 (NEXT RFP).

Parent Company Guarantee means a performance security provided by the parent company of Design-Builder pursuant to Section 10.3 of Part 3 (NEXT Design-Build Contract).

Permit to Work means the authorization or approval issued by Concessionaire and/or its operating entities to perform specific activities within the limits of the existing 495 Express Lanes.

Person means any individual, corporation, partnership, association, joint stock company, trust, unincorporated organization, joint venture, government or political subdivision or agency thereof.

Pre-Existing Hazardous Materials means Known Pre-Existing Hazardous Materials and Unknown Pre-Existing Hazardous Materials.

Project or Project NEXT or NEXT means the approximately two-mile extension of the 495 HOT Lanes from the vicinity of Virginia Route 738 (Old Dominion Drive) to the vicinity of George Washington Memorial Parkway (GWMP), and improvements to the Dulles Toll Road and GWMP interchanges, and northbound Interstate 495 general purpose lanes.

Project NEXT Corridor means the portion of Interstate 495 (Capital Beltway) located within the Commonwealth of Virginia required for Project NEXT with a northern limit at the George Washington Memorial Parkway interchange and a southern limit at the Dulles Toll Road interchange.

Project NEXT Indemnities means any of Concessionaire, State Parties and their respective Representatives.

Project Recovery Schedule is the schedule submitted by Design-Builder to Concessionaire pursuant to Section 1.4.9 of Part 2 (NEXT Technical Requirements).

Project Schedule means the Initial Baseline Schedule, Baseline Schedule, Project Schedule Updates or the As-Built Schedule, as applicable.

Project Schedule Updates shall have the meaning provided in Section 1.4.4 of Part 2 (NEXT Technical Requirements).

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Project Signage Roll Plan is a scaled signage plan or plans showing proposed, existing, or relocated DMS and static signs required along I-495 and connecting roadways for Project NEXT.

Proprietary means information Design-Builder wishes to keep confidential including trade secrets, financial information, internal processes, and Project NEXT specific proposed means and methods.

QA Manager (QAM) means Design-Builder's designee who shall be from an independent firm that has no involvement in construction operations for the Project, and shall be responsible for the quality assurance (QA) inspection and testing 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 requirements, and the "approved for construction" plans and specifications. This individual shall be a registered, licensed, Professional Engineer in the Commonwealth of Virginia.

QA/QC Plan, also referred to as Quality Management System Plan (QMSP) means a plan that details how Design-Builder will provide quality assurance (QA) and quality control (QC) for both the design and construction elements of the Project, obtain samples for Design-Builder quality control testing, perform tests for Design-Builder quality control, provide inspection, and exercise management control (e.g. quality assurance testing) to ensure the work conforms to the Contract Documents.

Remedial Actions means the management, treatment, handling, storage, monitoring, removal, transport or disposal measures carried out by Design-Builder with respect to Hazardous Materials in accordance with Section 4.1 of Part 4 (NEXT General Conditions)

Remedial Action Plan means the plan developed by Design-Builder with respect to Hazardous Materials encountered by Design-Builder.

Request for Proposals (RFP) or NEXT RFP means Part 1 of the NEXT Contract Documents, inclusive of all of its parts, addenda, and any other document that is attached thereto or incorporated therein by reference.

Request for Qualifications (RFQ) or NEXT RFQ means Concessionaire's January 7, 2020 request for all documents, whether attached or incorporated by reference, utilized for soliciting interested persons to apply for prequalification. The RFQ is the first phase of a two-phase selection process for the purpose of inviting interested Offerors to submit qualifications for a project.

Representative means, with respect to any Person, any director, officer, employee, official, lender (or any agent or trustee acting on its behalf), partner, member, owner, agent, lawyer, accountant, auditor, professional advisor, consultant, engineer, contractor, other Person for whom such Person is, under Law, responsible or other representative of such Person and any professional advisor, consultant or engineer designated by such Person as its "Representative."

RFP Conceptual Plans means the schematic drawings used as the basis for the Request for Proposals that were developed by Concessionaire in conjunction with the NEPA Environmental Assessment and the NEXT Interchange Justification Report and supporting technical documents.

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The RFP Conceptual Plans are provided to Design-Builder to show project intent only and are not final design. Design-Builder may use the RFP Conceptual Plan as the starting point for the final design, but the responsibility for the correctness of the design lies with Design-Builder.

RFP Documents refer to those documents identified in the Section 2.5 of Part 1 (NEXT RFP).

Right of Way or NEXT Right of Way means any real property within the Project NEXT Corridor (which term is inclusive of all estates and interests in real property, including easements), which is:

- (a) necessary for performance of the Work, including temporary and permanent easements, and ownership and operation of the Project;
- (b) shown on the approved ROW Acquisition and Relocation Plan; and
- (c) within the Project NEXT limits established by the NEPA Documents, as such limits may be adjusted pursuant to the NEXT Design-Build Contract.

Right of Way Acquisition Costs means the actual amounts paid directly to a property owner for the acquisition of NEXT Right of Way (including the purchase price of the property, damages, and any associated relocation costs), VDOT's administrative costs, and VDOT's condemnation costs.

Time Impact Analysis (TIA) means a Time Impact Analysis (TIA) prepared pursuant to Section 1.4.9 or 1.4.10 of Part 2 (NEXT Technical Requirements)

Scheduled Final Completion Date means the date determined in accordance with the requirements of Section 5.2.2 of Part 3 (NEXT Design-Build Contract).

Scheduled Long Stop Date or NEXT Long Stop Date means the date that is 365 calendar days after the Scheduled Final Completion Date; provided that a new NEXT Long Stop Date may be established pursuant to a NEXT Final Completion Recovery Plan approved by Concessionaire.

Scheduled Service Commencement Date means the date determined in accordance with the requirements of Section 5.2.1 of Part 3 (NEXT Design-Build Contract).

Scope Validation Work or NEXT Scope Validation Work means work performed by the NEXT Design-Builder pursuant to Part 4 (NEXT General Conditions), Section 2.2.

Service Commencement Date means the date of the Service Commencement Certificate issued by Concessionaire pursuant to Section 5.2.1 of Part 3 (NEXT Design-Build Contract) that determines that Service Commencement has occurred.

Service Commencement means the opening of Project NEXT for normal and continuous operations and use by the traveling public, after occurrence of all the events and satisfaction of all the conditions Section 5.2.1 S of Part 3 (NEXT Design-Build Contract).

Service Commencement Certificate means a letter or certificate issued by Concessionaire in

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accordance with Section 5.2.1 of Part 3 (NEXT Design-Build Contract) evidencing Concessionaire's determination that all conditions precedent for Service Commencement have been achieved by Design-Builder.

Separate Contractor means a contractor retained by Concessionaire, Department, or third parties other than Design-Builder to perform Work or to provide services or materials in connection with Project NEXT or within or adjacent to the Site

Site means the land or premises on which the Project NEXT Work is located.

Standard of Performance shall have the meaning provided in Section 2.1.0 of Part 4 (NEXT General Conditions).

Standards and Specifications means the Standards, Criteria, Specifications, Standard Drawings, and Special Provisions listed in Attachment 1.5a to Part 2 (NEXT Technical Requirements).

Statement of Qualifications (SOQ) means the documents submitted by an Offeror in response to Concessionaire's January 17, 2018 Request for Qualifications (RFQ).

State means the Commonwealth of Virginia.

State Highway means any highway designated a State Highway pursuant to Title 33.2, Chapter 3, Code of Virginia.

State Law means any Law or any change in any Law by any State Party.

State Party means the State, the CTB, the Department or any other agency, instrumentality or political subdivision of the State.

Subcontract means any and all agreements between Design-Builder and its Subcontractors of any type at any tier, it being the intent that all this term encompasses all agreements deriving directly or indirectly from Design-Builder, in connection with the performance of the Work.

Subcontracting means contracting with a Subcontractor for the performance of a portion of the Work without relinquishing any of the responsibility that Design-Builder has toward Concessionaire for performance of the entire Contract.

Subcontractor means any person or entity of any type or tier retained by Design-Builder as an independent contractor to perform a portion of the Work and shall include materialmen and suppliers.

Successful Offeror means the Offeror that will be awarded the NEXT Design-Build Contract in accordance with Part 1 (NEXT RFP).

Surety means a corporate entity bound with and for Design-Builder for full and complete performance of the NEXT Design-Build Contract and for payment of debts pertaining to the Work. When applied to the proposal guaranty, it refers to the corporate body that engages to be

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responsible in the execution by the Offeror, within the specified time, of a satisfactory NEXT Design-Build Contract and the furnishing of an acceptable payment and performance bond.

Suspension means a written notice issued by Concessionaire to Design-Builder that orders the work on the Project to be stopped wholly or in part as specified. The notice will include the reason for the suspension.

Taxes shall have the meaning provided in Section 6.1 of Part 3 (NEXT Design-Build Contract).

Termination Payment shall have the meaning provided in Section 8.5 of Part 3 (NEXT Design-Build Contract).

Traffic Management Systems (TMS) are as defined in Attachment 3.16c (TMS Interface Plan) of Part 2 (NEXT Technical Requirements) for all traffic management equipment, facilities and systems.

TMS Subcontract or NEXT TMS Subcontract means the contract between Design-Builder and the TMS Subcontractor for the design and construction of the traffic management systems for the Project.

TMS Subcontractor means Transurban (USA) Inc. performing the Traffic Management work on Project NEXT in accordance with Attachment 3.16c (TMS Interface Plan) of Part 2 (NEXT Technical Requirements).

Trail Blazer Roll Plan means a scaled signage plan or plans showing proposed, existing, or relocated static signs on highways, feeder roads, and other roadways notifying motorists of the access to I-495 Express Lanes.

Unknown Pre-Existing Hazardous Materials means any Hazardous Materials present on the Site prior to the NEXT Design-Build Contract Date which are not Known Pre-Existing Hazardous Materials.

Utility (Utilities) means a public, private, cooperative, municipal and/or government line, facility or system used for the carriage, transmission and/or distribution of cable television, electric power, telephone, data or other telecommunications, telegraph, water, gas, oil, petroleum products, steam, chemicals, sewage, storm water not connected with the highway drainage and similar systems that directly or indirectly serve the public. The term “Utility” specifically excludes (a) storm water lines connected with the highway drainage, and (b) traffic signals, street lights, and electrical systems for Project NEXT roadways.

Utility Owner means the owner or franchisee of any Utility (including both privately held and publicly held entities, cooperative utilities, and municipalities and other governmental agencies).

Utility Relocation means the removal, relocation and/or protection in place (including provision of temporary services as necessary) of any and all Utility facilities that have to be removed, relocated and/or protected in place in order to permit construction of Project NEXT.

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Warranty Period shall have the meaning provided in Section 2.10.1 of Part 4 (NEXT General Conditions).

Work or NEXT Work means all the Work associated with Project NEXT as required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the NEXT Contract Documents.

Work Breakdown Structure (WBS) means a hierarchically-structured grouping of project elements that organizes and defines the total scope of the Project. Each descending level is an increasingly detailed definition of a project component. Project components may be products (a product-oriented WBS) or tasks (a task-oriented WBS).

Work Notice to Proceed or Work NTP is defined in Section 5.1.2 of Part 3 (NEXT Design-Build Contract)

Work Order or NEXT Work Order means a written instrument, issued after the NEXT Design-Build Contract Date signed by Concessionaire and Design-Builder, stating their agreement upon all of the following: a) the scope of the change in the NEXT Work, b) the amount of the adjustment to the NEXT Contract Price, and c) the extent of the adjustment to the NEXT Contract Time(s).

Work Product or NEXT Work Product shall have the meaning set forth in Section 4.1 of Part 3 (NEXT Design-Build Contract).

EXHIBIT 2.1.5**KEY PERSONNEL REQUIREMENTS**

Minimum requirements for those Design-Builder positions which are considered “Key Personnel” are detailed below.

Design-Build Project Manager – This individual shall be responsible for the overall Project design and construction and shall have the necessary expertise and experience required to supervise and exercise a degree of control of the Work. Work is comprised of all Design-Builder’s design, construction, quality management, contract administration and other services required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Contract Documents in a timely manner. The Design-Build Project Manager shall be responsible for meeting Design-Builder’s obligations under the Contract Documents and avoiding and resolving any disputes between Concessionaire and Design-Builder. This individual shall also coordinate any required public outreach, public meetings, and construction-related communications. The approved Design-Build Project Manager shall be dedicated solely to the Project and is required to be available to the Project on a full-time basis immediately upon Contract Award and remain in place on the Project site for the full duration of the Project (until Final Completion has been achieved).

Lead Contractor’s Design Integration Manager – This individual shall have the necessary expertise and experience required to supervise and exercise a degree of control for design and construction and shall accept full professional responsibility for engineering decisions relating to the final work product. The Lead Contractor’s Design Integration Manager shall ensure that all engineering services for the Project are performed by qualified professionals licensed in the Commonwealth of Virginia and that plans are signed and sealed by such qualified professionals consistent with applicable licensing regulations. This role shall be fully integrated into the Project team, and the Design Integration Manager shall be directly involved in or have supervisory direction and control authority in making and approving engineering decisions during design and construction. The approved Lead Contractor’s Design Integration Manager shall be dedicated solely to the Project and is required to be available to the Project on a full-time basis immediately upon Contract Award and present on the Project site full time until all design activities (including construction-related design services) are complete.

Lead Designer’s Design Manager – This individual shall be responsible for coordinating the individual design disciplines and ensuring the overall Project design is in conformance with the Contract Documents. The Lead Designer’s Design Manager shall be responsible for establishing and overseeing the design QA/QC program for all pertinent disciplines involved in the design of the Project, including, review of design, working plans, shop drawings, specifications, and

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constructability for the Project. The approved Lead Designer’s Design Manager shall be dedicated solely to the Project and is required to be available to the Project on a full-time basis immediately upon Contract Award and present on the Project site full time until all design activities are complete and available as needed until all construction-related design services are complete. This individual shall be a registered, licensed, Professional Engineer in the Commonwealth of Virginia.

Construction Manager – This individual shall be responsible for managing the construction process, including all quality and safety activities to ensure the materials used and work performed meets contract requirements and the “approved for construction” plans and specifications. The approved Construction Manager shall be dedicated solely to the Project and is required to be available to the Project on a full time basis immediately upon Contract Award and present on the Project site full time for the duration of construction operations, including pre-construction activities and Final Completion close-out.

Design-Builder Self-Selected Key Personnel #1 – ITS Design Manager

Design-Builder Self-Selected Key Personnel #2 – Construction MOT Manager

Liquidated Damages for Key Personnel Changes

If Design-Builder changes or substitutes any Key Personnel for reasons other than such individual’s voluntary or involuntary termination of employment, retirement, death, disability, or incapacity, or because Design-Builder has been directed by Concessionaire to remove or replace such individual, Design-Builder acknowledges that Concessionaire will suffer significant and substantial losses due to such change or substitution, and that it is impracticable and extremely difficult to ascertain and determine the actual losses which would accrue to Concessionaire. Therefore, in such event, and regardless of whether such individual has been replaced by an individual approved by Concessionaire, Design-Builder agrees to pay Concessionaire a liquidated damaged amount as follows, for each position held by such individual, as deemed compensation to Concessionaire for such losses:

Key Personnel	Liquidated Amount
Design-Build Project Manager	\$250,000
Design Integration Manager	\$150,000
Design Manager	\$150,000
Construction Manager	\$100,000
Design-Builder Self-Selected Key Personnel	\$100,000

Design-Builder understands and agrees that any damages payable in accordance with this paragraph are in the nature of liquidated damages, not a penalty, and are reasonable under the circumstances existing as of the Agreement Date. Concessionaire shall have the right to deduct

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any amount owed by Design-Builder to Concessionaire hereunder from any amounts owed by Concessionaire to Design-Builder, or to collect from any bond furnished by Design-Builder. Such rights of Concessionaire to recover liquidated damages shall not prejudice any other right Concessionaire has under the Contract Documents, including but not limited to the right to terminate the Agreement for default.

EXHIBIT 5.1.1**INSURANCE REQUIREMENTS****1. Definitions**

Design-Builder Required Coverages - The insurance coverages that Design-Builder and Subcontractors are required to provide at their own expense in compliance with the NEXT Design-Contract Documents.

Eligible Parties - Design-Builder and Subcontractors performing labor or services at the OCIP Project Site are eligible to be enrolled in the OCIP. Entities that perform installation for suppliers, temporary labor services, and leasing companies providing direct labor are also considered Eligible Parties. Concessionaire reserves the right to enroll or exclude any party at its sole discretion.

Enrolled Parties - Design-Builder and Subcontractors who have been awarded Work, and other parties who have met the OCIP enrollment requirements, and have received an OCIP Certificate of Insurance for the Project from the OCIP Administrator.

Excluded Operations - Operations conducted away from the OCIP Project Site, as well as certain on-site activities including transport, pickup, delivery, or loading or unloading of materials, personnel, parts or equipment or any other items or persons to or from the OCIP Project Site by parties who do not otherwise work at the OCIP Project Site.

Excluded Parties – Subcontractors, vendors or suppliers specified in Section 3(b) who shall not be enrolled in the OCIP or covered by the OCIP policies.

Noncompliance – Design-Builder who fails to enroll any of its Eligible Parties of any tier or fails to obtain pricing net of insurance costs will be responsible for any resulting insurance charges to the Project NEXT.

Owner Controlled Insurance Program (OCIP) - A coordinated master insurance, safety and claim management program, under which Commercial General Liability and Excess Liability, are procured or provided on a project basis for Enrolled Parties for losses arising out of covered operations and completed operations at the OCIP Project Site.

OCIP Project Site - The premises where Project NEXT Work will be located, as more specifically described in the NEXT Contract Documents OCIP Project Site shall also mean any additional areas designated in writing by Concessionaire as required for performance of the NEXT Work. Subject to the notification and other requirements for off-site locations, the term “Site” shall also include (a) locations used for bonded storage of material for Project NEXT approved by Concessionaire, and areas where activities incidental to the Project NEXT are being performed by Subcontractors covered by the General Liability policy included in the OCIP, but excluding any permanent locations of any covered contractor.

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2. Design-Builders’ and Subcontractor Responsibilities

Design-Builder and Subcontractors (all tiers that perform Work on the Project Site) are required to cooperate with Concessionaire, the OCIP Administrator, and the OCIP insurance carrier(s) in all aspects of the OCIP operation and administration. Design-Builder’s responsibilities include:

- (a) Including OCIP contract provisions and requirements in all tiered Subcontracts; every contractor is required to incorporate the OCIP Insurance provisions into their tiered subcontract(s).
- (b) Assisting in securing the required OCIP enrollment and/or payroll/premium information from their tiered contractors.
- (c) Notifying OCIP Administrator of all Subcontracts awarded by completing the Notice of Subcontract Award on the MWrap Contractor Portal. Instructions for MWrap are provided in the OCIP Manual).
- (d) Attending all meetings, as required.
- (e) Maintaining and reporting payroll, receipts, labor-hours, or payments made to contractors as required by the OCIP.
- (f) Notifying Concessionaire and the OCIP Administrator immediately of any insurance cancellation or non-renewal for Design-Builder Required Coverages.
- (g) Completing and submitting to Design-Builder and OCIP Administrator the following administrative forms within the time frames specified below:
 - 1. Notice of Subcontract Award, via MWrap Contractor Portal – Upon execution of tiered Subcontract and prior to starting NEXT Work on the OCIP Project Site.
 - 2. Insurance Safety and Claims Forms.
- (h) Enrolled parties must complete a “Notice of Work Completion” using the MWrap Contractor Portal for each contract that has been completed on the Project Site. Once submitted the OCIP Administrator will be notified and seek verification from the awarded contractor that the information submitted by Design-Builder and Subcontractors is correct and will request “final” contract value.
- (i) Design-Builder and Subcontractors of all tiers are responsible for insurance covering their property including rented, owned, leased or borrowed equipment and tools, and are responsible for reporting property damage claims to such property to their own insurance carrier.
- (j) For all OCIP Project Site third-party property damage claims under \$25,000, Design-Builder is responsible for administration, investigation and processing of these claims. These claims will not go through the OCIP. The Design-Builder shall also make payments to claimants at its reasonable discretion and after performing requisite and customary due diligence. For the avoidance of doubt, the Design-Builder shall not

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administer personal injury claims. The Design-Builder will provide copies of all investigation and settlement documents to Concessionaire upon request.

1. In the event the Design-Builder makes payment to a claimant for a claim, Design-Builder may invoice Concessionaire for reimbursement of the payment amount(s) made to claimants. This invoicing will be separate and apart from the monthly payment application under the NEXT Contract Documents and will be in a form agreed by the parties. Invoices may be submitted monthly; however, no monthly invoice shall be submitted for less than \$2,500. If reimbursements are due, invoices must be submitted no less than quarterly, regardless of amount.
 2. At its discretion, Concessionaire may assess up to \$25,000 per incident against Design-Builder and/or Subcontractors to cover the claim amount for any third-party property damage on the OCIP Project Site. Any assessment may be deducted from the aforementioned invoice(s). This discretionary assessment is not intended to be punitive but rather to encourage proactive, safe actions on the part of Design-Builder and its Subcontractors.
- (k) These requirements are applicable to Design-Builder and all tiers of Subcontractors that perform NEXT Work on the OCIP Project Site.
- (l) Certificates of Insurance will be issued to each Enrolled Party by the OCIP Administrator evidencing Commercial General Liability and Excess Liability coverages.

3. General Liability Owner Controlled Insurance Program

Concessionaire will provide an Owner Controlled Insurance Program (OCIP) for the Project NEXT. Design-Builder and all Subcontractors of every tier are required to participate as described below and in accordance with the Project's OCIP Manual. Design-Builder agrees to be bound by the terms and conditions of the OCIP Policies and will require the same of all Subcontractors of every tier.

- (a) **Owner Controlled Insurance Program and Covered Entities** – Concessionaire will procure a General Liability Owner Controlled Insurance Program (OCIP) that will provide coverage for VDOT, Concessionaire, Design-Builder, and the eligible Subcontractors on the Project NEXT. Design-Builder and its contracting parties shall enroll in the Owner Controlled Insurance Program (OCIP). Participation in the OCIP Program is subject to several Design-Builder Responsibilities' under the terms of the NEXT Contract Documents. If Design-Builder or its contracting parties do not enroll in the OCIP Program before commencing work Design-Builder shall be in Noncompliance. Worker's Compensation and Employer's Liability, Automobile Liability, and Excess Liability for the Automobile Liability and Worker's Compensation and Employer's Liability coverages will continue to be the responsibility of Design-Builder and each Subcontractor to procure to provide coverage for its interests. Each enrolled party will be required to provide its own insurance for losses arising out of Excluded Operations, and will be required to report such claims to its own insurance carriers.

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- (b) **Excluded Parties** – Vendors, suppliers, material dealers and others who solely furnish, transport, pick up, deliver, or carry materials, personnel, parts or equipment to or from the project site will not be Enrolled Parties to the OCIP. The OCIP will not cover losses arising out of operations conducted away from the project site, nor will it cover certain on-site activities including transport, pickup, delivery, or loading or unloading of materials, personnel, parts or equipment or any other items or persons to or from the project site; by parties who do not otherwise work at the project site. Companies described below are not intended to be enrolled in the OCIP and will be enrolled in the OCIP only at Concessionaire’s discretion:
1. Hazardous materials remediation, removal and/or transport companies and their consultants
 2. Any Subcontractor performing Structural Demolition (Structural Demolition is the moving or relocating of load bearing beams, columns, or walls)
 3. Architects, engineers, and soil testing engineers, and their consultants
 4. Vendors, suppliers, fabricators, material dealers, truckers, haulers, drivers and others who merely transport, pickup, deliver, or carry materials, personnel, parts or equipment or any other items or persons to or from the OCIP Project Site. However, if the parties have a Subcontractor who performs work at the OCIP Project Site they and their Subcontractor may be considered an eligible party
 5. Subcontractors, and any of their respective tiered Subcontractors, who do not perform any actual labor on the OCIP Project Site
 6. Building implosion Subcontractors including Subcontractors involved with blasting or the use of explosives.
- (c) **OCIP Coverage Amounts** – The OCIP coverages will be set forth in full in the respective policy forms, and the following description of such coverage is not intended to be all-inclusive, nor alter or amend any provision of the actual policies. In matters, if any, in which the said description may be conflicting with the actual policy language, the provisions of the insurance policies shall govern. Subject to the exclusions, limitations, terms and conditions of the policies, OCIP coverage shall be as follows:
1. **Commercial General Liability Insurance** in an “occurrence” form, with annual limits for all insureds combined of \$2,000,000 each occurrence limit; \$4,000,000 general aggregate limit and \$4,000,000 products/completed operations aggregate limit. A separate single limit shall apply to the entire five (5) year term beyond the expiration or cancellation date of the policy for the “completed operations extension” for all insureds combined as follows: \$2,000,000 each occurrence limit and \$4,000,000 Products-Completed Operations Aggregate Limit. Coverage shall apply to bodily injury and property damage for operations (including explosion, collapse and underground coverage), elevators, independent contractors, contractual liability for “insured contracts” and covered personal and advertising injury liability offenses.

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2. **Excess Liability Insurance** in an occurrence form such that the total shared annual limits for all insureds combined, including the completed operations extension, shall not be less than \$100,000,000 each occurrence and \$100,000,000 annual aggregate limit.
3. The OCIP Policy includes the following terms:
 - Products Completed Operations Extension for five (5) years or the Statute of Repose, whichever is less, after substantial completion of the Project.
 - General Aggregate Limit reinstates annually.
 - Products/Completed Operations Aggregate Limit applies once to entire completed operations term.
 - Limits are shared among all Enrolled Parties.

4. Builder's Risk

Concessionaire shall obtain, pay for and maintain, from the NEXT Contract Execution Date until Final Completion of the NEXT Work, Builder's Risk insurance for the Project NEXT. The Builder's Risk insurance shall be on an "all risk" form (or equivalent policy) and shall include insurance against the perils of fire (with extended coverage) and physical loss or damage including, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, and excavation collapse, but not including insurance for the machinery, tools, or equipment used by Design-Builder in the performance of the NEXT Work, or coverage for underground/subsurface structures and conditions. Concessionaire shall add Design-Builder and its Subcontractors as additional insureds on the Builder's Risk Insurance policy.

Concessionaire shall include a waiver of subrogation against Design-Builder and its Subcontractors in the Builder's Risk Insurance policy. No limitations or requirements are imposed on Concessionaire with respect to the amount of the deductible(s) under the Builder's Risk Insurance policy. Design-Builder shall be responsible to pay, or otherwise satisfy, the deductible portion of any loss, claim or occurrence under the Builder's Risk Insurance policy that arises out of, or relates to, any act, omission, fault, default or negligence of Design-Builder or Design-Builder's employees, agents, Representatives, Subcontractors, or any other Person performing a portion of the NEXT Work by, through or under Design-Builder or Design-Builder's failure to fully and correctly perform its obligations under the NEXT Contract Documents; provided, however, that Design-Builder's obligation to pay, or satisfy, the deductible portion of a loss, claim or occurrence under the Builder's Risk insurance policy shall not exceed Fifty Thousand Dollars (\$50,000) per deductible, per loss, claim or occurrence.

Design-Builder shall, at all times, comply with the terms of the Builder's Risk Insurance policy. In addition, Design-Builder shall be responsible for any losses, claims, damages, costs and expenses are not indemnified under the Builder's Risk Insurance policy due to Design-Builder's failure to perform its obligations under the Builder's Risk Insurance policy.

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All insurance proceeds received by Concessionaire for any insured loss under the Builder’s Risk Insurance Policy shall be paid into a separate insurance proceeds account and shall be held in trust for the purposes of distribution to Design-Builder and/or its Subcontractors, as applicable, as if they were otherwise named as loss payees on the Builder’s Risk Insurance Policy, and in accordance with NEXT Contract Documents.

5. Contractor’s Pollution Liability Policy

Concessionaire shall obtain, pay for and maintain, from the NEXT Contract Documents Execution Date until Final Completion of the NEXT Work, Contractor’s Pollution Liability insurance for the Project with limits not less than \$10,000,000 per Occurrence and in the Aggregate. Concessionaire shall add Design-Builder and its Subcontractors as additional insureds on the policy, on a primary and non-contributory basis.

6. Design-Builder Required Coverage Amounts

Design-Builder shall provide the following coverages and file Certificates of Insurance with Concessionaire evidencing the coverages and limits below. [The Employers Liability, Commercial General Liability and Commercial Automobile Liability limit requirement may be met by primary coverage or combination of primary and Umbrella/Excess Liability limits.]

- (a) **Workers’ Compensation and Employer’s Liability Insurance**, with statutory workers’ compensation (Coverage A) limits and employer’s liability (Coverage B) limits of \$2,000,000 for each accident, \$2,000,000 for each employee, with a \$2,000,000 policy limit. If necessary, coverage shall be extended to cover any claims under the United States Longshoreman’s Act and Harbor Workers Act and Jones’ Act as may be appropriate for the NEXT Work.
- (b) **Automobile Liability Insurance**, with a limit of at least \$2,000,000 combined single limit for bodily injury and property damage covering all owned (if any), non-owned, hired or borrowed vehicles on-site or off.
- (c) **Commercial General Liability Insurance** for Excluded Operations with limits not less than:

Each Occurrence	\$2,000,000
General Aggregate	\$4,000,000
Products – Completed/ Operations Aggregate	\$2,000,000
Personal & Advertising Injury	\$1,000,000
Damage to Rented Premises (Each Occurrence)	\$50,000
Medical Expense Limit (any One Person)	\$5,000

- ISO Occurrence Form (CG 00 01 12/04) or equivalent
- Name Capital Beltway Express, LLC, its parent, owners, subsidiaries and affiliate companies, their officers, agents, managers, employees, directors, Subcontractors, joint owners, VDOT, and Design-Builder as Additional Insureds on a primary and noncontributory basis, including both premises-operations coverage and

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products/completed operations coverage utilizing endorsements CG 2010 11/85 or equivalent ISO additional insured endorsements.

- Products/Completed Operations for five (5) years after substantial completion or the Statute of Repose, whichever is less.
 - The Commercial General Liability Policy (General Aggregate) shall be endorsed to include CG-25-03 – Aggregate Limits of Insurance (per Project), or its equivalent.
- (d) **Umbrella/Excess Liability Insurance** in excess of the underlying limits noted above in Sections 6(a) and 6(b) for Employer’s Liability and Automobile Liability in the amount of: (a) \$100,000,000 per occurrence and \$100,000,000 in the annual aggregate.
- (e) **Architects/Engineers Professional Liability Insurance**, covering Design-Builder’s lead design engineer for acts, errors or omissions arising in connection with the NEXT Work for not less than: \$10,000,000 for any one claim and \$10,000,000 in the aggregate. Such insurance shall be maintained throughout the duration of any warranty period and for at least three years after the expiration of any warranty period. The policy coverage shall provide at least five (5) years of extended reporting. The retroactive date must coincide with or precede the first day that professional services are performed.

7. Subcontractor Required Coverage Amounts

Design-Builder shall file Certificates of Insurance with Concessionaire evidencing the coverages and limits below for all Subcontractors:

- (a) **Workers’ Compensation and Employer’s Liability Insurance**, with statutory workers’ compensation (Coverage A) limits and employer’s liability (Coverage B) limits of \$1,000,000 bodily injury by accident, each accident, and \$1,000,000 bodily injury by disease, each employee. Coverage will be extended, if needed, to cover any claims under the United States Longshore and Harbor Workers’ Compensation Act (33 U.S.C. §901 - §950) and the Jones Act (46 U.S.C. §30104).
- (b) **Commercial General Liability Insurance** for Excluded Operations with limits not less than:

Each Occurrence	\$1,000,000
General Aggregate	\$2,000,000
Products – Completed/Operations Aggregate	\$2,000,000
Personal & Advertising Injury	\$1,000,000
Damage to Rented Premises (Each Occurrence)	\$50,000
Medical Expense Limit (any One Person)	\$5,000

- ISO Occurrence Form (CG 0001 12/04) or equivalent
- Name Concessionaire (Capital Beltway Express, LLC), its parent, owners, subsidiaries and affiliate companies, their officers, agents, managers, employees,

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directors, Subcontractors, joint owners, VDOT, and Design-Builder as Additional Insureds on a primary and non-contributory basis, including both premises-operations coverage and products/completed operations coverage utilizing endorsements CG 2010 07/04 and CG 2037 07/04.

- Products/Completed Operations for five (5) years after substantial completion or the Statute of Repose, whichever is less.
 - The Commercial General Liability Policy (General Aggregate) shall be endorsed to include CG-25-03 – Aggregate Limits of Insurance (per Project), or its equivalent.
- (c) **Automobile Liability Insurance**, with a limit of at least \$1,000,000 combined single limit for bodily injury and property damage covering all owned (if any), non-owned, hired or borrowed vehicles on-site or off.
- (d) **Umbrella/Excess Liability Insurance** in excess of the underlying limits noted above for employer’s liability, commercial general liability and automobile Liability in the amount of \$5,000,000 per occurrence and in the aggregate for contracts greater than \$500,000, and \$2,000,000 per occurrence and in the aggregate for contracts less than \$500,000.
- (e) **Professional Liability Insurance** (applicable only to Subcontractors rendering professional services, including, but not limited to, architects, engineers, traffic consultants, accountants, attorneys, etc.) with limits of at least \$1,000,000 per claim and in the aggregate. Such insurance will remain in full force and effect during the performance of such professional services and with an extended reporting period for two years after completion of such professional services.
- (f) **Technology Errors & Omissions Insurance** (applicable to TMS Subcontractor only) with limits of at least \$2,000,000 per claim and in the aggregate. Such insurance shall include coverage for claims arising from errors and omissions of any TMS Subcontractor or consultant and shall include in addition to technology errors & omissions coverage the following: network security cyber liability, privacy liability, cyber business income interruption, and related coverages. Such policy shall remain in full force and effect during the performance of such technology-related services and with an extended reporting period for two years after completion of such professional services.

8. Design-Builder and Subcontractor Insurances - General Requirements

Design-Builder shall ensure that all required insurances required contain the following provisions:

- (a) With the exception of Workers’ Compensation and Architect/Engineers’ Professional Liability insurance, Concessionaire shall be named as an additional insured on all policies. Each such policy shall also include the appropriate severability of interest and cross-liability clauses to allow one insured to bring claim against another insured party.

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- (b) All insurance coverages shall be considered primary and non-contributory with regard to other insurances that might be available to Design-Builder or Concessionaire.
- (c) All insurers shall provide a Waiver of Subrogation against Concessionaire for any claims covered by insurances required herein.
- (d) Any inadvertent errors or omissions by Design-Builder in procuring the insurance required herein shall in no way prejudice the rights of Concessionaire to collect under such policies.
- (e) Any deductibles shall be the sole responsibility of Design-Builder.
- (f) Required insurances and coverage levels shall remain in full force and in effect for the duration required by the NEXT Contract Documents. Design-Builder and all Subcontractors shall maintain the required insurances and coverage levels without interruption from the date of contract (or subcontract) award through the end of the warranty period.
- (g) No insurance coverage will be canceled, renewal refused, or materially changed unless at least thirty (30) days prior written notice is given to Concessionaire. In the case of non-payment of premiums, ten (10) days' notice, to Concessionaire and Design-Builder for any changes related to Design-Builder and Subcontractor Required Coverages.
- (h) With the exception of Workers' Compensation and Automobile Insurance, the insurance policies shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of Project NEXT.
- (i) Design-Builder shall file Certificates of Insurance with Concessionaire evidencing the coverages and limits described above within the times required by the NEXT Contract Documents. All endorsements must be included with any Certificates of Insurance provided. The certificates shall be executed by approved insurance companies authorized to do business in Virginia with a minimum "Best Rating" of "B +" or greater, and shall cover the NEXT Contract Documents.
- (j) The insurance coverage limits shall not be construed to relieve Design-Builder or Subcontractor(s) of liability in excess of such coverage, nor shall it preclude Concessionaire from taking such actions as are available to it under any other provision of the NEXT Contract Documents or otherwise in Law.
- (k) Concessionaire will provide certain insurances for Project NEXT as described in Sections 3, 4 and 5 of this Exhibit 5.1.1. Design-Builder shall exclude from its Contract Price, and cause Subcontractors of every tier to exclude from their Subcontract prices, costs (including insurance premiums, charges for deductible losses and any other expenses) for any coverages which are included in Concessionaire-provided OCIP, Builders Risk and Contractors Pollution Liability policies.
- (l) All NEXT Design-Build Contract changes shall be priced exclusive (net) of insurance costs for Concessionaire-provided insurance coverages.

9. Insurance Closeout Process

Unless otherwise directed by Concessionaire, General Liability/Excess Liability coverage for operations under the OCIP will terminate at Final Completion. General Liability/Excess Liability coverage for completed operations will commence upon completion of the work according to the OCIP insurance policy provisions and will be provided for five (5) years or through the applicable statute of repose, whichever is less. Should a Design-Builder or a Subcontractor return to the OCIP Project Site for any reason after their coverage under the OCIP has ceased, Design-Builder or a Subcontractor is required to provide its own insurance coverage in compliance with Design-Builder Required Coverage and must provide a Certificate of Insurance evidencing such coverage.

EXHIBIT 5.2.1(a)**FORM OF PERFORMANCE BOND****BOND NO.****PENAL SUM: \$[●]****KNOW ALL WHO SHALL SEE THESE PRESENTS:**

THAT WHEREAS, the Commonwealth of Virginia, Department of Transportation, a state agency of the Commonwealth of Virginia (the “Owner”), has awarded to CAPITAL BELTWAY EXPRESS LLC (“Concessionaire” which term hereinafter includes its successors and assigns) an Amended and Restated Comprehensive Agreement dated December 19, 2007 (the “Original Agreement”) to develop, design, build, finance, operate, and maintain the Interstate 495 HOV/HOT Lanes Project (the “Project”); and

WHEREAS, the Owner and Concessionaire have entered into four amendments between April 30, 2014, and January 29, 2019 for various minor issues. The Fourth Amendment establishes a process for the Concessionaire to submit to the Owner a Binding Proposal to extend the 495 Express Lanes further north; and

WHEREAS, the Owner and the Concessionaire intend to enter into a further amended ARCA (“Second ARCA”) under which the Concessionaire will add approximately two miles of high-occupancy toll lanes to the existing 495 HOV/HOT Lanes on Interstate 495 to the north of their current terminus, the 495 Express Lanes Northern Extension (the “Project NEXT”); and

WHEREAS, Concessionaire intends to enter into the NEXT Design-Build Contract between Concessionaire and Design-Builder (the “DB Contract”) with [_____], as Design-Builder (hereinafter, the “Principal”), bearing the date of [_____], for the performance of certain work defined within the DB Contract as the “NEXT Work,” which DB Contract, together with any and all changes, extensions of time, alterations, modifications, or additions thereto or to the work to be performed thereunder, shall hereafter be referred to as the “Contract;” and

WHEREAS, it is one of the conditions of the Second ARCA and the Contract that these presents shall be executed.

NOW THEREFORE, we, the undersigned Principal, and [_____] (the “Surety”, [and collectively, the “Co-Sureties”]) are firmly bound and held unto the Concessionaire as the “Obligee” in the penal sum of [_____] Dollars (\$[_____] good and lawful money of the United States of America for the payment whereof, well and truly to be paid to the Obligee, bind ourselves, our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents. [Any reference to the “Surety” in this Bond shall be read as a reference to the Co-Sureties and each of them on the basis of such joint and several liability.]

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT:

If the Principal shall, in all things stand to and abide by and well and truly keep, perform and complete all covenants, conditions, agreements, and obligations under the Contract, including any and all amendments, supplements, and alterations made to the Contract as therein provided, on the Principal's part to be kept and performed at the time and in the manner therein specified, if the Principal shall indemnify and save harmless the Obligee, its directors, officers, employees and agents, as therein stipulated, and if the Principal shall reimburse upon demand of the Obligee any sums paid the Principal that exceed the final payment determined to be due upon completion of the NEXT Work, then these presents shall become null and void; otherwise, they shall remain in full force and effect unconditionally, irrevocably and shall be non-cancellable.

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

1. The provisions of the Contract are deemed a part hereof as if said Contract were fully set forth herein. Capitalized terms not separately defined herein have the meanings assigned such terms in the Contract.

2. This Bond specifically guarantees the performance of each and every obligation of Principal related to the NEXT Work under the Contract, as they may be amended and supplemented, including, but not limited to, its liability for Liquidated Damages as specified in the Contract, but not to exceed the penal sum of this Bond.

3. The guarantees contained herein shall survive Final Completion of the NEXT Work called for in the Contract with respect to those obligations of Principal which survive Final Completion.

4. Whenever Principal shall be, and is declared by the Obligee to be, in default under the Contract, Surety shall promptly:

- a) with the consent of the Obligee, arrange for the Principal to perform and complete the Contract;
- b) complete the NEXT Work in accordance with the terms and conditions of the Contract, through its agents or through independent contractors; or
- c) obtain bids or negotiated proposals from qualified contractors acceptable to the Obligee for a contract for performance and completion of the NEXT Work, through a procurement process approved by the Obligee, arrange for a contract to be prepared for execution by Obligee and the contractor selected with the Obligee's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to the Obligee the amount of damages as described in Paragraph 6 of this Bond in excess of the unpaid balance of the Project NEXT Contract Price incurred by the Obligee resulting from the Principal's default; or

- d) waive its right to perform and complete, arrange for completion, or obtain a new contractor and, with reasonable promptness under the circumstances, pay the penal sum of the Bond to the Owner within 30 days of such waiver.

5. If Surety does not proceed as provided in Paragraph 4 of this Bond within 30 days of Surety's receipt of notice that the Principal has been declared to be in default by the Oblige, Surety shall be deemed to be in default on this Bond fifteen (15) days after receipt of an additional written notice from the Oblige to Surety demanding that Surety perform its obligations under this Bond, and such Oblige shall be entitled to enforce any remedy available to the Oblige.

6. If Surety elects to act under Subparagraph 4.a, 4.b, or 4.c above, then the responsibilities of Surety to the Oblige shall not be greater than those of the Principal under the Contract, and the responsibilities of the Oblige to Surety shall not be greater than those of Oblige under the Contract. To the limit of the penal sum of this Bond, but subject to commitment of the unpaid balance of the Project NEXT Contract Price, Surety is obligated without duplication for:

- a) the responsibilities of the Principal for correction of defective work and completion of the NEXT Work;
- b) additional legal, design, engineering, professional and delay costs resulting from Principal's default, and resulting from the actions or failure to act of Surety under Paragraph 4 of this Bond; and
- c) Liquidated Damages and any other sums due and owing under the Contract.

7. No alteration, modification, or supplement to the Contract or the nature of the work to be performed thereunder, including without limitation any extension of time for performance, shall in any way affect the obligations of Surety under this Bond. Surety hereby waives notice of any such alteration, modification, or supplement, including changes in time, to the Contract.

8. Correspondence or claims relating to this Bond shall be sent to Surety at the following address: [_____]

9. No right of action shall accrue on this Bond to or for the use of any entity other than the Oblige or its successors and assigns.

10. [If multiple or co-sureties] The Co-Sureties agree to empower a single representative with authority to act on behalf of all of the Co-Sureties with respect to this Bond, so that the Oblige will have no obligation to deal with multiple sureties hereunder. All correspondence from the Oblige to the Co-Sureties and all claims under this Bond shall be sent to such designated representative. The designated representative may be changed only by delivery of written notice (by personal delivery or by certified mail, return receipt requested) to the Oblige designating a

single new representative, signed by all of the Co-Sureties. The initial representative shall be [____], whose contact information is [_____].

11. If any provision of this Bond is found to be unenforceable as a matter of law, all other provisions shall remain in full force and effect.

12. This Bond shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without regard for conflicts of laws principles, and any action seeking enforcement of the Bond will be litigated exclusively in the courts of the Commonwealth of Virginia.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this at [_____] on this [____] day of [____], 20[____].

PRINCIPAL (full legal name):

Address:

By: _____

Title:

Contact Name:

Phone: ()

SURETY (full legal name)

Address:

By: _____

Title:

Contact Name:

Phone: ()

[Note: If more than one surety, then add appropriate number of lines to signature block.]

[Note: A copy of a certificate that the Surety (or Co-Sureties) is (are) authorized to transact business in Virginia must be attached.]

[Note: The Bond shall be signed by authorized persons. Where such persons are signing in a representative capacity (e.g., an attorney-in-fact), but are not a members of the firm, partnership, or joint venture, or an officer of the legal entity involved, evidence of authority including the appropriate power of attorney documentation must be attached.]

EXHIBIT []
FORM OF MULTIPLE OBLIGEE RIDER
(Performance Bond)

MULTIPLE OBLIGEE RIDER
(PERFORMANCE BOND)

This Multiple Obligee Rider (this “Rider”) is executed concurrently with and shall be attached to and form a part of Performance Bond No. [●] (hereinafter referred to as the “Performance Bond”).

WHEREAS, [●], a [●] (hereinafter called the “Principal”) entered into a written agreement bearing the date of [●], 20[●] (hereinafter called the “Contract”) with CAPITAL BELTWAY EXPRESS, LLC (hereinafter called the “Primary Obligee”) for the performance of design and construction work for Project NEXT; and

WHEREAS, the Primary Obligee requires under the Contract that Design-Builder provide a performance bond and that both (i) the Commonwealth of Virginia Department of Transportation, a state agency of the Commonwealth of Virginia (“VDOT”) and (ii) [●], the “Collateral Agent”, and collectively with VDOT, the “Additional Obligees”) be named as additional obligee(s) under the performance bond; and

WHEREAS, Principal and [●], a [●] duly organized and existing under and by virtue of the laws of the State of [●] and authorized to transact business as a surety within the Commonwealth of Virginia (the “Surety”) [and [●], and collectively, the “Co-Sureties”) have agreed to execute and deliver this Rider concurrently with the issuance of the Performance Bond, upon the conditions herein stated.

NOW, THEREFORE, the undersigned hereby agree and stipulate as follows:

1. The Additional Obligees are hereby added to the Performance Bond as named obligee(s).
2. The aggregate liability of the Surety (or Co-Sureties) under the Performance Bond to any or all of the Primary Obligee and the Additional Obligees, as their respective interests may appear, is limited to the penal sum of the Performance Bond, the Additional Obligees’ rights hereunder are subject to the same defenses Principal and/or Surety have against the Primary Obligee, and the total liability of the Surety shall in no event exceed the amount recoverable from the Principal by the Primary Obligee under the Contract.
3. The Surety shall not be liable under the Bond to the Primary Obligee, the Additional Obligees, or any of them, unless the Primary Obligee, the Additional Obligees, or any of them, shall make payments to the Principal (or in the case the Surety arranges for completion of the Contract, to the Surety) strictly in accordance with the terms of said Contract as to payments and

shall perform all other obligations to be performed under said Contract at the time and in the manner therein set forth, as said Contract may be amended or modified from time to time.

4. The Surety may, at its option, make any payments under the Bond by check issued jointly to all of the obligees and delivered to VDOT at [address/wire instructions TBD].

5. An Additional Obligee may enforce the Performance Bond if such Additional Obligee has provided to the Surety written certification that such Additional Obligee has the right to enforce the Performance Bond under its direct agreement(s) between or among the Primary Obligee and Additional Obligees.

The Principal and the Surety (and Co-Sureties) have caused these presents to be duly signed and sealed this ____ day of _____, 20__.

PRINCIPAL (full legal name):

Address:

By: _____

Title:

Contact Name:

Phone: ()

SURETY (full legal name):

Address:

By: _____

Title:

Contact Name:

Phone: ()

[Note: Date of this Rider must be the same as the date of the Bond.]

[Note: If more than one surety, then add appropriate number of lines to signature block.]

EXHIBIT 5.2.1(b)**FORM OF EXPEDITED DISPUTE RESOLUTION (EDR) PERFORMANCE BOND****BOND NO.****PENAL SUM: \$[●]****KNOW ALL MEN BY THESE PRESENTS, THAT:**

WHEREAS, the Virginia Department of Transportation (“Owner”) has awarded to Capital Beltway Express, LLC, a limited liability company duly organized and existing under the laws of the State of Delaware (“Concessionaire” which term hereinafter includes its successors and assigns) an Amended and Restated Comprehensive Agreement Relating to the Route 495 HOT Lanes in Virginia Project, dated as of December 19, 2007 (as amended, amended or restated, modified or supplemented from time to time, the “495 ARCA”) to develop, design, build, finance, operate, and maintain the Route 495 HOT Lanes in Virginia Project (the “Project”); and

WHEREAS, Owner and Concessionaire [intend to enter] *OR* [have entered] into a further amended 495 ARCA (the “Second 495 ARCA”) under which the Concessionaire will add approximately [two] miles of high-occupancy toll lanes to the existing 495 HOT lanes north of their current northern terminus (the “Project NEXT”); and

WHEREAS, Concessionaire has entered into the [Project NEXT Design-Build Contract] (the “Contract”) with [●], a [●], as Design-Builder (hereinafter, the “Design-Builder”), bearing the date of [●], for the performance of certain work defined within the Contract as the “Project NEXT Work,” which Contract, together with any and all changes, extensions of time, alterations, modifications, or additions thereto or to the work to be performed thereunder, shall hereafter be referred to as the “Contract;” and

WHEREAS, one of the conditions of the Second 495 ARCA and the Contract is that Design-Builder provide this duly executed instrument (“Bond”).

NOW THEREFORE, we, the undersigned Design-Builder, and [●], a [●] duly organized and existing under and by virtue of the laws of the State of [●] and authorized to transact business as a surety within the Commonwealth of Virginia (the “Surety”) [and [●], and collectively, the “Co-Sureties”) are firmly bound and held unto the Concessionaire as the “Obligee” in the penal sum of [●] Dollars (\$[●]) good and lawful money of the United States of America for the payment whereof, well and truly to be paid to the Obligee, and bind ourselves, our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents. [Any reference to the “Surety” in this Bond shall be read as a reference to the Co-Sureties and each of them on the basis of such joint and several liability.]

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT:

If the Design-Builder shall in all things stand to and abide by and well and truly keep, perform and complete all covenants, conditions, agreements, and obligations under the Contract,

including any and all amendments, supplements, and alterations made to the Contract as therein provided, on the Design-Builder's part to be kept and performed at the time and in the manner therein specified, if the Design-Builder shall indemnify and save harmless the Oblige, its directors, officers, employees and agents, as therein stipulated, including from all costs and damages which it may suffer by reason or failure of the Design-Builder so to do, and shall fully reimburse the Oblige all costs and expenses which it may incur in making good any default, and reasonable counsel fees incurred in the prosecution of or defense of any action arising out of or in connection with any such default, and if the Design-Builder shall reimburse upon demand of the Oblige any sums paid the Design-Builder which exceed the final payment determined to be due upon completion of the Project NEXT Work, then these presents shall become null and void; otherwise they shall remain in full force and effect unconditionally, irrevocably and shall be non-cancellable.

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

1. The provisions of the Contract are deemed a part hereof as if said Contract were fully set forth herein. Capitalized terms not separately defined herein have the meanings assigned such terms in the Contract.

2. This Bond specifically guarantees the performance of each and every obligation of Design-Builder related to the Project NEXT Work under the Contract, as they may be amended and supplemented, including but not limited to, its liability for [Liquidated Damages] as specified in the Contract, but not to exceed the penal sum of this Bond.

3. The guarantees contained herein shall survive Final Completion of the Project NEXT Work called for in the Contract with respect to those obligations of Design-Builder which survive Final Completion.

4. Whenever Design-Builder shall be, and is declared by the Oblige to be in Design-Builder Default (as defined in Paragraph 13) under the Contract, Surety shall, within thirty (30) days of receipt of a letter from Oblige in the form set forth in Schedule A (the "Demand"), at the Surety's expense, take one of the following actions (provided that Surety shall, within seven (7) days of receipt of the Demand, notify Owner in writing which action Surety intends to take):

- (a) with the prior written consent of the Oblige, arrange for the Design-Builder to remedy the Design-Builder Default and continue to perform and complete the Contract; or
- (b) remedy the Design-Build Default and undertake completion of the Project NEXT Work in accordance with the terms and conditions of the Contract, through its agents or through independent contractors; or
- (c) obtain bids or negotiated proposals from qualified contractors acceptable to the Oblige for a contract for performance and completion of the CBE Northern Extension Work acceptable to the Oblige, through a procurement process approved by the Oblige, arrange for a contract to be prepared for execution by the Oblige and the contractor selected with the Oblige's concurrence, to be secured

with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to the Obligee the amount of damages as described in Paragraph 5 of this Bond in excess of the unpaid balance of the [Contract Price] resulting from the Design-Builder Default; or

- (d) waive its right to perform and complete, arrange for completion, or obtain a new contractor, and pay the full penal sum of this Bond to the Obligee; or
- (e) deny liability in whole or in part and notify Obligee thereof in writing citing the reasons for denial.

5. If Surety elects to act under Subparagraph 4(a), 4(b), or 4(c) above, then the responsibilities of Surety to the Obligee shall not be greater than those of the Design-Builder under the Contract, and the responsibilities of the Obligee to Surety shall not be greater than those of Concessionaire under the Contract. To the limit of the penal sum of this Bond, but subject to commitment of the unpaid balance of the [Contract Price] to mitigate costs and damages on the Contract, Surety is obligated without duplication for:

- (a) the responsibilities of the Design-Builder for correction of defective work and completion of the Project Network;
- (b) actual damages, including additional legal, design, engineering, professional and delay costs resulting from Design-Builder Default, and resulting from the actions or failure to act of Surety under Paragraph 4 of this Bond; and
- (c) [Liquidated Damages] and any other sums due and owing under the Contract.

6. In the event that Surety disputes its liability under this Bond as provided in Paragraph 4(e), which includes any allegations of fraud, such dispute shall be determined in the first instance in accordance with the dispute resolution process (“DRP”) attached hereto as Schedule B. If Surety does not proceed as provided in Paragraph 4, then Surety shall be deemed to be in default on this Bond without a need for any additional notice by Obligee and the claim shall be deemed to be in dispute for purposes of this Paragraph 6. A Decision, as defined in Schedule B, shall be rendered within thirty (30) days of the Adjudication Commencement Date, or as otherwise extended pursuant to the DRP. The Decision shall be binding on the Surety, Design-Builder, and Obligee as to their respective rights and obligations under this Bond but subject to each party’s right to commence a *de novo* appeal of the Decision to a court of competent jurisdiction at any time. The parties shall immediately begin to comply with the Decision and the terms of this Bond notwithstanding of, and during, any appeal *de novo* of the Decision and unless or until such time as a court of competent jurisdiction issues a final order or ruling vacating or modifying the Decision, either in whole or in part, at the conclusion of any *de novo* appeal of the Decision (the “Obligation to Comply with the Decision”). Surety’s Obligation to Comply with the Decision is limited by the penal sum of this Bond.

7. The parties acknowledge that the Obligation to Comply with the Decision is of the essence of the Bond, and the parties agree that Surety’s failure to fulfill its Obligation to Comply with the Decision will cause irreparable harm to Obligee and Design-Builder. Accordingly, Surety

waives and releases any right it may have to initiate any action in court seeking a stay of its obligations arising pursuant to the Decision or seeking a stay of enforcement of the Decision. Surety's only recourse to court processes in connection with the Decision is to file for a *de novo* appeal of the Decision while continuing to fulfill its Obligation to Comply with the Decision. In any such *de novo* appeal or in any action seeking enforcement of the Decision, the Surety (a) waives any right to file for an interim stay of its obligations arising pursuant to the Decision or to seek a stay of enforcement of the Decision, (b) waives any right to object to or contest an action brought to enforce specific performance of Surety's obligations arising pursuant to the Decision and waives all defenses in such an action, and (c) consents to an order or ruling directing and requiring Surety to perform its obligations arising pursuant to the Decision, and that an action for such an order or ruling may be sought on an expedited (emergency) basis under the rules of the court. The parties' Obligation to Comply with the Decision does not alter any party's right to pursue a *de novo* appeal of the Decision in a court of competent jurisdiction.

8. Surety, for value received, hereby stipulates and agrees that no change, extension of time, alterations, additions, omissions or other modifications of the terms of the Contract, or in the Project NEXT Work to be performed with respect to Project NEXT, or in the specifications or plans, or any change or modification of any terms of payment or extension of time for any payment pertaining or relating to the Contract, or any rescission or attempted rescission by Design-Builder of the Contract, or this Bond, shall in any way affect its obligations on this Bond, and Surety does hereby waive notice of such changes, extension of time, alterations, additions, omissions or other modifications.

9. Correspondence or claims relating to this Bond shall be sent to Surety at the following address: [●]

10. Schedules A and B are an integral part of this Bond and are specifically incorporated herein as if set out in full in the body of this Bond.

11. If any provision of this Bond is found to be unenforceable as a matter of law, all other provisions shall remain in full force and effect.

12. Any provision in this Bond which conflicts with applicable laws, shall be deemed modified to conform to applicable laws. This Bond shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without regard for conflicts of laws principles, and any action seeking enforcement of the Bond will be litigated exclusively in the courts of the Commonwealth of Virginia.

13. "Design-Builder Default" means failure of the Design-Builder, which has not been remedied by the end of the applicable cure period (if any) set forth in the Contract and in accordance therewith, to perform or otherwise to comply with any term or condition under the Contract.

14. This Bond includes "Additional Obligees" named in the Multiple Obligee Rider dated [●], referencing this Bond (No. [●]), and attached hereto. The Additional Obligees may enforce this Bond under the circumstances set forth in the respective agreements entered into by Obligee and the respective Additional Obligee, as described in the Multiple Obligee Rider.

15. *[Note: Use in case of multiple sureties (“Co-Sureties”) or, otherwise, delete; If Co-Sureties are used, modify the preceding language accordingly to reflect this]* [The Co-Sureties agree to empower and designate a single “Lead Surety” with authority to act on behalf of all of the Co-Sureties with respect to this Bond, so that Obligee will have no obligation to deal with multiple sureties hereunder. All correspondence from Obligee to the Co-Sureties and all claims under this Bond shall be sent to the Lead Surety and shall be deemed served upon all Co-sureties. The Lead Surety may be changed only by delivery of written notice (by personal delivery or by certified mail, return receipt requested) to Obligee designating a new Lead Surety, signed by all of the Co-Sureties. The initial Lead Surety shall be [●].]

[Signature Page Follows]

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this ____ day of _____ 20__.

DESIGN-BUILDER (full legal name):

Address:

By: _____

Title:

Contact Name:

Phone: ()

SURETY (full legal name):

Address:

By: _____

Title:

Contact Name:

Phone: ()

[Note: Date of this Bond must not be prior to date of Contract.]

[Note: If more than one surety, then add appropriate number of lines to signature block.]

[Note: A copy of a certificate that the Surety (or Co-Sureties) is (are) authorized to transact business in Virginia must be attached.]

[Note: The Bond shall be signed by authorized persons. Where such persons are signing in a representative capacity (e.g., an attorney-in-fact), but are not a members of the firm, partnership, or joint venture, or an officer of the legal entity involved, evidence of authority including the appropriate power of attorney documentation must be attached.]

**SCHEDULE A
FORM OF DEMAND**

DEMAND

[Date]

Re: Performance Bond (DRP) No.: [____] (the “Bond”)

Design-Builder: [_____] (the “Design-Builder”)

Obligee: Capital Beltway Express, LLC (the “Obligee”)

Contract: The Design-Build Contract, dated [_____] between the Design-Builder and the Obligee for [●] (the “Contract”)

Dear Sir/Madam:

Pursuant to the Bond, the Obligee hereby certifies that:

1. the Design-Builder is and continues to be in Design-Builder Default (as defined in the Bond) under the Contract;
2. the Obligee has issued a notice of default to the Design-Builder in accordance with the provisions of the Contract; [and]
3. the Obligee has honored and will continue to honor and perform in all material respects its obligations under the Contract[; and]
4. [the Obligee is an Additional Obligee and is entitled to enforce the Bond pursuant to the Multiple Obligee Rider, dated [●], referencing Bond (No. [●]), attached to the Bond].

We hereby demand that the Surety honor its obligations under the Bond forthwith.

The Obligee acknowledges that if the Surety intends to dispute its liability pursuant to the Bond, then the parties shall proceed immediately with the DRP (as defined in the Bond) set forth in Schedule B to the Bond.

Yours truly,

Obligee

By: _____

Name:

Title:

SCHEDULE B
DISPUTE RESOLUTION PROCESS

Given the “on-default” nature of the Bond, the Design-Builder, the Surety and the Obligee acknowledge that they may not agree whether the Surety is liable to perform or make payment pursuant to the Bond. In order to ensure that such disputes are determined quickly so as to allow for the orderly and timely completion of the Contract, the Design-Builder, the Surety and the Obligee agree to submit such disputes to the dispute resolution process set out below. Terms not defined herein shall have the meaning ascribed to them in the body of the Bond. The parties acknowledge that any decision rendered in the dispute resolution process (an “Award”) will be binding, but subject to appeal *de novo* by any party at any time to a court of competent jurisdiction.

1. “Dispute” means a disagreement as to the Surety’s liability pursuant to the Bond following an Obligee’s Demand.
2. Disputes arising out of or in connection with the Bond shall be submitted for binding resolution to adjudication (the “Adjudication”) administered by JAMS – The Resolution Experts (“JAMS”) in accordance with the procedure set out below. The JAMS’ Dispute Resolution Rules for Surety Bond Disputes, effective as of the Bond date, shall apply to the resolution of any Dispute unless modified by the provisions herein, in which case, the provisions of this Bond shall govern.
3. The Surety or the Obligee shall demand Adjudication by filing an Adjudication statement electronically with JAMS, and serving electronic copies by email upon the Design-Builder and the Obligee, utilizing the electronic forms and filing directions provided by JAMS on its website at www.jamsadr.com. The Adjudication statement shall set forth in detail the factual and legal issues submitted for Adjudication and shall be sent no later than 10 days following the Obligee’s Demand.
4. Within five (5) business days after the Adjudication statement is filed and served, the parties shall appoint an adjudicator (the “Adjudicator”) from the JAMS Global Engineering & Construction Group (“JAMS GEC Group”). JAMS shall appoint an Adjudicator administratively from the JAMS GEC Group if the parties fail to appoint an Adjudicator within the five (5)-business day period. The Adjudicator shall be under a duty to act impartially and fairly and shall serve as an independent neutral.
5. The Adjudication shall commence on the date that JAMS receives the Adjudication statement and initial deposit of funds, and confirms the appointment of the Adjudicator (the “Adjudication Commencement Date”). Unless the Adjudicator decides otherwise, the Design-Builder, the Surety and the Obligee shall pay the final fees and expenses of Adjudication in accordance with the provisions set forth in the Contract governing the payment of fees and expenses of dispute resolution. In an Adjudication in which the Adjudicator determines that the Design-Builder and Surety are aligned with the same commonality of interest against the Obligee, the Design-Builder and Surety jointly shall be charged with one share and the Obligee will be charged with one share. Should any party fail to deposit funds as required by JAMS, any other party may advance the deposit, and the amount of that advance deposit will be taken into consideration in the Adjudicator’s decision.

6. Upon commencement of the Adjudication, the Adjudicator is empowered to take the initiative in ascertaining the facts and the law, and to exercise sole discretion in managing the Adjudication process. Among other things, the Adjudicator may require the parties to make additional factual submissions such as sworn witness statements and business documents, may interview important witnesses after notice to the parties and affording opportunity to attend, may request and consider expert reports and may call for memoranda on legal issues. Notwithstanding the foregoing, the Adjudicator must decide the following questions:
 - a. Is the Design-Builder in Design-Builder Default under the Contract?
 - b. Is the Surety liable to perform in accordance with Paragraph 4 and/or 5 of the Bond?
7. The Adjudicator shall issue a written decision (the “Decision”) which shall be binding upon and enforceable by the parties through the completion of the Design-Builder’s obligations under the Contract, subject to any party’s right to commence an appeal *de novo* in a court of competent jurisdiction at any time in accordance with the terms of the Bond. Any payment required in the Decision shall be made immediately. The Decision shall be issued through JAMS as soon as practicable but in no event later than thirty (30) calendar days of the Adjudication Commencement Date or within any later time agreed upon by the parties. Unless the parties agree otherwise, the Decision shall state reasons therefore and shall be admissible in later administrative, arbitral or judicial proceedings between the parties.
8. Any party may request clarification of the Decision within five (5) business days after issuance, and the Adjudicator shall endeavor to respond within an additional five (5) business days, and, subject to any party’s right to commence an appeal *de novo* in a court of competent jurisdiction at any time in accordance with the terms of the Bond, any payment shall be made immediately thereafter. Unless the parties agree otherwise, the Decision shall state reasons therefore and shall be admissible in later administrative, arbitral or judicial proceedings between the parties. The parties shall comply with the Decision, unless and until subsequently vacated or modified, through the completion of the Design-Builder’s obligations under the Contract.
9. Upon any settlement by the parties of the Dispute prior to issuance of a Decision, the parties shall jointly terminate the Adjudication. Such removal or termination shall not affect the parties’ continuing joint and several obligations for payment to JAMS of unpaid fees and expenses.

If the Decision is that the Surety is liable to perform in accordance with Paragraphs 4 and 5 of the Bond, then notwithstanding the commencement of any appeal *de novo* of the Decision, the Surety shall perform in accordance with the Decision and with the terms of the Bond until the Design-Builder’s obligations under the Contract are completed, but not to exceed the penal sum of the Bond.

EXHIBIT []
FORM OF MULTIPLE OBLIGEE RIDER
(Performance Bond (DRP))

MULTIPLE OBLIGEE RIDER
(PERFORMANCE BOND (DRP))

This Multiple Obligee Rider (this “Rider”) is executed concurrently with and shall be attached to and form a part of Performance Bond (DRP) No. [●] (hereinafter referred to as the “Performance Bond”).

WHEREAS, [●], a [●] (hereinafter called the “Design-Builder”) entered into a written agreement bearing the date of [●], 20[●] (hereinafter called the “Contract”) with CAPITAL BELTWAY EXPRESS, LLC (hereinafter called the “Primary Obligee”) for the performance of design and construction work for Project NEXT; and

WHEREAS, the Primary Obligee requires under the Contract that Design-Builder provide a performance bond and that both (i) the Commonwealth of Virginia Department of Transportation, a state agency of the Commonwealth of Virginia (“VDOT”) and (ii) [●], the “Collateral Agent”, and collectively with VDOT, the “Additional Obligees”) be named as additional obligee(s) under the performance bond; and

WHEREAS, Design-Builder and [●], a [●] duly organized and existing under and by virtue of the laws of the State of [●] and authorized to transact business as a surety within the Commonwealth of Virginia (the “Surety”) [and [●], and collectively, the “Co-Sureties”) have agreed to execute and deliver this Rider concurrently with the issuance of the Performance Bond, upon the conditions herein stated.

NOW, THEREFORE, the undersigned hereby agree and stipulate as follows:

1. The Additional Obligees are hereby added to the Performance Bond as named obligee(s).
2. The aggregate liability of the Surety (or Co-Sureties) under the Performance Bond to any or all of the Primary Obligee and the Additional Obligees, as their respective interests may appear, is limited to the penal sum of the Performance Bond, the Additional Obligees’ rights hereunder are subject to the same defenses Principal and/or Surety have against the Primary Obligee, and the total liability of the Surety shall in no event exceed the amount recoverable from the Principal by the Primary Obligee under the Contract.
3. The Surety shall not be liable under the Bond to the Primary Obligee, the Additional Obligees, or any of them, unless the Primary Obligee, the Additional Obligees, or any of them, shall make payments to the Principal (or in the case the Surety arranges for completion of the Contract, to the Surety) strictly in accordance with the terms of said Contract as to payments and

shall perform all other obligations to be performed under said Contract at the time and in the manner set forth, as said Contract may be amended or modified from time to time.

4. The Surety may, at its option, make any payments under the Bond by check issued jointly to all of the obliges and delivered to VDOT at [address/wire instructions TBD].

5. An Additional Obligee may enforce the Performance Bond if such Additional Obligee has provided to the Surety written certification that such Additional Obligee has the right to enforce the Performance Bind under its direct agreement(s) between or among the Primary Obligee and Additional Obligees.

The Design-Builder and the Surety (and Co-Sureties) have caused these presents to be duly signed and sealed this ____ day of _____, 20__.

DESIGN-BUILDER (full legal name):

Address:

By: _____

Title:

Contact Name:

Phone: ()

SURETY (full legal name):

Address:

By: _____

Title:

Contact Name:

Phone: ()

[Note: Date of this Rider must be the same as the date of the Bond.]

[Note: If more than one surety, then add appropriate number of lines to signature block.]

EXHIBIT 5.2.1(c)**FORM OF PAYMENT BOND****BOND NO.****PENAL SUM: \$[●]****KNOW ALL WHO SHALL SEE THESE PRESENTS:**

THAT WHEREAS, the Commonwealth of Virginia, Department of Transportation, a state agency of the Commonwealth of Virginia (the “Owner”), has awarded to CAPITAL BELTWAY EXPRESS LLC (“Obligee” which term hereinafter includes its successors and assigns) an Amended and Restated Comprehensive Agreement dated December 19, 2007 (the “Original Agreement”) to develop, design, build, finance, operate, and maintain the Interstate 495 HOV/HOT Lanes Project (the “Project”); and

WHEREAS, the Owner and Obligee have entered into a four amendments between April 30, 2014, and January 29, 2019, for various minor issues. The Fourth Amendment establishes a process for the Obligee to submit to the Owner a Binding Proposal to extend the 495 Express Lanes further north; and

WHEREAS, the Owner and the Obligee intend to enter into a further amended ARCA (“Second ARCA”) under which the Obligee will add approximately two miles of high-occupancy toll lanes to the existing 495 HOV/HOT Lanes on Interstate 495 to the Project north of their current terminus, the 495 Express Lanes Northern Extension (the “Project NEXT”); and

WHEREAS, Obligee intend to has entered into the NEXT Design-Build Contract between Concessionaire and Design-Builder (the “DB Contract”) with [_____], as Design-Builder (hereinafter, the “Principal”), bearing the date of [_____], for the performance of certain work defined within the DB Contract as the “NEXT Work,” which DB Contract, together with any and all changes, extensions of time, alterations, modifications, or additions thereto or to the work to be performed thereunder, shall hereafter be referred to as the “Contract;” and

WHEREAS, it is one of the conditions of the Second ARCA and the Contract that these presents shall be executed.

NOW THEREFORE, we, the undersigned Principal, and [_____] (the “Surety”, [and collectively, the “Co-Sureties”]) jointly and severally, bind ourselves, our heirs, executors, administrators, successors, and assigns to the Obligee to pay for labor, materials, and equipment furnished for use in the performance of the Contract, which Contract is deemed a part hereof as if said Contract were fully set forth herein. [Any reference to the “Surety” in this Bond shall be read as a reference to the Co-Sureties and each of them on the basis of such joint and several liability.] **This Bond is in the amount of []**.

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

1. If the Principal promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Obligee and VDOT from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Contract, then the Surety and the Principal shall have no obligation under this Bond.
2. The Surety's obligation to the Obligee under this Bond shall arise after the Obligee, or VDOT has promptly notified the Principal and the Surety (at the address described in Section 13) of claims, demands, liens, or suits against the Obligee, the Obligee's property, or VDOT or its property, by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Contract, and tendered defense of such claims, demands, liens, or suits to the Principal and the Surety.
3. When the conditions of Section 2 have been satisfied, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Obligee and VDOT against a duly tendered claim, demand, lien, or suit.
4. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - a. Claimants, who do not have a direct contract with the Principal,
 - i. have furnished a written notice of non-payment to the Principal, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - ii. have sent a Claim to the Surety (at the address described in Section 13).
 - b. Claimants, who are employed by or have a direct contract with the Principal, have sent a Claim to the Surety (at the address described in Section 13).
5. If a notice of non-payment required by Section 4 is forwarded or otherwise provided by the Obligee or VDOT to the Principal that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 4.
6. When a Claimant has satisfied the conditions of Sections 4(a) or (b), whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

- a. Send an answer to the Claimant, with a copy to the Obligee and VDOT, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - b. Pay or arrange for payment of any undisputed amounts.
7. The Surety's failure to discharge its obligations under Section 6(a) or Section 6(b) shall not be deemed to constitute a waiver of defenses the Surety or Principal may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 6(a) or Section 6(b), the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. **This Bond is in the amount of [_____].** The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Obligee to the Principal under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By the Principal furnishing and the Obligee accepting this Bond, they agree that all funds earned by the Principal in the performance of the Contract are dedicated to satisfy obligations of the Principal and Surety under this Bond, subject to the Obligee's or VDOT's priority to use the funds for the completion of the Contract work.
10. The Surety shall not be liable to the Obligee, Claimants, or others for obligations of the Principal that are unrelated to the Contract. Neither the Obligee nor VDOT shall be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction within the Commonwealth of Virginia after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 4, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Obligee, or the Principal shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however, accomplished, shall be sufficient compliance as of the date received.
14. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Principal and Obligee shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions

15.1 “Claim” means a written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials, or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Contract;
- .4 a brief description of the labor, materials, or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Contract;
- .6 the total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

15.2 “Claimant” means any subcontractor or supplier of any tier who furnishes labor, materials, or equipment for use in the performance of the Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic’s lien or similar statute against the real property upon which the NEXT Project is located. The intent of this Bond shall be to include without limitation in the terms “labor, materials, or equipment” that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural, and engineering services required for performance of the Contract, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this at [_____] on this [_____] day of [_____] , 20[____].

PRINCIPAL (full legal name):

Address:

By: _____

Title:

Contact Name:

Phone: ()

SURETY (full legal name):

Address:

By: _____

Title:

Contact Name:

Phone: ()

[Note: If more than one surety, then add appropriate number of lines to signature block.]

[Note: A copy of a certificate that the Surety (or Co-Sureties) is (are) authorized to transact business in Virginia must be attached.]

[Note: The Bond shall be signed by authorized persons. Where such persons are signing in a representative capacity (e.g., an attorney-in-fact), but are not a member of the firm, partnership, or joint venture, or an officer of the legal entity involved, evidence of authority including the appropriate power of attorney documentation must be attached.]

Execution Version

respect to NEXT Work performed to the date hereof under the NEXT Contract Documents have been paid and there is no known basis for filing of any liens, security interests, encumbrances or other claims in the nature of mechanics', labor or materialmen's liens or other similar liens arising out of or in connection with the performance by Contractor or any of the Subcontractors of NEXT Work under the NEXT Contract Documents; and releases, assignments and waivers from all Subcontractors that would otherwise have had the right to place a lien or encumbrance with respect to and on Project NEXT, the Project NEXT Right of Way and any and all interests and estates therein, and all improvements and materials placed on the Project NEXT Site, for all services done and materials furnished to the date hereof have been obtained in such a form as to constitute an effective defense against the assertion of all such liens and encumbrances under the law of the Commonwealth of Virginia, if and to the extent required under the NEXT Contract Documents.

The Commonwealth of Virginia may rely on this Interim Lien Waiver as a third-party beneficiary thereof.

Signed this ___ day of 20___.

[NAME OF DESIGN-BUILDER]

By: _____
Name:
Title:

Subscribed and sworn to before me this ___ day of 20_____.

Notary Public in and for
Said County and State

Execution Version

and releases, assignments and waivers from all Subcontractors that would otherwise have had the right to place a lien or encumbrance with respect to and on the Project NEXT, the Project NEXT Right of Way and any and all interests and estates therein, and all improvements and materials placed on the Project NEXT Site, for all services done and material furnished have been obtained in such a form as to constitute an effective defense against the assertion of all such liens and claims under the laws of the Commonwealth of Virginia.

Executed copies of all such releases, assignments and waivers obtained by Contractor and not previously delivered to Concessionaire are attached hereto.

The Commonwealth of Virginia may rely on this Final Lien Waiver as a third-party beneficiary thereof.

Signed this ___ day of 20___.

By: _____
Name:
Title:

Subscribed and sworn to before me this ___ day of 20_____.

Notary Public in and for
Said County and State

EXHIBIT 10.8
COMPREHENSIVE AGREEMENT DISPUTE RESOLUTION PROVISION

Section 17.06.
DISPUTE RESOLUTION: NO DECLARATORY JUDGMENT PROCEDURE

(a) Any dispute arising out of, relating to, or in connection with this Agreement shall be resolved as set forth in this Section 17.06.

(b) The parties shall attempt in good faith to resolve the dispute within 15 days or such other time period as may be specifically established for such dispute under this Agreement. If the parties are unable to resolve the dispute within that timeframe, and upon notice by either Party to the other, the dispute shall be referred to mediation or any other form of alternative dispute resolution that is acceptable to both of them. They must share equally the expenses of the mediator or other alternative dispute resolution process. If, after 180 days (or, in the case of disputes relating to the Route 495 HOT Lanes in Virginia Project arising prior to Substantial Completion), 60 days following the date of the referral, the dispute remains unresolved, then either Party may litigate the matter in a court of law as set forth in Section 17.06(c). The provisions of this Section 17.06(b) shall not be applicable to any dispute regarding a Concessionaire Default described in Section 17.02(a)(i).

(c) All litigation between the parties arising out of or pertaining to this Agreement or its breach shall be filed, heard and decided in the Circuit Court for the City of Richmond, Virginia, Division I, which shall have exclusive jurisdiction and venue; *provided*, that the foregoing does not affect any claims or matters which are governed by a different dispute resolution procedure set forth in any other Project Agreement.

(d) Each party shall bear its own attorneys' fees and costs in any dispute or litigation arising out of or pertaining to this Agreement or any other Project Agreement, and no party shall seek or accept an award of attorneys' fees or costs, except as otherwise expressly set forth in this Agreement.

(e) As permitted by Section 56-569 of the Virginia Code, the parties agree that any requirement that the State Corporation Commission issue a declaratory judgment regarding a material default (as defined in Section 56-565 of the Virginia Code) pursuant to such Section 56- 569, as a prerequisite to exercising any remedy set forth in this Agreement, any other Project Agreements or such Section 56-569, shall not apply to this Agreement or any other Project Agreement.

EXHIBIT 12.1.1**FORM OF PROJECT NEXT DIRECT AGREEMENT**

THIS DIRECT AGREEMENT (this “**Agreement**”), dated as of [Month] __, 20__, is made by and among [*Name of D-B Contractor*], a [*State*] corporation (the “**Consenting Party**”), CAPITAL BELTWAY EXPRESS LLC, a Delaware limited liability company (the “**Assignor**”), and U.S. BANK NATIONAL ASSOCIATION, in its capacity as collateral agent for the Secured Parties (in such capacity, the “**Collateral Agent**”).

A. The Assignor is developing, designing, financing and constructing the Project, and will manage, operate, maintain and collect tolls on the HOT Lanes pursuant to a long-term concession arrangement granted to the Assignor by the Virginia Department of Transportation pursuant to the Comprehensive Agreement.

B. The Assignor and the Consenting Party have entered into the Turnkey Lump-Sum Design-Build Contract Relating to the 495 Express Lanes Northern Extension Project, dated as of [Month] __, 20__ (as amended, supplemented, modified and in effect from time to time, the “**Assigned Agreement**”).

C. Pursuant to that [certain Indenture of Trust, dated as of [Month] __, 20__, between the Virginia Small Business Financing Authority, a public body corporate and a political subdivision of the Commonwealth of Virginia, as Issuer (the “**Issuer**”), and U.S. Bank National Association, in its capacity as Trustee (the “**Trustee**”), the Issuer has authorized the issuance of [\$] Virginia Small Business Financing Authority Senior Lien Revenue Bonds ([Project]), Series 20__, the proceeds from the sale of which will be loaned to the Assignor pursuant to the terms of a Loan Agreement, dated as of [Month] __, 20__, between the Issuer and the Assignor, to be used to finance a portion of the costs of the Project.

D. The Assignor, the Trustee and the Collateral Agent have entered into the Collateral Agency and Account Agreement, dated as of [Month] __, 20__ (as amended, restated, modified, supplemented, and in effect from time to time, the “**Collateral Agency Agreement**”), pursuant to which the Collateral Agent agrees to administer and enforce the Security Documents (as such term is defined in the Collateral Agency Agreement) for the benefit of the Secured Parties (as such term is defined in the Collateral Agent Agreement, and herein referred to as the “**Secured Parties**”).

E. The Assignor and the Collateral Agent have entered into the Security Agreement, dated as of [Month] __, 20__ (as amended, restated, modified, supplemented, and in effect from time to time, the “**Security Agreement**”), pursuant to which, for the benefit of the Secured Parties, the Assignor has pledged and assigned to the Collateral Agent, and granted to the Collateral Agent a lien on and a security interest in, among other things, all of the Assignor’s right, title and interest in, to and under the Assigned Agreement.

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F. The Consenting Party is willing to consent to such pledge and assignment of, and the granting of a first-priority lien on and security interest in, to and under all of the Assignor's right, title and interest in the Assigned Agreement on the terms and conditions of this Agreement and it is a requirement under the Financing Documents (as such term is defined in the Collateral Agency Agreement and hereinafter referred to as the "**Financing Documents**") that the Assignor and the Consenting Party execute and deliver this Agreement.

In consideration of the foregoing and of other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. Definitions.

Each capitalized term used and not otherwise defined herein shall have the meaning assigned to such term (whether directly or by reference to another document or agreement) in the Assigned Agreement.

2. Consent to Assignment.

(a) The Consenting Party hereby irrevocably consents to the assignment by the Assignor of all its right, title and interest in, to and under the Assigned Agreement to the Collateral Agent as collateral security for the obligations of Assignor secured by the Security Agreement (the "**Secured Obligations**") as and to the extent provided in the Security Agreement and any subsequent assignments by the Collateral Agent upon and after the exercise by the Collateral Agent of the Collateral Agent's rights and enforcement of its remedies under the Financing Documents and the Security Agreement, at law, in equity, or otherwise.

(b) The Assignor agrees that it shall remain liable to the Consenting Party for all obligations of the Assignor under the Assigned Agreement. The Consenting Party agrees that (i) except as otherwise provided herein, it shall look only to the Assignor for the performance of such obligations and (ii) it shall be and remain obligated to the Assignor to perform all of the Consenting Party's obligations under the Assigned Agreement in accordance with its terms and conditions, *provided* that the Consenting Party's obligations under the Assigned Agreement shall in all cases be subject to the Consenting Party's rights and defenses under the Assigned Agreement, except to the extent expressly modified by this Agreement.

(c) The Consenting Party acknowledges and agrees, notwithstanding anything to the contrary contained in the Assigned Agreement, that none of the following (to the extent not inconsistent with the terms of this Agreement) shall constitute, in and of itself, a default by the Assignor under the Assigned Agreement or shall result in a termination thereof: (i) the assignment of the Assigned Agreement pursuant to the Security Agreement; (ii) the development or operation and maintenance of the Project by the Collateral Agent following the occurrence and continuance of an event of default under the Financing Documents and the Security Agreement; (iii) foreclosure or any other enforcement of the Security Agreement by the Collateral Agent; (iv) acquisition of the rights of the Assignor under the Assigned Agreement in foreclosure by the

Execution Version

Collateral Agent or any third party (or acceptance of an absolute assignment of the Assigned Agreement in lieu of foreclosure); or (v) assignment of the Assigned Agreement by the Collateral Agent following a purchase in foreclosure or following an absolute assignment thereof in lieu of foreclosure.

3. Representations and Warranties.

The Consenting Party hereby represents and warrants to the Collateral Agent and each of the Secured Parties that:

(a) The Consenting Party is a corporation duly organized and validly existing under the laws of the State of [TBD] and in good standing and qualified in all other jurisdictions where failure to so qualify or be in good standing could materially adversely affect the ability of the Consenting Party to perform its obligations under this Agreement and the Assigned Agreement and has all requisite power and authority as a limited liability company to conduct its business, to own its properties, and to execute and deliver, and to perform its obligations under, this Agreement and the Assigned Agreement.

(b) The execution and delivery by the Consenting Party of the Assigned Agreement and this Agreement and the performance by the Consenting Party of the Assigned Agreement and this Agreement and the consummation of the transactions contemplated hereby and thereby (i) have been duly authorized by all necessary limited liability company action on the part of the Consenting Party, (ii) do not and will not require any consent or approval of any member of, or holder of interests in, the Consenting Party or any other Person which has not been obtained, (iii) do not and will not result in any violation of, breach of or default under any term of its formation or governance documents, or of any contract or agreement to which it is a party or by which it or its property is bound, or of any license, permit, franchise, judgment, writ, injunction, decree, order, charter, law, ordinance, rule or regulation applicable to it, the Project, the Assigned Agreement or this Agreement, except for any such violations which, individually or in the aggregate, would not adversely affect the performance by the Consenting Party of its obligations under the Assigned Agreement and this Agreement and (iv) do not and will not result in, or require, the creation or imposition of any mortgage, deed of trust, pledge, lien, security interest or other charge or encumbrance of any nature (other than as is contemplated by this Agreement) upon or with respect to any of the properties now owned or hereafter acquired by the Consenting Party.

(c) All authorizations, permits, approvals, consents, orders and waivers or any other action by, registration, declaration or filing with, any governmental or other official agency or any third party (collectively, the “**Approvals**”), necessary or desirable for the due execution, delivery and performance by the Consenting Party of this Agreement and the due execution, delivery and (to the extent required by the Assigned Agreement to be obtained prior to the date hereof) performance of the Assigned Agreement, have been obtained and are in full force and effect.

Execution Version

(d) This Agreement and the Assigned Agreement have been duly executed and delivered on behalf of the Consenting Party, are in full force and effect and are legal, valid and binding obligations of the Consenting Party, enforceable against the Consenting Party in accordance with their respective terms, except as the same may be limited by bankruptcy, insolvency, reorganization or other similar laws relating to or affecting the enforcement of creditors' rights generally and by general principles of equity.

(e) There is no legislation, litigation, action, suit, proceeding or investigation pending or, to the best of the Consenting Party's knowledge after due inquiry, threatened against the Consenting Party before or by any court, administrative agency, arbitrator or governmental authority, body or agency which, if adversely determined, individually or in the aggregate, (a) could adversely affect the Approvals, or (b) could have a material adverse effect on the ability of the Consenting Party to perform its respective obligations under the Assigned Agreement or this Agreement.

(f) The Consenting Party is not in default of any of its respective obligations under the Assigned Agreement. The Consenting Party has complied with all conditions precedent to its obligations to perform under the Assigned Agreement. To the best of Consenting Party's knowledge, no event or condition exists which would, either immediately or with the passage of any applicable grace period or giving of notice, or both, enable either the Consenting Party or the Assignor to terminate or suspend any of its obligations under the Assigned Agreement. The Assigned Agreement has not been amended, modified or supplemented in any manner.

(g) The Consenting Party has no notice of, and has not consented to, any previous assignment of the Assignor's interest in the Assigned Agreement to any other person or entity, and the Assignor is not in default under any material covenant or obligation under the Assigned Agreement, and no such default has occurred prior to the date hereof. After giving effect to the assignment by the Assignor of the Assigned Agreement to the Collateral Agent pursuant to the Security Agreement, and after giving effect to the acknowledgment of and consent to such assignment by the Consenting Party, there exists no event or condition which would constitute a default, or which would, with the giving of notice or lapse of time or both, constitute a default under the Assigned Agreement. The Consenting Party has no present claim against the Assignor or lien upon the Project arising out of the Consenting Party's performance of any work or service under the Assigned Agreement.

(h) The Consenting Party has duly performed and complied with all covenants, agreements and conditions contained in the Assigned Agreement and this Agreement required to be performed or complied with by it on or before the date hereof, and none of the Assignor's rights under the Assigned Agreement have been waived.

4. Rights of the Secured Parties.

The Consenting Party hereby agrees as follows:

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(a) Exercise of Rights. The Collateral Agent and any designee or assignee thereof shall be entitled, to the extent permitted by the Security Agreement, to exercise on behalf of the Secured Parties any and all rights of the Assignor under the Assigned Agreement in accordance with its terms, and the Consenting Party shall comply in all respects with such exercise. Without limiting the generality of the foregoing, the Collateral Agent and any designee or assignee thereof shall have the full right and power, to the extent permitted by the Security Agreement and subject to the terms of the Intercreditor Agreement (as defined in the Collateral Agency Agreement), to enforce directly against the Consenting Party all obligations of the Consenting Party under the Assigned Agreement and otherwise to exercise all remedies thereunder and to make all demands and give all notices and make all requests and take all actions required or permitted to be made by the Assignor under the Assigned Agreement; *provided*, (1) that nothing herein shall require the Collateral Agent or such designee or assignee to cure any default of the Assignor under the Assigned Agreement or to perform any act, duty or obligation of the Assignor under the Assigned Agreement, and (2) the Consenting Party's obligations under the Assigned Agreement shall in all cases be subject to the Consenting Party's rights and defenses under the Assigned Agreement, except to the extent expressly modified by this Agreement.

(b) Right to Cure. The Consenting Party shall not cancel or terminate the Assigned Agreement, or suspend its performance or any of its obligations thereunder, on account of any failure, default or breach of the Assignor, or any other event or condition, without first giving written notice of such default to the Collateral Agent or its assignee or designee pursuant to the applicable provisions of the Assigned Agreement and affording such party the same period of time afforded the Assignor under the Assigned Agreement to perform any obligation required of the Assignor or necessary and proper to cure such default; *provided* that if such default is a non-monetary default and the nature of the default is such that the same cannot be cured within such time period, the Consenting Party shall allow such longer time period as is required (not to exceed thirty (30) additional days) beyond the time period in the Assigned Agreement so long as Collateral Agent or its designee or assignee has commenced and is diligently pursuing a cure to such default. If possession of the Project is necessary to cure any non-monetary default, failure, breach or other event or condition, and so long as there are no uncured monetary defaults, and the Collateral Agent has commenced foreclosure or other appropriate proceedings to obtain possession of the Project, the Collateral Agent shall be allowed a reasonable time (not to exceed a total of sixty (60) additional days beyond the time period in the Assigned Agreement) to complete such proceedings before the time periods specified herein for curing a failure, default, breach or other event or condition commences. If the Collateral Agent is prohibited from curing any non-monetary failure, default, breach or other event or condition by any process, stay or injunction issued by any governmental authority or pursuant to any bankruptcy or insolvency proceeding or other similar proceeding involving the Assignor, and there are no uncured monetary defaults, then the time periods specified in the Assigned Agreement for curing such failure, default, breach or other event or condition shall be extended a reasonable time (not to exceed a total of one hundred eighty (180) additional days beyond the time period in the Assigned Agreement) during the pendency of such

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prohibition; *provided, however*, that Collateral Agent shall reimburse Consenting Party for any additional costs resulting from the additional days allowed beyond the time period in the Assigned Agreement.

(c) Substitute. In the event that the Collateral Agent (or its designee or assignee pursuant to Section 4(e)) succeeds to the Assignor's interest under the Assigned Agreement, whether by foreclosure or otherwise, and the Collateral Agent or its designee or assignee assumes liability for all of the Assignor's obligations under the Assigned Agreement, and cures any outstanding monetary defaults, the Collateral Agent or its designee or assignee shall be substituted for the Assignor under the Assigned Agreement and the Consenting Party shall recognize the substitute and will continue to perform its obligations under the Assigned Agreement in favor of the substitute party. Upon the effective date of the substitution, the Assignor shall be released from its obligations arising under the Assigned Agreement thereafter, and cease to be a party to, the Assigned Agreement to the extent of such assignment.

(d) New Assigned Agreement. In the event that (i) the Assigned Agreement is rejected by a trustee or debtor-in-possession in any bankruptcy or insolvency proceeding involving the Assignor or (ii) the Assigned Agreement is terminated as a result of any bankruptcy or insolvency proceeding involving the Assignor, and if within sixty (60) days after such rejection or termination, the Collateral Agent (or its designee or assignee pursuant to Section 4(e)) shall so request and shall certify in writing to the Consenting Party that it intends to perform the obligations of the Assignor as and to the extent required under the Assigned Agreement and cure any outstanding monetary defaults, the Consenting Party shall execute and deliver to the Collateral Agent or such designee or assignee such a new agreement ("**new Assigned Agreement**"), pursuant to which the Consenting Party shall agree to perform the obligations contemplated to be performed by the Consenting Party under the original Assigned Agreement and which shall be for the balance of the remaining term and for the obligations and services remaining to be performed under such original Assigned Agreement before giving effect to such rejection or termination and shall contain the same conditions, agreements, terms, provisions and limitations as such original Assigned Agreement, *provided* that the rights and obligations of the Consenting Party under the new Assigned Agreement shall be equitably adjusted to reflect the effects of the rejection or termination (including any passage of time between the rejection or termination and the effectiveness of the new Assigned Agreement).

(e) Right to Assignment. The Collateral Agent or its assignee or designee may assign any rights and interests it may have as substitute party pursuant to Section 4(c) hereof or as a party to a new Assigned Agreement pursuant to Section 4(d) hereof to any purchaser or transferee of the Project, if such purchaser or transferee shall assume all of the obligations of the Assignor under the Assigned Agreement in writing, and the Collateral Agent or its assignee or designee shall be relieved of all its obligations arising under the Assigned Agreement upon such assignment and assumption; *provided however*, that the Consenting Party shall have reasonably determined that

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the purchaser or transferee has the technical and financial capability to perform the Assignor's obligations under the Assigned Agreement, or if a proposed purchaser or transferee lacks such technical capability, such purchaser or transferee shall have contracted with advisers who possess such capability. The Consenting Party hereby agrees to be bound by any such assignment and assumption.

(f) No Obligations. Nothing herein shall require the Collateral Agent or its assignee or designee to perform any of the Assignor's obligations or cure any default under the Assigned Agreement except during any period in which the Collateral Agent or its assignee or designee is a substitute party pursuant to Section 4(c) hereof or has entered into a new Assigned Agreement pursuant to Section 4(d) hereof, in which case the obligations of such party shall be those of the Assignor under the Assigned Agreement. In the event that the Collateral Agent or its assignee or designee so elects to perform any such obligations, other than in connection with Section 4(c) or 4(d), it shall not have any personal liability to the Consenting Party for the performance of the Assignor's obligations under the Assigned Agreement, it being understood that the sole recourse of the Consenting Party shall be limited to the entire interest of the Assignor and its assets.

(g) No Consent Required. A foreclosure or other exercise of remedies under the Security Agreement or any sale thereunder by the Collateral Agent or its assignee or designee, whether by judicial proceedings or under any power of sale contained therein, or any conveyance from the Assignor to the Collateral Agent or such assignee or designee, in lieu thereof, shall not in any event require the consent of the Consenting Party.

(h) Limitation on Amendments. The Consenting Party shall not, without the prior written consent of the Collateral Agent, enter into any amendment, supplement or other modification of the Assigned Agreement except pursuant to any Scope Change Order or Work Order entered into under the Assigned Agreement or otherwise as expressly contemplated by the Assigned Agreement or the Comprehensive Agreement.

(i) Notices. The Consenting Party shall deliver to the Collateral Agent at the addresses set forth on the signature pages hereof, or at such other address as the Collateral Agent may designate in writing from time to time to the Consenting Party, concurrently with the delivery thereof to the Assignor, a copy of each notice of default and each other similar material notice or demand or request given by the Consenting Party pursuant to the Assigned Agreement, and the applicable time periods under Section 4(b) hereof shall commence to run against the Collateral Agent only from the date such notice is provided.

5. Payments Under the Assigned Agreement.

If instructed to do so by the Collateral Agent in writing, the Consenting Party will pay all amounts thereafter payable by it under the Assigned Agreement directly to the Collateral Agent, on behalf of the Secured Parties, pursuant to the payment provisions in the Assigned Agreement to such person or account as shall be specified from time to time by the Collateral Agent to the Consenting Party in writing. By its acceptance and agreement to this Agreement, the Assignor, for itself and its successors and permitted assigns, consents to the making by the Consenting Party of payments as provided in the previous sentence.

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6. Miscellaneous.

(a) Notices. All notices to be given under this Agreement shall be in writing and shall be delivered personally, sent by certified or registered first-class mail, postage prepaid, or dispatched by facsimile or courier to the intended recipient at its address as set forth on the signature pages below. All payments to be made under this Agreement shall be made by wire transfer of immediately available funds or check representing immediately collectible funds to the account or address of the intended recipient as set forth on the signature pages hereto, unless the recipient has given notice of another address or account for receipt of notices or payments.

(b) Governing Law; Jurisdiction. This Agreement shall be governed by and construed in accordance with the laws of New York. The Consenting Party and the Collateral Agent, on its own behalf and on the behalf of any assignee or designee and their respective permitted successors and assigns hereunder, hereby irrevocably waive all right of trial by jury in any action, proceeding or counterclaim arising out of or in connection with this Agreement or any matter arising hereunder.

(c) Headings. The headings of the several sections and subsections of this Agreement are inserted for convenience only and shall not in any way affect the meaning or construction of any provision of this Agreement.

(d) Severability. In case any provision in or obligation under this Agreement shall be invalid, illegal or unenforceable in any jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

(e) Amendment, Waiver. Neither this Agreement nor any of the terms hereof may be terminated, amended, supplemented, waived or modified except by an instrument in writing signed by the Consenting Party and the Collateral Agent (at the direction of the Secured Parties).

(f) Successors and Assigns. This Agreement shall be binding upon the Consenting Party and its permitted successors and assigns and shall inure to the benefit of the Collateral Agent, on behalf of the Secured Parties, its permitted assignees, designees and their respective permitted successors and assigns, and any holder of any debt that amends, restates or refinances the debt of the Assignor relating to the Financing Documents. Nothing contained in this Agreement is intended to limit the right of any Secured Party to assign, transfer, or grant participations in its rights in its respective Secured Obligations and the Financing Documents.

(g) Further Assurances. The Consenting Party hereby agrees to execute and deliver all such instruments and take all such action as may be necessary to effectuate fully the purposes of this Agreement.

(h) Counterparts. This Agreement may be executed in any number of counterparts and by the different parties hereto on separate counterparts, each of which when so executed and delivered shall be an original, but all of which shall together constitute one and the same instrument.

[THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.]

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IN WITNESS WHEREOF, each of the undersigned by its officer duly authorized has caused this Agreement to be duly executed and delivered as of the first date written above.

[DB Contractor],
a [STATE] corporation

By: _____

Name: _____

Title: _____

Address for Notices:

CAPITAL BELTWAY EXPRESS LLC,
a Delaware limited liability company

By: _____

Name: _____

Title: _____

Address for Notices:

Capital Beltway Express LLC
6440 General Green Way
Alexandria, VA 22312

Attention: Project NEXT Director

Telephone: (571) 419-6100

Facsimile: (571) 419-6101

With a copy to:

Transurban (USA) Inc.
7900 Westpark Drive
Suite T500
Tysons, VA 22102

Attention: Head of Delivery

Telephone:

Facsimile:

U.S. BANK NATIONAL ASSOCIATION,
as Collateral Agent

By: _____

Name: _____

Title: _____

Address for Notices:

U.S. Bank National Association
1021 East Cary Street, Suite 1850
Richmond, Virginia 23219

Attention: Stephanie E. Haysley
Telephone: (804) 343-1567
Facsimile: (804) 343-1572

PART 5
DIVISION 1 AMENDMENTS TO THE STANDARD SPECIFICATIONS

PART 5

Division I Amendments to the Standard Specifications

These Division I Amendments supersede Division I of the Standard Specifications

SECTION 101—DEFINITIONS OF ABBREVIATIONS, ACRONYMS, AND TERMS

101.01—Abbreviations and Acronyms

Abbreviations and Acronyms shall be as stated in Section 101.01 of the Standard Specifications.

101.02—Terms

In these Division I Amendments to the Standard Specifications and other NEXT Contract Documents, the following terms and pronouns used in place of them shall be interpreted as follows, except that if such terms and pronouns are defined in Part 3 (NEXT Design-Build Contract), Part 4 (NEXT General Conditions), or Part 2 (NEXT Technical Requirements), such definitions shall govern:

-A-

Alkali Soil. Soil in which total alkali chlorides calculated as sodium chloride are more than 0.10 percent based on total solids.

-B-

Backfill. Material used to replace, or the act of replacing, Material removed during construction; may also denote Material placed, or the act of placing, Material adjacent to structures.

Balance Point. The approximate point, based on estimated shrinkage or swell, where the quantity of Earthwork Excavation and borrow, if required, is equal to the quantity of Embankment Material plus any surplus Excavation material.

Base Course. A layer of material of specified thickness on which the intermediate or surface course is placed.

Base Flood. The flood or tide having a one percent chance of being exceeded in any given year.

Board. Commonwealth Transportation Board of Virginia.

Borrow. Suitable material from sources outside the Roadway that is used primarily for Embankments.

Brackish Water. Water in which total alkali chlorides calculated as sodium chloride are more than 0.10 percent based on total solids.

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Bridge. A structure, including supports, that is erected over a depression or an obstruction, such as water, a Highway, or a railway, that has a track or passageway for carrying traffic.

Bridge Lift. A layer of fill material placed in excess of standard depth over an area that does not support the weight of hauling Equipment and for which compaction effort is not required.

-C-

Camber. A vertical curvature induced or fabricated into beams or girders and a deck slab or slab span formwork; a vertical curvature set in the grade line of a pipe culvert to accommodate differential settlement.

Change Order. As defined in Article 9 of the Part 4 (NEXT General Conditions).

Channel. A watercourse or drainage way.

Commissioner. The Chief Executive Officer of the Virginia Department of Transportation, whose title is Commissioner of Highways or as otherwise designated by the Code of Virginia.

Commonwealth. Commonwealth of Virginia.

Composite Hydrograph. A graph showing the mean daily discharge versus the day, indicating trends in high and low flow for a one-year period.

Construction Area. The area where authorized construction on this Project NEXT occurs.

Construction Limits (On-Site). The disturbed area utilized for the construction of a Project NEXT including the intersection of side slopes with the original ground plus slope rounding and slopes for Drainage Ditches, Bridges, Culverts, Channels, temporary or incidental construction, and identified by the surface planes as shown or described within the NEXT Contract Documents.

Contract. The Part 3 (NEXT Design-Build Contract) between Concessionaire and Design-Builder for the Project NEXT, inclusive of all NEXT Contract Documents as defined in Article 2 of the Part 3 (NEXT Design-Build Contract). Oral agreements, representations or promises shall not be considered a part of the Contract.

Corporation. A business entity organized and existing under the laws of the Commonwealth or other jurisdiction, by virtue of articles of incorporation, amendment or merger.

Cul-de-sac. An area at the terminus of a dead-end Street or Road that is constructed for the purpose of allowing vehicles to turn around.

Culvert. A structure that is not classified as a bridge which provides an opening under any Roadway.

Cut. When used as a noun with reference to Earthwork, that portion of a Roadway formed by excavating below the existing surface of the earth and limited by design.

Cut Slope. See also Fill Slope. A surface plane generally designated by design, which is formed during Excavation below existing ground elevations that intersects with existing ground at its termini.

-D-

Deflection. The vertical or horizontal movement occurring between the supports of a Bridge superstructure, guardrail, other structure, or the components (beams, girders, and slabs) thereof that results from their own weight and from dead and live loads. Although all parts of a structure are subject to deflections, usually only those deflections that occur in the superstructure are of significance during construction.

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Design Flood. The magnitude of flood that a given structure can convey without exceeding a designated flood level.

Disposable Material. Material generally found to be unsuitable for roadway construction or surplus material that is to be placed in a disposal area, unless specified otherwise.

Disposal Areas. Areas generally located outside of the Construction Limits identified in the NEXT Contract Documents where Disposable Material is deposited.

Disqualification. The suspension or revocation of a bidder's prequalification privileges.

Drainage Ditch. An artificial depression constructed to carry off surface water.

-E-

Earthwork. The work consisting of constructing Roadway earthwork in conformity with the specified tolerances for the lines, grades, typical sections, and cross sections shown on the NEXT Contract Documents. Earthwork shall include regular, borrow, undercut, and minor structure Excavation; constructing Embankments; disposing of surplus and Unsuitable Material; shaping; grading, compaction; sloping; dressing; and temporary erosion control work.

Easement. A grant of the right to use property for a specific use.

Embankment. A structure of soil, soil aggregate, soil-like materials, or broken rock between the existing ground and Subgrade.

Employee. Any individual working on the Project NEXT who is under the direction or control of or receives compensation from Design-Builder or a Subcontractor at any tier.

Equipment. Machinery, tools, and other apparatus, together with the necessary supplies for upkeep and maintenance that are necessary for acceptable completion of the work.

Excavation (Excavate). The act of creating a man-made cavity in the existing soil for the removal of material necessary to obtain a specific elevation or to install a structure, material, component, or item necessary to complete a specific task or form a final surface or subsurface.

Extra Work. Any work that was not provided for or included in the Contract as awarded but Concessionaire determines is essential to the satisfactory fulfillment of the Contract within its intended scope and authorized pursuant to Article 9 of Part 4 (NEXT General Conditions).

-F-

Falsework. A temporary framework used to support work while in the process of constructing permanent structural units.

Federal Agencies or Officers. An agency or officer of the federal government and any agency or officer succeeding, in accordance with the law to the powers, duties, jurisdictions, and authority of the agency or officer mentioned.

Fill Slope (See also Cut Slope). A surface plane formed during the construction of an Embankment above existing ground elevations that intersects with existing ground at its termini.

Flood Frequency. A statistical average recurrence interval of floods of a given magnitude.

Formwork. A temporary structure or mold used to retain the plastic or fluid concrete in its designated shape until it hardens. Formwork shall be designed to resist the fluid pressure exerted by plastic concrete and additional fluid pressure generated by vibration and temporary construction loads.

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Frontage Street or Road. A local Street or Road auxiliary to and located on the side of a Highway for service to abutting property and adjacent areas and control of access.

-G-

Gage. U.S. Standard Gage.

Grade Separation. Any structure that provides a Traveled Way over or under another Traveled Way or over a body of water.

-H-

Highway. The entire Right of Way reserved for use in constructing or maintaining the roadway and its appurtenances.

Historical Flood Level. The highest flood level that is known to have occurred at a given location.

Hydrologic Data Sheet. A tabulation of hydrologic data for facilities conveying a 100-year discharge equal to or greater than 500 cubic feet per second.

-I-

Inspector. Concessionaire's authorized representative who is assigned to make detailed inspections of the quality and quantity of the NEXT Work and its conformance to the requirements and provisions of the Contract.

Invert. The lowest point in the internal cross-section of a pipe or other drainage structure.

-J-K-L-

Laboratory. The testing laboratory of VDOT or any other testing laboratory that may be designated by the Contract or by Design-Builder.

-M-N-

Material. Any substance that is used in the NEXT Work specified in the Contract.

Median. The portion of a divided Highway that separates the Traveled Ways.

-O-

Ordinary High Water. A water elevation based on analysis of all daily high waters that will be exceeded approximately 25 percent of the time during any 12-month period.

-P-Q-

Pavement Structure. The combination of Select or stabilized materials, Subbase, Base, and surface courses, described in the typical pavement section in the NEXT Contract Documents that is placed on a Subgrade to support the traffic load and distribute it to the Roadbed.

Plans. The approved Project NEXT plans and profiles, which may include but are not limited to survey data, typical sections, summaries, general notes, details, plan and profile views, cross-sections, special design drawings, computer output listings, supplemental drawings, or exact reproductions thereof, and all subsequently approved revisions thereto which show the location, character, dimensions, and details of the NEXT Work specified in the Contract.

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Prequalification. The procedure for qualifying a Design-Builder to bid or work on VDOT contracts specified in VDOT's Rules Governing Prequalification Privileges which are available on VDOT's website at: www.viriniadot.org/business/const/prequal.asp.

Professional Engineer (PE). An engineer holding a valid license to practice engineering in the State of Virginia.

Profile Grade. The line of a vertical plane intersecting the top surface of the proposed wearing surface, usually along the longitudinal centerline of the Roadbed.

-R-

Ramp. A connecting Roadway between two Highways or Traveled Ways or between two intersecting Highways at a Grade Separation.

Road. A general term denoting a public way for purposes of vehicular travel including the entire area within the Right of Way; the entire area reserved for use in constructing or maintaining the Roadway and its appurtenances.

Roadbed. The graded portion of a Highway within the top and side slopes that is prepared as a foundation for the Pavement Structure and Shoulders.

Roadbed Material. The material below the Subgrade in cuts, Embankments, and Embankment foundations that extends to a depth and width that affects the support of the pavement structure.

Roadside. A general term that denotes the area within the Right of Way that adjoins the outer edges of the Roadway; extensive areas between the Roadways of a divided Highway.

Roadside Development. Items that are necessary to complete a Highway that provide for the preservation of landscape materials and features; rehabilitation and protection against erosion of areas disturbed by construction through placing seed, sod, mulch, and other ground covers; and such suitable plantings and other improvements as may increase the effectiveness, service life and enhance the appearance of the Highway.

Roadway. The portion of a Highway within the limits of construction and all structures, ditches, channels, and waterways which are necessary for the correct drainage thereof.

Rootmat. Any material that by volume, contains approximately 60 percent or more roots.

-S-

Schedule of Record (SOR). The latest accepted Baseline Schedule in accordance with Part 3, Article 11 of the Contract by which all schedule references will be made and progress evaluated.

Seawater. Water in which total alkali chlorides calculated as sodium chloride are more than 0.10 percent of total solids.

Select Borrow. Borrow material that has specified physical characteristics.

Select Material. Material obtained from Roadway Cuts, Borrow areas, or commercial sources that is designated or reserved for use as a foundation for the Subbase, Subbase material, Shoulder surfacing, or other specified purposes designated in the NEXT Contract Documents.

Shoulder. The portion of the Roadway contiguous with the Traveled Way that is for the accommodation of stopped vehicles, emergency use, and lateral support of the Base and Surface courses.

Sidewalk. The portion of the Roadway constructed primarily for the use of pedestrians.

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Skew. The acute angle formed by the intersection of a line normal to the centerline of the Roadway with a line parallel to the face of the abutments or, in the case of Culverts, with the centerline of the Culverts.

Special Provision (SP). See Section 1.5a of Part 2 (NEXT Technical Requirements).

Special Provision Copied Note (SPCN). See Section 1.5a of Part 2 (NEXT Technical Requirements).

Specifications. A general term that includes all directions, provisions, and requirements which are necessary for the proper fulfillment of the Contract. Specifications are found in the NEXT Contract Documents.

Supplemental Specifications (SS). See Section 1.5a of Part 2 (NEXT Technical Requirements).

Station. When used as a definition or term of measurement, 100 linear feet.

Storm Sewer System. A drainage system consisting of a series of at least two interconnecting pipes and structures (minimum of two drop inlets, manholes, junction boxes, etc.) designed to intercept and convey stormwater runoff from a specific storm event without surcharge.

Street. A general term denoting a public way for purposes of vehicular travel including the entire area within the Right of Way; the entire Right of Way reserved for use in constructing or maintaining the Roadway and its appurtenances.

Structures. Bridges, Culverts, catch basins, inlets, retaining walls, cribs, manholes, end walls, buildings, steps, fences, sewers, service pipes, underdrains, foundation drains, and other features that may be encountered in the NEXT Work and are not otherwise classed herein.

Subbase. A layer(s) of specified or selected material of designed thickness that is placed on a Subgrade to support a Base Course.

Subgrade. The top Earthwork surface of a Roadbed, prior to application of Select (or stabilized) Material courses, shaped to conform to the typical section on which the Pavement Structure and Shoulders are constructed, or surface that must receive an additional material layer, such as topsoil, stone or other Select Material.

Subgrade Stabilization. The modification of Roadbed soils by admixing with stabilizing or chemical agents that will increase the load bearing capacity, firmness, and resistance to weathering or displacement.

Supplier. Any business who manufactures, fabricates, distributes, supplies or furnishes materials or equipment, but not on-site labor, for use in performing the NEXT Work on or for the Project NEXT according to the requirements of the NEXT Contract Documents.

Surface Course (See Wearing Course). One or more top layers of a Pavement Structure designed to accommodate the traffic load, which is designed to resist skidding, traffic abrasion, and disintegrating effects of weather.

Surplus Material. Material that is present on the Project NEXT as a result of unbalanced Earthwork quantities, excessive swell, slides, undercutting, or other conditions beyond the control of Design-Builder, or is designated as surplus material in the NEXT Contract Documents.

Suspension. A written notice issued by Concessionaire to Design-Builder that orders the NEXT Work on the Project NEXT to be stopped wholly or in part as specified. The notice will include the reason for the suspension.

-T-

Temporary Structure. Any structure that is required to maintain traffic while permanent structures or parts of structures specified in the Contract are constructed or reconstructed. The Temporary Structure shall include earth approaches.

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Theoretical Maximum Density. The maximum compaction of materials that can be obtained in accordance with the values established VTM-1.

Tidewater, Virginia. Areas within the State as defined in the Department of Conservation and Recreation Erosion and Sediment Control Manual.

Ton. A short ton; 2,000 pounds avoirdupois.

Top of earthwork. The uppermost surface of the regular or embankment excavation, not including select material that is shaped to conform to the typical section shown in the plans or directed by Concessionaire.

Topsoil: The uppermost original layer of material that will support plant life and contains more than 5 percent organic material and is reasonably free from roots exceeding 1 inch in diameter, brush, stones larger than 3 inches in the largest dimension, and toxic contaminants.

Traveled Way. The portion of the Roadway for the movement of vehicles, not including Shoulders.

-U-V-

Unsuitable Material. As defined in Part 2 of the NEXT Contract Documents (NEXT Technical Requirements).

-W-X-Y-Z-

Wearing Course (See Surface course). The top and final layer of any pavement

Working Drawings. Stress sheets, shop drawings, erection plans, Falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data Design-Builder is required to submit to Concessionaire's Representative for record purposes.

SECTION 102—BIDDING REQUIREMENTS AND CONDITIONS (Not Used) Refer to RFQ and Part 1 (NEXT RFP).

SECTION 103—AWARD AND EXECUTION OF DESIGN-BUILD CONTRACTS (Not Used) Refer to Part 1 (NEXT RFP).

SECTION 104—SCOPE OF WORK**104.01—Intent of Contract**

The intent of the Contract is to provide for completion of the NEXT Work specified therein in accordance with the Contract for the NEXT Contract Price and within the NEXT Contract Time. Further, it is understood that Design-Builder shall perform the NEXT Work under the Contract as an independent contractor and not as an agent of Concessionaire, VDOT, the Commissioner, or the Board.

104.02—Changes in Quantities or Alterations in the Work**(a) General**

Concessionaire reserves the right to make, in writing, at any time during the NEXT Work, such changes in quantities and such alterations in the NEXT Work as are necessary to complete the Project NEXT satisfactorily. Such changes shall be administered under Article 9 of Part 4 (NEXT General Conditions), and shall not invalidate the Contract or release the Surety, and Design-Builder shall agree to perform the NEXT Work as altered. No change, alteration, or modification in or deviations from the NEXT Contract Documents, or the giving by Concessionaire of any extension of time for the performance of the NEXT Work, or the forbearance on the part

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of Concessionaire shall release or exonerate in whole or in part either Design-Builder or any Surety on the obligations of any bond given in connection with the Contract. Neither Concessionaire nor Design-Builder shall be under any obligation to notify the Surety or sureties of any such alteration, change, extension, or forbearance notice thereof being expressly waived. Any increase in the NEXT Contract Price shall automatically result in a corresponding increase in the penal amount of the bonds without notice to or consent from the Surety, such notice and consent being hereby waived. Decreases in the NEXT Contract Price shall not, however, reduce the penal amount of the bonds unless specifically provided in any Change Order decreasing the scope of the NEXT Work.

(b) Value Engineering Proposals

Design-Builder may submit to Concessionaire written Value Engineering Contractor Proposals (VECP) for modifying the requirements of NEXT Contract Documents for the purpose of reducing the total NEXT Contract Price or NEXT Contract Time without reducing the design capacity or quality of the finished product. If Concessionaire accepts VECP, Concessionaire and Design-Builder will equally divide the net savings or NEXT Contract Time, or both.

Each VECP shall result in a net savings over the NEXT Contract Price or NEXT Contract Time, or both without impairing essential functions and characteristics of the item(s) or of any other part of the Project NEXT, including, but not limited to, service life, reliability, economy of operation, ease of maintenance, aesthetics, and safety. At least the following information shall be submitted with each VECP:

- Statement that the proposal is submitted as a VECP
- Statement concerning the basis for the VECP benefits to Concessionaire and an itemization of the pay items and requirements affected by the VECP
- Detailed estimate of the cost under the existing Contract and under the VECP
- Proposed specifications and recommendations as to the manner in which the VECP changes are to be accomplished
- Statement as to the time by which a contract Change Order adopting the VECP must be issued so as to obtain the maximum cost-effectiveness

Concessionaire will process the VECP in the same manner as prescribed for any other proposal that would necessitate issuance of a Change Order. Concessionaire may accept a VECP in whole or part by issuing a Change Order that will identify the VECP on which it is based. Concessionaire will not be liable to Design-Builder for failure to accept or act on any VECP submitted pursuant to these requirements or for delays in the work attributable to any VECP. Until a VECP is put into effect by a Change Order, Design-Builder shall remain obligated to the terms and conditions of the existing Contract. If an executed Change Order has not been issued by the date on which Design-Builder's proposal specifies that a decision should be made or such other date as Design-Builder may subsequently have specified in writing, the VECP shall be deemed rejected.

The Change Order effecting the necessary modification of the Contract will establish the net savings agreed on, and provide for adjustment of the NEXT Contract Price, or NEXT Contract Time, or both. Design-Builder shall absorb all costs incurred in preparing a VECP. Costs for reviewing and administering a VECP will be borne by Concessionaire. Concessionaire may include in the agreement any conditions it deems appropriate for consideration, approval, and implementation of the VECP. Design-Builder's 50 percent share of the net savings or NEXT Contract Time or both shall constitute full compensation to him for effecting all changes pursuant to the VECP Change Order.

Unless specifically provided for in the Change Order authorizing the VECP, acceptance of the VECP and performance of the work thereunder will not change the NEXT Contract Time.

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Concessionaire may adopt a VECP for general use in contracts the Concessionaire administers if it determines that the VECP is suitable for application to other contracts. VECPs identical with or similar to previously submitted VECPs will be eligible for consideration and compensation under these provisions if Concessionaire has not previously adopted the VECPs for general application to other contracts administered by Concessionaire. When a VECP is adopted for general use, compensation pursuant to these requirements will be applied only to those awarded contracts for which the VECP was submitted prior to the date of adoption of the VECP.

Proposed changes in the basic design of a Bridge or pavement type or those changes that require different right of way limits will not normally be considered an acceptable VECP. If a VECP is based on or is similar to a change in the NEXT Contract Documents prior to submission of the VECP, Concessionaire will not accept the VECP.

Concessionaire will be the sole judge of the acceptability of a VECP. The requirements herein apply to each VECP initiated, developed, and identified as such by Design-Builder at the time of its submission to Concessionaire. However, nothing herein shall be construed as requiring Concessionaire to approve a VECP.

Subject to the provisions herein, Concessionaire or any other public agency shall have the right to use all or part of an accepted VECP without obligation or compensation of any kind to Design-Builder.

104.03—Differing Site Conditions (Not Used) Refer to Part 4 (NEXT General Conditions) – Section 4.3 (Differing Site Conditions)

SECTION 105—CONTROL OF WORK

105.01—Notice to Proceed (Not Used) Refer to Part 3 (NEXT Design-Build Contract)

105.02—Pre-Construction Conference (Not Used)

105.03—Authorities of Project NEXT Personnel, Communication and Decision Making (Not Used)

105.04—Gratuities

Gifts, gratuities, or favors shall not be given or offered by Design-Builder to personnel of Concessionaire or VDOT. A gift, gratuity, or favor of any nature whatsoever or offer of such by Design-Builder to personnel of Concessionaire or VDOT shall be a violation of this provision.

Design-Builder shall not employ any personnel of Concessionaire or VDOT for any services without the prior written consent.

If Concessionaire or VDOT determines after investigation that Design-Builder or Design-Builder's Employees, representatives, or agents of any Person acting in his behalf have violated this Section, Concessionaire or VDOT may, at its discretion, disqualify Design-Builder from bidding on future contracts with Concessionaire or VDOT for a period of six months from the date of the determination of such a violation. Any implicated Employees, agents, or representatives of Design-Builder may be prohibited from working on any contract Concessionaire or VDOT awards for the period of Design-Builder's disqualification.

105.05—Character of Workers, Work Methods, and Equipment**(a) Workers**

Workers shall have sufficient skill and experience to perform properly the NEXT Work assigned to them. Workers engaged in special or skilled work shall have sufficient experience in such work and in the operation of Equipment required to perform it properly and satisfactorily. The term "Workers" means Design-Builder's employees, its Subcontractors at any tier, or any of their respective employees.

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Design-Builder shall immediately remove from the Project NEXT any Workers who, in Concessionaire's opinion, do not perform their work in a proper, skillful and satisfactory manner or are intemperate or disorderly. Concessionaire shall direct Design-Builder to do so in writing and such Workers shall not be employed again on any portion of the NEXT Work without Concessionaire's written approval. If Design-Builder fails to immediately remove the Workers, or furnish suitable and sufficient Workers for satisfactory prosecution of the NEXT Work, Concessionaire may withhold all monies that are or may become due Design-Builder and may suspend the NEXT Work until Design-Builder has complied with Concessionaire's directive.

(b) Equipment

Equipment shall be of sufficient size and quantity, and in such good mechanical condition as to comply with the Contract requirements and to produce a satisfactory quality of work. Equipment shall be such that no damage to the Roadway, adjacent property, or other Highways, or no danger to the public will result from its use. Concessionaire may order the removal and require replacement of unsatisfactory Equipment.

(c) Work Methods

When methods and Equipment to be used by Design-Builder are not prescribed in the Contract, Design-Builder is free to use whatever methods or Equipment he feels will accomplish the NEXT Work in conformity with the Contract requirements.

When the Contract specifies that construction be performed by the use of particular methods and Equipment, they shall be used unless others are authorized by Concessionaire. If Design-Builder desires to use a different method or type of Equipment, he may request permission from Concessionaire to do so. The request shall be in writing and shall include a full description of the methods and Equipment he proposes to use and an explanation of the reasons for desiring to make the change. If permission is not given, Design-Builder shall use the specified methods and Equipment. If permission is given, it will be on the condition that Design-Builder shall be fully responsible for producing construction work in conformity with contract requirements. If, after trial use of the substituted methods or Equipment, Concessionaire determines that the work produced does not conform to the Contract requirements, Design-Builder shall discontinue the use of the substitute method or Equipment and shall complete the remaining construction with the specified methods and Equipment. Design-Builder shall remove any deficient work and replace it with work of the specified quality or take such other corrective action as Concessionaire may direct. No change will be made in the basis of payment for the construction items involved or the NEXT Contract Time as the result of authorizing or denying a change in methods or Equipment under these provisions.

105.06—Subcontracting

- (a) Design-Builder shall notify Concessionaire of the name of the firm to whom the work will be subcontracted, and the amount and items of work involved. Such notification shall be made prior to the Subcontractor beginning work.
- (b) Design-Builder shall perform with his own organization work amounting to not less than 30 percent of the total original NEXT Contract Price unless otherwise indicated in the Contract.

The term “perform work with its own organization” refers to Workers employed or leased by Design-Builder, and equipment owned or rented by Design-Builder, with or without operators. Such term does not include employees or equipment of a Subcontractor or lower tier Subcontractor, agents of Design-Builder, 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 Design-Builder meets all of the following conditions:

1. Design-Builder maintains control over the supervision of the day-to-day activities of the leased employees;
2. Design-Builder remains responsible for the quality of the work of the leased employees;

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3. Design-Builder retains all power to accept or exclude individual employees from work on the Project NEXT; and
 4. Design-Builder remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.
- (c) Design-Builder shall not subcontract any part of the work to a contractor who is not prequalified with VDOT, unless otherwise indicated in the Contract. This restriction does not apply to service providers, Design Consultants, consultants, manufacturers, suppliers, or haulers. Consent to subcontract or otherwise dispose of any portion of the work shall not relieve Design-Builder of any responsibility for the satisfactory fulfillment of the entire Contract. All subcontracts shall be evidenced by written binding agreements that shall be available to Concessionaire upon request, before, during, and after their approval.
- (d) According to Commonwealth of Virginia Executive Order 20, Design-Builder is encouraged to seek out and consider Small, Women-owned, and Minority-owned (SWaM) businesses certified by the Department of Small Business and Supplier Diversity (DSBSD) as potential subcontractors and vendors. Further, Design-Builder shall furnish and require each subcontractor (first-tier) to furnish information relative to subcontractor and vendor involvement on the project.

For purposes of this provision, the term “vendor” is defined as any consultant, manufacturer, supplier or hauler performing work or furnishing material, supplies or services for the contract. Design-Builder and, or subcontractor (first-tier) must insert this provision 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 this provision are incorporated by reference for work done by vendors under any purchase order, rental agreement or agreement for other services for the contract. Design-Builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or vendor.

The execution of the NEXT Contract Documents will be considered conclusive evidence that Design-Builder agrees to assume these contractual obligations and to bind subcontractors contractually to the same at Design-Builder’s expense.

Design-Builder shall verify if a subcontractor is a certified DBE or SWaM business.

Design-Builder shall report all SWaM vendor payments quarterly to the District Civil Rights Office.

Design-Builder shall provide the information in a format consistent with revised Form C-61 Vendor Payment Report, subject to the approval of Concessionaire.

If Design-Builder fails to provide the required information, Concessionaire may delay final payment.

It is the policy of the VDOT that Small, Women-Owned, and Minority-Owned (SWaM) Businesses shall have the maximum opportunity to participate in the performance of VDOT contracts. Design-Builder is encouraged to take necessary and reasonable steps to ensure that SWaM firms have the maximum opportunity to compete for and perform work on the Contract, including participation in any subsequent subcontracts. If Design-Builder intends to sublet a portion of the work on the project according to the provisions of Section 105.06 of the Division I Amendments (Part 5), Design-Builder is encouraged to seek out and consider SWaM firms as potential subcontractors.

SWaM participation shall be according to the requirements in Section 107.15 and Exhibit 107.15.2 (Use of Small, Women-Owned, and Minority-Owned Businesses for Design-Build Projects).

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105.07—Cooperation of Design-Builder

Design-Builder shall give the NEXT Work the constant attention necessary to facilitate quality and progress and shall fully cooperate with Concessionaire, and other contractors involved in the prosecution of the work. If any portion of the Project NEXT is located within the limits of a municipality, military installation, or other federally owned property, Design-Builder shall cooperate with the appropriate officials and their agents in the prosecution of the NEXT Work to the same extent as with Concessionaire.

Design-Builder shall have on the Project NEXT at all times during prosecution of the NEXT Work a competent Design-Builder Representative who is capable of reading and understanding the NEXT Contract Documents, experienced in the type of work being performed, and who shall receive instructions from Design-Builder or Concessionaire or Concessionaire's authorized representatives. Design-Builder Representative shall have full authority to execute the orders and directions of Concessionaire without delay and supply promptly such Materials, Equipment, tools, labor, and incidentals as may be required.

105.08—Cooperation with Regard to Utilities (Not Used) - Refer to Section 1.7 of Part 2 (NEXT Technical Requirements)

105.09—Cooperation among Contractors (Not Used) - Refer to Section 3.6 of Part 4 (NEXT General Conditions)

105.10—Plans and Working Drawings**(a) General**

Refer to Sections 1.2.3 and 1.2.4 of Part 2 (NEXT Technical Requirements) for further details.

(b) Plans

Design-Builder shall furnish all plans consisting of general drawings and showing such details as are necessary to give a comprehensive understanding of the work specified. Except as otherwise shown on the plans, dimensions shown on the plans are measured in the respective horizontal or vertical planes. Dimensions that are affected by gradients or vertical curvatures shall be adjusted as necessary to accommodate actual field conditions and shall be specifically denoted on the Working Drawings.

(c) Working Drawings

Design-Builder shall furnish Working Drawings and maintain a set for Concessionaire as may be required. Working Drawings shall not incorporate any changes from the requirements of the Contract unless the changes are specifically denoted, together with justification, and are approved in writing by Concessionaire. Design-Builder shall identify Working Drawings and submittals by the complete Project NEXT and job designation numbers. Items or component materials shall be identified by the specific Contract Item number and Specification reference in the Contract.

Deviations from the Contract requirements initiated by Design-Builder shall be requested in writing and clearly identified on the Working Drawings. Explicit supporting justification shall be furnished specifically describing the reason for the requested deviations as well as any impact such deviations shall have on the schedule of NEXT Work. Failure to address time or other impacts associated with Design-Builder's request will be cause for rejection of Design-Builder's request. Deviations from the Contract requirements shall not be made unless authorized by Concessionaire. If authorized by Concessionaire, such authorization shall not relieve Design-Builder from the responsibility for complying with the requirements of the Contract for a fully functional finished work item as specified or designed.

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Design-Builder may authorize the fabricator in writing to act for him in matters relating to NEXT Working Drawings. Such authorization shall have the force and effect of any other representative of Design-Builder's organization.

1. Steel Structures

Working Drawings for steel structures, including metal handrails, shall consist of shop detail, erection, and other Working Drawings showing details, dimensions, sizes of units, and other information necessary for the fabrication and erection of metal work. Such drawings shall be signed and sealed by a PE.

2. Falsework

Working Drawings for Falsework supporting a Bridge Superstructure shall be signed and sealed by a PE.

3. Concrete Structures and Prestressed Concrete Members

Working Drawings for concrete structures and prestressed concrete members shall provide such details as required for the successful prosecution of the NEXT Work and which are not included in the RFP Documents furnished by Concessionaire. Drawings shall include plans for items such as prestressing strand details and elongation calculations, location of lift points, Falsework, bracing, centering, formwork, masonry, layout diagrams, camber management plan for prestressed members, and bending diagrams for reinforcing steel when necessary or when requested. Such drawings shall be signed and sealed by a PE.

4. Lighting, signal and pedestal poles, overhead and Bridge mounted sign structures, breakaway support systems, anchor bolts, framing units, panels, and foundations.

Prior to fabrication or construction, Design-Builder shall submit for review one original and six copies of each Working Drawing and design calculation for lighting, signal and pedestal poles, overhead and Bridge mounted sign structures, breakaway support systems, anchor bolts, framing units, panels, and foundations. All sheets of these submittals shall include the PE's signature and seal. Certification for foundations will be required only when the designs are furnished by Design-Builder. The designs shall be in accordance with the specific editions of the AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* as required in Section 700. Such designs shall be signed and sealed by a PE.

5. Reinforced Concrete Pipe

When specified, and prior to manufacture of reinforced concrete pipe, Design-Builder shall furnish to Concessionaire a certification of the acceptability of the design of such pipe, as determined from a review that has been signed and sealed by a PE. Such certification shall cover all design data, supporting calculations, and materials. Pipe designs previously certified or approved by VDOT will not require recertification.

105.11—Conformity with NEXT Contract Documents

All Materials to be used in the NEXT Work shall conform to the qualities, Part 2 (NEXT Technical Requirements), values or range of values specified in the Contract. Less than complete conformity may be tolerated if obtaining exact or complete conformity would not be feasible and if authorized in writing by Concessionaire.

Permissible tolerances for the elevation of Subgrade and finished grade and for the thickness of the various courses of Pavement Structure are specified in the NEXT Contract Documents. If permissive tolerances are exceeded or if consistent deviations from the NEXT Contract Documents or abrupt changes in grade occur, even though within the tolerances, the affected areas shall be reconstructed to conform to the specified tolerance and provide a smooth riding surface.

When the NEXT Contract Documents require the finished surface to tie into any structural item whose elevation is fixed, the elevation of the finished surface must coincide with the elevation of the structural item.

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105.12—Coordination of NEXT Contract Documents

Design-Builder shall be responsible for the coordination of the NEXT Contract Documents. In the event of any inconsistency, conflict, or ambiguity between or among the NEXT Contract Documents, such inconsistency, conflict or ambiguity shall be interpreted as set forth in Section 3.1 of the Part 3 (NEXT Design-Build Contract).

Design-Builder shall not take advantage of any obvious or apparent ambiguity, conflict, error, or omission in the NEXT Contract Documents. If after beginning work Design-Builder discovers an ambiguity, conflict, error, or omission in the NEXT Contract Documents, he shall immediately notify Concessionaire of the corrections in accordance with the NEXT Contract Documents and make such corrections as necessary for fulfilling the intent of the NEXT Contract Documents before proceeding further with the effected work.

105.13—Construction Stakes, Lines, and Grades

Design-Builder shall perform all construction and other surveying that Design-Builder deems necessary to construct this Project NEXT in accordance with the NEXT Contract Documents. The cost for all surveying performed by Design-Builder is included in the NEXT Contract Price. All construction surveys shall be performed under the direct supervision of a land surveyor duly registered and licensed in the State.

105.14—Maintenance During Construction**(a) Traffic Control**

1. Design-Builder shall have at least one person on the Project NEXT site during all work operations who is currently verified either by VDOT's Intermediate Work Zone Traffic Control training or by the American Traffic Safety Services Association (ATSSA) Virginia Intermediate Traffic Control Supervisor (TCS) training by a VDOT approved training provider. This person must have their verification card with them while on the Project NEXT site. This person shall be responsible for the oversight of Work zone traffic control within the Project NEXT limits in compliance with the Contract requirements, the VWAPM, and the MUTCD. This person's duties shall include the supervision of the installation, adjustment (if necessary), inspection, maintenance, and removal when no longer required, of all NEXT Work zone traffic control devices on the Project NEXT.

If none of Design-Builder's on-site personnel responsible for the supervision of such work have the required verification with them or if they have an outdated verification card showing they are not currently verified as a Traffic Control Supervisor (TCS) either by VDOT in Intermediate NEXT Work Zone Traffic Control, or by the ATSSA, Concessionaire will suspend all work on the Project NEXT until the NEXT Work is appropriately supervised in accordance with the requirements herein.

2. Design-Builder shall have at least one person on site who is, at a minimum, verified in Basic Work Zone Traffic Control by VDOT for each construction and/or maintenance operation that involves installing, maintaining, or removing work zone traffic control devices. This person shall be responsible for the placement, maintenance and removal of work zone traffic control devices.

In the event none of Design-Builder's on-site personnel for any construction and/or maintenance operation have, at a minimum, the required verification in Basic Work Zone Traffic Control, Concessionaire will suspend that construction/maintenance operation until that operation is appropriately staffed in accordance with the requirements herein.

3. **Flagging Traffic:** Certified flaggers shall be provided in sufficient number and locations as necessary for control and protection of vehicular and pedestrian traffic in accordance with the VWAPM. Flaggers shall be able to communicate to the traveling public in English while performing the job duty as a flagger at the flagger station. Flaggers shall use sign paddles to regulate traffic in accordance with the VWAPM.

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Certification for flaggers will be awarded upon a candidate's satisfactory completion of an examination. Certification cards shall be carried by flaggers while performing flagging duties. Flaggers found not to be in possession of their certification card shall be removed from the flagging site and operations requiring flagging will be suspended by Concessionaire until a certified flagger is on-site to perform flagging duties in accordance with the requirements herein. Further, flaggers performing duties improperly will have their certifications revoked.

(b) Maintenance of Traffic

1. Design-Builder shall prosecute the NEXT Work so as to avoid obstructions to traffic to the greatest extent practicable. Design-Builder shall provide for the safety and convenience of the general public and residents along the roadway, and for the protection of persons and property.

Highways closed to traffic shall be protected by barricades and other warning devices as required by the Contract, the VWAPM, and the MUTCD. Barricades and warning devices shall be illuminated where required during periods of darkness and low visibility. Design-Builder shall erect warning devices in advance of a location on the Project NEXT where operations or obstructions may interfere with the use of the road by traffic and at all intermediate points where the new work crosses or coincides with an existing roadway. Design-Builder shall maintain sign faces and reflective surfaces of warning devices in a clean and visible condition. Design-Builder shall cover or remove signs when the messages thereon are not applicable. Barricades, warning signs, lights, temporary signals, and other protective devices shall conform to Section 512.

2. The road shall be kept open to all traffic while undergoing improvements, unless otherwise permitted in the Contract. Design-Builder shall keep the portion of the Project NEXT being used by public, pedestrian, and vehicular traffic in such condition that all such traffic will be safely and adequately accommodated. However, removal of snow and control of ice on roads open to public travel will be performed by VDOT.

Design-Builder shall keep the portions of the road being used by the public free from irregularities and obstructions that could present a hazard or annoyance to traffic. When directed by Concessionaire, allaying of dust shall be performed in accordance with Section 511. Holes in hard surface pavements shall be filled with approved asphalt patching material.

If any damage is sustained by an accepted unit or portion of the Project NEXT attributable to causes beyond the control of Design-Builder, Concessionaire may authorize Design-Builder to make the necessary repairs. These repairs will be paid for at the NEXT Contract Price for the items requiring repair. In the absence of Contract prices covering the items of repair, the repair work will be paid for in accordance with Section 109.05.

3. **Detours:** Detours may be indicated on the plans or in the special provisions or may be used with Concessionaire's approval. Unless otherwise designated in the Contract, Design-Builder shall furnish, install and maintain all directional markings, for through-traffic on off-project detours authorized or requested by Concessionaire with the exception of municipalities. Municipalities shall be responsible for off-project roadway maintenance within their own corporate limits. Detours over existing state roads shall be designated, marked, and maintained by Design-Builder. Directional markings for detours shall include signs. Responsibility for installation and maintenance of the signs shall be in accordance with Section 512.03(a). If any Project NEXT is located wholly or in part within a municipality's corporate limits and through traffic is to be detoured at the municipality's request, the municipality will provide and maintain the detours within the corporate limits and will furnish, install and maintain all directional markings. The provision of detours and marking of alternate routes will not relieve Design-Builder of the responsibility for ensuring the safety of the public or from complying with any Contract requirements affecting the rights of the public within his Contract area of operations, including those concerning lights and barricades. Maintenance of all other detours shall be Design-Builder's responsibility.

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4. **Maintenance of Traffic During Suspension of Work:** During any suspension of work, Design-Builder shall temporarily open to traffic such portions of the Project NEXT and temporary roadways as may be agreed upon by Design-Builder and Concessionaire.
5. **Minimizing Traffic Delays:** Two-way traffic shall be maintained at all times unless the Contract or Concessionaire permits one-way traffic. Design-Builder shall not stop traffic without Concessionaire's permission.

If one-way traffic is permitted, Design-Builder shall provide certified flaggers to direct the traffic. When specified in the Contract, pilot vehicles shall be furnished in accordance with Section 512. Upon Design-Builder's request and where deemed appropriate by Concessionaire, Design-Builder will install traffic signals that may be used for the control of one-way traffic. Design-Builder shall pay the costs of installation, electrical service, maintenance or repair work.

6. **Connections and Entrances:** Connections with other roads and public and private entrances shall be kept in a reasonably smooth condition at all times.

Stabilization or surfacing material shall be applied to connections and entrances.

Design-Builder shall schedule construction operations so that approved continuous access is provided for all property adjacent to the construction when the property is shown on the plans to require access. When frontage roads are shown on the plans, they shall be constructed prior to the closing of any access routes unless other approved access is provided and is acceptable to the property owner.

Design-Builder shall not disturb connections or entrances until necessary. Once disturbed, Design-Builder shall maintain and complete connections or entrances as follows:

- a. **Connections:** Connections that had an original paved surface shall be brought to a grade that will smoothly and safely accommodate vehicular traffic through the intersection, using temporary pavement as soon as practicable after connections are disturbed. Connections that had an original unpaved surface shall be brought to a grade that will smoothly and safely accommodate vehicular traffic through the intersection, using either the required material or a temporary aggregate stabilization course that shall be placed as soon as practicable after connections are disturbed.

If there are delays in prosecution of work for connections, connections that were originally paved shall have at least two lanes maintained with a temporary paved surface. Those that were not originally paved shall be maintained with a temporary aggregate stabilization course.

- b. **Entrances:** Entrances shall be graded concurrently with the roadway with which they intersect. Once an entrance has been disturbed, it shall be completed as soon as is practicable, including placing the required base and surface course or stabilization. If the entrance must be constructed in stages, such as when there is a substantial change in the elevation of the roadway with which it intersects, the surface shall be covered with a temporary aggregate stabilization course or other suitable salvaged material until the entrance can be completed and the required base and surface or stabilization course can be placed.
7. **Obstruction Crossing Roadways:** Where Design-Builder places obstructions such as suction or discharge pipes, pump hoses, steel plates, or any other obstruction that must be crossed by vehicular traffic, they shall be bridged as directed by Concessionaire at Design-Builder's expense. Traffic shall be protected by the display of warning devices both day and night. If operations or obstructions placed by Design-Builder damage an existing traveled roadway, Design-Builder shall cease operations and repair damages to the roadway at no additional cost to Concessionaire.
 8. **Patching Operations:** Where existing hydraulic cement concrete pavement is to be patched, the operation of breaking and excavating old pavement shall extend for a distance of not more than two miles. Patching shall be coordinated with excavating so that an area of not more than one-half mile in which excavated

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patches are located shall be left at the end of any day's work. Necessary precautions shall be taken to protect traffic during patching operations.

9. **Temporary Structures:** Design-Builder shall construct, maintain, and remove temporary structures and approaches necessary for use by traffic. After new structures have been opened to traffic, temporary structures and approaches shall be removed. The materials contained therein shall remain the property of Design-Builder.

The proposed design of temporary structures shall be submitted to Concessionaire prior to the beginning of construction in accordance with Section 105.10.

10. **Haul Route:** Design-Builder shall select haul routes between the Project NEXT and material source(s) that will minimize disturbance to the community. Design-Builder shall furnish to Concessionaire, for review, his plan for the haul route and for minimizing the adverse effects of hauling operations on persons who reside adjacent to the haul route or persons who otherwise use a portion of the haul route for ingress or egress to their residential or work area. Concessionaire may select alternate haul routes, divide the hauling traffic over several routes, and impose other restrictions deemed necessary to minimize the impact of the hauling operation on local residents.

11. **Opening Sections of Project NEXT to Traffic**

Certain sections of the NEXT Work may be opened to traffic when specified in the Contract or when directed by Concessionaire. Such opening shall not constitute acceptance of the NEXT Work or any part thereof or a waiver of any provision of the Contract.

If Design-Builder is not continuously prosecuting the NEXT Work to Concessionaire's satisfaction as determined by the Schedule of Record, Design-Builder shall not be relieved of the responsibility for maintenance of the completed work during the period that the section of the NEXT Work is opened to traffic prior to Final Completion. Design-Builder shall be responsible for any expense resulting from the opening of such portions of the NEXT Work under these circumstances, except for slides. Design-Builder shall conduct the remainder of the construction operations so as to cause the least obstruction to traffic.

(c) Maintenance of Work

1. Design-Builder shall maintain the NEXT Work, the Project NEXT site, construction area and roadway from the beginning of construction operations until Final Completion with adequate equipment and forces to keep the roadway and structures in a safe and satisfactory condition at all times and to ensure the continuous and effective day by day prosecution of the NEXT Work.

If any damage is sustained by an accepted unit or portion of the Project NEXT attributable to causes beyond the control of Design-Builder, Concessionaire may authorize Design-Builder to make the necessary repairs. In the absence of Contract prices covering the items of repair, the repair work will be paid for in accordance with Section 109.05 or the provisions of Part 4 (NEXT General Conditions), Article 9, as applicable.

2. Where the Contract specifies placing a course on another course or subgrade of embankment, base, subgrade, concrete, asphalt pavement, or other courses previously constructed, Design-Builder shall maintain the courses or subgrades previously constructed in accordance with the Contract requirements when placing such course. This maintenance includes, but is not limited to draining, re-compacting, re-grading, or, if unacceptable or destroyed, the removal of work Concessionaire previously accepted.
3. **Grading Operations:** When Design-Builder elects to complete the rough grading operations that exceed the length of one full day's surfacing operations, the rough grade shall be machined to a uniform slope from the top edge of the existing pavement to the ditch line.

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When the surface is to be widened on both sides of the existing pavement, construction operations involving grading or paving shall not be conducted simultaneously on sections directly opposite each other.

The surface of pavement shall be kept free from soil and other materials that might be hazardous to traffic. Prior to opening of new pavement to traffic, shoulders shall be roughly dressed for a distance of 3 feet from the edge of the paved surface.

(d) Maintenance Cost

Design-Builder shall bear all costs of performing maintenance work before Final Completion, and of constructing and maintaining necessary approaches, crossings, intersections, and other features without direct compensation except as provided for herein. When Design-Builder confines his operation to the surface of the roadway and reasonable width of the shoulder and the surface is disturbed or damaged by his operations or equipment, he shall be responsible for the restoration and maintenance of the surface that is disturbed or damaged.

- (e) Failure to Maintain Roadway or Structures:** If Design-Builder fails to remedy unsatisfactory maintenance immediately after receipt of a notice by Concessionaire, Concessionaire may proceed with adequate forces, equipment, and material to maintain the Project NEXT. The cost of the maintenance, plus 25 percent for supervisory and administrative personnel, will be deducted from monies due Design-Builder for the Project NEXT.

105.15—Removing and Disposing of Structures and Obstructions

Design-Builder shall remove and dispose of or store, as directed by Concessionaire, fences, buildings, structures, or encumbrances within the construction limits. Materials so removed, including existing drains or pipe culverts, shall become the property of Design-Builder, with the exception of those materials to be stored or delivered to Concessionaire or others as designated in the Contract.

- (a) **Signs:** Design-Builder shall relocate all signs within the construction limits that conflict with construction work as approved by Concessionaire. Signs that are not needed for the safe and orderly control of traffic during construction as determined by Concessionaire shall be removed and stored at a designated location within the Project NEXT limits. The removed signs shall be stored above ground in a manner that will preclude damage and shall be reinstalled in their permanent locations prior to Final Completion. If any of the removed signs are not to be reinstalled, Design-Builder shall notify Concessionaire at the time the signs have been properly stored. Such signs will be removed from the storage area by Concessionaire. Any sign that is damaged or lost because of the fault of Design-Builder shall be repaired or replaced at his expense. Costs for removing, storing, protecting, and reinstalling such signs shall be included in the NEXT Contract Price and no additional compensation will be made.
- (b) **Mailboxes and Newspaper Boxes:** When removal of existing mailboxes and newspaper boxes is made necessary by construction operations, Design-Builder shall place them in temporary locations so that access to them will not be impaired. Prior to Final Completion, boxes shall be placed in their permanent locations as designated by Concessionaire and left in the same condition as when found. Boxes or their supports that are damaged through negligence on the part of Design-Builder shall be replaced at his expense. The cost of removing and resetting existing boxes shall be included in other pay Contract items. New mailboxes designated in the plans shall be paid for in accordance with Section 521 of the Specifications.

105.16—Cleanup

Removal from the Project NEXT of rubbish, scrap material, and debris caused by Design-Builder's personnel or construction operations shall be a continuing process throughout the course of the NEXT Work. The work site shall be kept in a neat, safe and orderly condition at all times.

Before Final Completion, the Highway, Borrow pits, quarries, Disposal Areas, storage areas, and all ground occupied by Design-Builder in connection with the NEXT Work shall be cleaned of rubbish, surplus materials, and Temporary

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Structures, except where Design-Builder owns or controls the property. All parts of the NEXT Work and the Construction Area shall be left in a neat, safe, and orderly condition.

Within 30 days after Final Completion, Design-Builder shall remove his Equipment, Materials and debris from the Right of Way and from property adjacent to the Project NEXT that he does not own or control.

105.17—Inspection of Work (Not Used) Refer to Section 3.2 of Part 2 (NEXT Technical Requirements)

105.18—Removal of Unacceptable Work

Work will be considered as unacceptable if it: (a) does not conform to the requirements of the NEXT Contract Documents; (b) is performed contrary to the instructions of Concessionaire; or (c) is performed without the authorization of Concessionaire. Unacceptable work shall be remedied or removed immediately unless otherwise determined by Concessionaire, and replaced in an acceptable manner at Design-Builder's expense. Concessionaire may elect, in its sole discretion, to accept otherwise unacceptable work at a reduced price and a warranty extended to five (5) years for the subject portion of the work when acceptance is considered to be in the best interest of the public.

Design-Builder shall not perform destructive sampling or testing of the NEXT Work without written authorization of Concessionaire. Unauthorized destructive sampling or testing will cause the NEXT Work to be considered unacceptable.

In the event Design-Builder is granted authorization to perform destructive sampling or testing, Design-Builder shall obtain the approval of Concessionaire for the method and location of each test prior to beginning such sampling or testing. In addition, destructive sampling and testing shall be performed in the presence of Concessionaire.

If Design-Builder fails to comply immediately with any order of Concessionaire made under this Section, Concessionaire will have the authority to cause unacceptable or unauthorized work to be removed and replaced and to deduct the cost from any monies due or to become due Design-Builder.

105.19—Submission and Disposition of Claims (Not Used) Refer to Article 10 Contract Adjustments and Disputes of Part 4 (NEXT General Conditions)

SECTION 106—CONTROL OF MATERIAL**106.01—Source of Supply and Quality Requirements**

The Materials used throughout the NEXT Work shall conform to the requirements of the Contract. Design-Builder shall regulate his supplies so that there will be a sufficient quantity of tested Material on hand at all times to prevent any delay of work. Except as otherwise specified, Materials, Equipment, and components that are to be incorporated into the finished work shall be new and fit for their intended purpose.

At the option of Concessionaire, Materials may be approved at the source of supply. If it is found during the life of the Contract that previously approved sources of supply do not supply Materials or Equipment conforming to the Contract requirements, do not furnish the valid test data required to document the quality of the Material or Equipment, or do not furnish documentation to validate quantities to document payment, Design-Builder shall change the source of supply and furnish Material or Equipment from other approved sources. Design-Builder shall notify Concessionaire of this change, and provide the same identifying information noted in this Section, at least 60 days prior to their use on the Project NEXT, but not less than two weeks prior to delivery.

Materials shall not contain toxic, hazardous, or regulated solid wastes or be furnished from a source containing toxic, hazardous or regulated solid wastes.

When optional Materials are included in the Contract, Design-Builder shall advise Concessionaire in writing of the specific Materials selected. Thereafter, Design-Builder shall use the selected Materials throughout the Project NEXT unless a change is authorized in writing by Concessionaire. However, when Design-Builder has an option as to the

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type of pipe that may be used, he may use any of the approved types for each size of pipe, but he shall use the same type for a particular line. Concessionaire may authorize other types and sources in an emergency that will not unreasonably delay delivery of the selected Material.

Equipment and Material guaranties or warranties that are normally given by a manufacturer or supplier, or are otherwise required in the Contract, shall be obtained by Design-Builder and assigned to Concessionaire in writing. Design-Builder shall also provide an in-service operation guaranty on all mechanical and electrical Equipment and related components for a period of at least six months beginning on the date of partial acceptance of that specific item(s) or Final Completion of the Project NEXT.

106.02—Material Delivery

Design-Builder shall advise the Quality Assurance Manager and Concessionaire at least 2 weeks prior to the delivery of any Material from a commercial source. Upon delivery of any such Material to the Project NEXT, Design-Builder shall provide Concessionaire with one copy of all invoices (prices are not required). The following Materials shall also comply with Section 109.01: asphalt concrete; dense graded aggregate, to include aggregate base, Subbase, and Select Material; fine aggregate; open graded coarse aggregate; crusher run aggregate; and Road stabilization aggregate. The printed weights of each load of these Materials, as specified in Section 109.01, shall accompany the delivery, and such information shall be furnished to the Lead QA Inspector at the Project NEXT.

106.03—Local Material Sources (Pits and Quarries)

The requirements set forth herein apply exclusively to non-commercial pits and quarries from which Materials are obtained for use on contracts awarded by Concessionaire.

- (a) Local Material sources shall be concealed from view from the completed Roadway and any existing public Roadway. Concealment shall be accomplished by selectively locating the pit or quarry and spoil pile, providing environmentally compatible screening between the pit or quarry site and the Roadway, or using the site for another purpose after removal of the Material, or restoration equivalent to the original use (such as farm land, pasture, turf, etc.). The foregoing requirements shall also apply to any pit or quarry opened or reopened by a Subcontractor. However, the requirements will not apply to commercial sand and gravel and quarry operations actively processing Material at the site prior to the date of the execution of the Contract.
- (b) Design-Builder shall furnish Concessionaire a statement signed by the property owner in which the property owner agrees to the use of his property as a source of Material for the Project NEXT. Upon completion of the use of the property as a Material source, Design-Builder shall furnish Concessionaire a release signed by the property owner indicating that the property has been satisfactorily restored. The requirements for a signed statement and release will not apply to commercial sources, sources owned by Design-Builder, and sources furnished by Concessionaire.
- (c) Local Material pits and quarries that are not operated under a local or State permit shall not be opened or reopened without authorization by Concessionaire. Design-Builder shall submit for approval a site plan, including, but not limited to, the following:
 1. The location and approximate boundaries of the Excavation; with a slope gradient of 3:1 or greater;
 2. Procedures to minimize erosion and siltation;
 3. Provision of environmentally compatible screening;
 4. Restoration;
 5. Cover vegetation;
 6. Other use of the pit or quarry after removal of Material, including the spoil pile;

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7. The drainage pattern on and away from the area of land affected, including the directional flow of water and a certification with appropriate calculations that verify all receiving Channels are in compliance with Minimum Standard 19 of the Virginia Erosion and Sediment Control Regulations;
8. Location of haul Roads and stabilized construction entrances if construction Equipment will enter a paved Roadway;
9. Constructed or natural waterways used for discharge;
10. A sequence and schedule to achieve the approved plan;
11. The total drainage area for temporary sediment traps and basins shall be shown. Sediment traps are required if the runoff from a watershed area of less than three acres flows across a disturbed area. Sediment basins are required if the runoff from a watershed area of three acres or more flows across a disturbed area. Design-Builder shall certify that the sediment trap or basin design is in compliance with the NEXT Contract Documents and all Legal Requirements. Once a sediment trap or basin is constructed, the dam and all outfall areas shall be immediately stabilized.

Design-Builder's design and restoration shall be in accordance with the NEXT Contract Documents and all Legal Requirements.

If the approved plan provides for the continued use or other use of the pit or quarry beyond the date of Final Completion, Design-Builder shall furnish Concessionaire a bond made payable to Concessionaire in an amount equal to Concessionaire's estimate of the cost of performing the restoration work. If the pit or quarry is not used in accordance with the approved plan within eight months after Final Completion, Design-Builder shall perform restoration work as directed by Concessionaire, forfeit his bond, or furnish Concessionaire with evidence that he has complied with the applicable requirements of the State Mining Law.

- (d) Topsoil on VDOT owned or furnished Borrow sites shall be stripped and stockpiled as directed by Concessionaire for use as needed within the construction limits of the Project NEXT or in the reclamation of Borrow and Disposal Areas.
- (e) If payment is to be made for Material measured in its original position, Material shall not be removed until Digital Terrain Model (DTM) or cross-sections have been taken. The Material shall be reserved exclusively for use on the Project NEXT until completion of the Project NEXT or until final DTM or cross-sections have been taken.
- (f) If Design-Builder fails to provide necessary controls to prevent erosion and siltation, if such efforts are not made in accordance with the approved sequence, or if the efforts are found to be inadequate Concessionaire will withdraw approval for the use of the site and may cause Design-Builder to cease all contributing operations and direct his efforts toward corrective action or may perform the NEXT Work with State forces or other means as determined by Concessionaire. If Design-Builder does not perform such work, the cost of performing the NEXT Work plus 25 percent for supervisory and administrative personnel will be deducted from monies due Design-Builder.
- (g) Costs for applying seed, fertilizer, lime, mulch, and for restoration, drainage, erosion and siltation control, regrading, haul Roads, and screening shall be included in the NEXT Contract Price for the type of Excavation or other appropriate Contract items.
- (h) If Design-Builder fails to fulfill the provisions of the approved plan for screening or restoring Material sources, Concessionaire may withhold and use for the purpose of performing such work any monies due Design-Builder. Design-Builder shall be held liable for penalties, fines, or damages incurred by Concessionaire as a result of his failure to prevent erosion or siltation and take restorative action.

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- (i) After removing all the Material from the local material sources, Design-Builder shall remove metal, lumber, and other debris resulting from his operations and shall shape and landscape the area in accordance with the approved plan for such work.
- (j) **Sources Furnished by VDOT:** Sources furnished by VDOT will be made available to Design-Builder together with the right to use such property as may be required for a plant site, stockpiles, and haul roads. Design-Builder shall confine his Excavation operations to those areas of the property specified in the Contract. Design-Builder shall be responsible for Excavation that shall be performed in order to furnish the specified Material.
- (k) **Sources Furnished by Design-Builder:** When Design-Builder desires to use local Material from sources other than those furnished by VDOT, he shall first secure the approval of Concessionaire. The use of Material from such sources will not be permitted until test results have been approved by Concessionaire and written authority for its use has been issued by the appropriate agency, organization or individual.

Design-Builder shall acquire the necessary rights to take Material from sources he locates and shall pay all related costs, including costs that may result from an increase in the length of the haul. Costs of exploring, sampling, testing, and developing such sources shall be borne by Design-Builder. Design-Builder shall obtain representative samples from at least two borings in parcels of 10 acres or less and at least three additional borings per increment of 5 acres or portion thereof to ensure that lateral changes in Material are recorded. Drill logs for each test shall include a soil description and the moisture content at intervals where a soil change is observed or at least every 5 feet of depth for consistent Material. Samples obtained from the boring shall be tested by an approved Laboratory for grading, Atterberg limits, CBR, maximum density, and optimum moisture. Concessionaire will review and evaluate the Material based on test results provided by Design-Builder. Concessionaire will reject any Material from a previously approved source that fails a visual examination or whose test results show that it does not conform to the NEXT Contract Documents.

106.04—Disposal Areas

Design-Builder shall dispose of unsuitable or Surplus Material shown in the NEXT Contract Documents according to Contract requirements as specified herein. Material not used on the Project NEXT shall be disposed of by Design-Builder off the Right of Way. Design-Builder shall obtain the necessary rights to property to be used as an approved Disposal Area. For the purpose of these Division I Amendments to the Standard Specifications an approved Disposal Area is defined as that which is owned privately, not operated under a local or State permit, and has been approved by Concessionaire for use in disposing of Material not used on the Project NEXT.

Design-Builder shall furnish Concessionaire a statement signed by the property owner in which the owner agrees to the use of his property for the deposit of Material from the Project NEXT. Upon completion of the use of the property as an approved Disposal Area, Design-Builder shall furnish Concessionaire a release signed by the property owner indicating that the property has been satisfactorily restored. This requirement will be waived for commercial sources, sources owned by Design-Builder, and sources furnished by VDOT.

If an approved Disposal Area is not designated in the Contract, Design-Builder shall obtain the necessary rights to property to be used as an approved Disposal Area.

Prior to Concessionaire approving Design-Builder's Disposal Area, Design-Builder shall submit a site plan that shall show:

1. The location and approximate boundaries of the Disposal Area.
2. Procedures to minimize erosion and siltation.
3. Provision of environmentally compatible screening.
4. Restoration.

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5. Cover vegetation.
6. Other use of the Disposal Area.
7. The drainage pattern on and away from the area of land affected, including the directional flow of water and a certification with appropriate calculations that verify all receiving Channels are in compliance with Minimum Standard 19 of the Virginia Erosion and Sediment Control Regulations.
8. Location of haul roads and stabilized construction entrances if construction Equipment will enter a paved Roadway.
9. Constructed or natural waterways used for discharge.
10. A sequence and schedule to achieve the approved plan.
11. The total drainage area for temporary sediment traps and basins shall be shown. Sediment traps are required if the runoff from a watershed area of less than three acres flows across a disturbed area. Sediment basins are required if the runoff from a watershed area of three acres or more flows across a disturbed area. Design-Builder shall certify that the sediment trap or basin design is in compliance with the NEXT Contract Documents and all Legal Requirements. Once a sediment trap or basin is constructed, the dam and all outfall areas shall be immediately stabilized. Costs for the work described herein shall be included in the Contract Price. Design-Builder shall certify that the sediment basin design is in compliance with the Virginia Erosion and Sediment Control Regulations, all local, state, and federal ordinances, and Section 107.16.

Disposal Areas shall be cleared but need not be grubbed. The clearing work shall not damage grass, shrubs, or vegetation outside the limits of the approved area and haul roads thereto. After the Material has been deposited, the area shall be shaped to minimize erosion and siltation of nearby streams and landscaped in accordance with the approved plan for such work or shall be used as approved by Concessionaire. Design-Builder's design and restoration shall conform to the Contract requirements and federal, state, and local laws and regulations.

Excavated rock in excess of that used in Embankments in accordance with the requirements of Section 303 shall be deposited off the Right of Way in an approved Disposal Area. Deposits whose surface is composed largely of rock shall be leveled by special arrangement of the Material or reduction of the irregularity of the surface by crushing projections to create a reasonably uniform and neat appearance.

Design-Builder's design and restoration shall be in accordance with the requirements of the NEXT Contract Documents and Legal Requirements.

If Design-Builder fails to provide and maintain necessary controls to prevent erosion and siltation, if such efforts are not made in accordance with the approved sequence, or if the efforts are found to be inadequate, Concessionaire will withdraw approval for the use of the site and may cause Design-Builder to cease all contributing operations and direct his efforts toward corrective action or may perform the NEXT Work with State forces or other means as determined by Concessionaire, and deduct the cost of performing the NEXT Work plus 25 percent for supervisory and administrative personnel from monies due or to be become due Design-Builder.

Costs for applying seed, lime, fertilizer, and mulch; reforestation; drainage; erosion and siltation control; regrading; haul roads; and screening shall be included in the NEXT Contract Price.

Materials encountered by Design-Builder shall be handled and disposed of as follows:

1. **Unsuitable Material** -. Design-Builder's geotechnical engineer shall confirm that slopes, earthwork, pavement, and foundation subgrades satisfy the design and NEXT Contract Document requirements. Design-Builder's geotechnical engineer shall perform an inspection of all embankment and pavement subgrades and minor structure excavations immediately prior to placement of embankment fill, aggregate base, subbase or bedding materials to identify excessively soft, loose, dry or saturated soils that exhibit excessive pumping,

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weaving or rutting under the weight of the construction equipment. Materials unsuitable for use in the NEXT Work, as defined in Part 2 (NEXT Technical Requirements), shall be disposed of at an approved Disposal Area or landfill licensed to receive such Material unless the materials can be adequately treated in place through chemical and/or mechanically stabilized method that shall be approved by Concessionaire. Such method shall be approved prior to use in the NEXT Work. All Unsuitable Materials shall be disposed of off-site and/or treated in place at no cost to Concessionaire unless specifically stated otherwise in the NEXT Contract Documents. Design-Builder shall identify unsuitable Materials and methods of treatment on the plans and cross sections.

2. **Surplus Material** as shown in the NEXT Contract Documents that is not classified as unsuitable may be used to flatten slopes, to fill in ramp gores and medians provided the material is placed in accordance with the earthwork specifications. Surplus Material that is not needed shall be disposed of at an approved Disposal Area, a landfill licensed to receive such Material, or as directed by Concessionaire in writing.

Surplus Material stockpile areas on the right-of-way shall be cleared but need not be grubbed. The clearing work shall not damage grass, shrubs, or vegetation outside the limits of the approved area and the haul Roads thereto. Placement of fill material shall not adversely affect existing drainage structures. Within 7 days after the material has been deposited, the area shall be shaped and stabilized to minimize erosion and siltation.

3. **Organic materials** such as, but not limited to, tree stumps and limbs (not considered merchantable timber), roots, rootmat, leaves, grass cuttings, or other similar materials shall be chipped or shredded and used on the Project NEXT as mulch, given away, sold as firewood or mulch, burned at Design-Builder's option if permitted by local ordinance, or disposed of at a facility licensed to receive such materials. Organic material shall not be buried in State Rights of Way or in an approved Disposal Area.
4. **Inorganic materials** such as brick, cinder block, broken concrete without exposed reinforcing steel, or other such material shall be disposed of at an approved Disposal Area or landfill licensed to receive such materials. If disposed of in an approved Disposal Area, the material shall have enough cover to promote soil stabilization in accordance with Section 303 and shall be restored in accordance with other provisions of this Section.

Concrete without exposed reinforcing steel, may be crushed and used as rock in accordance with Section 303. If approved by Concessionaire, these materials may be blended with soils that meet AASHTO M57 requirements and deposited in fill areas within the right-of-way in accordance with the requirements of Section 303 as applicable.

5. **Excavated rock** in excess of that used within the Project NEXT site in accordance with Section 303 shall be treated as surplus material.
6. **Other materials** such as, but not limited to, antifreeze, asphalt (liquid), building forms, concrete with reinforcing steel exposed, curing compound, fuel, Hazardous Materials, lubricants, metal, metal pipe, oil, paint, wood or metal from building demolition, or similar materials shall not be disposed of at an approved Disposal Area but shall be disposed of at a landfill licensed to receive such material.
7. Coal or other valuable materials uncovered during prosecution of the NEXT Work that are not specifically addressed by the Contract shall be disposed of as Concessionaire directs in writing.

If Design-Builder fails to fulfill the provisions of the approved plan for screening or restoring Disposal Areas, Concessionaire may withhold and use for the purpose of performing such work any moneys due Design-Builder. Design-Builder shall be held liable for all penalties, fines, or damages incurred by Concessionaire as a result of his failure to prevent erosion or siltation.

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106.05—Rights for and Use of Materials Found on Project NEXT

With the approval of Concessionaire, Design-Builder may use in the Project NEXT any materials found in the Excavation that comply with the requirements of the NEXT Contract Documents. Design-Builder shall replace at his own expense with other acceptable material the Excavation material removed and used that is needed for use in Embankments, Backfills, approaches, or otherwise. Design-Builder shall not excavate or remove any material from within the construction limits that is not within the grading limits, as indicated by the slope and grade lines. Design-Builder shall not own and shall not have the right to sell, trade or exchange, any coal or other valuable materials uncovered during the prosecution of the work without Concessionaire's specific written authorization.

106.06—Samples, Tests, and Cited Specifications

Design-Builder shall inspect and test materials in accordance with the QA/QC Plan. Unless reference is made to a specific dated specification or special provision, references in the NEXT Contract Documents to AASHTO, ASTM, VTM, and other standard test methods and materials requirements shall refer to either the test specifications that have been formally adopted or the latest interim or tentative specifications that have been published by the appropriate committee of such organizations as of the date of the RFP.

Where permitted by the Special Provision for Use of Domestic Material, the inspection cost of structural steel items, precast concrete items, and prestressed concrete items fabricated in a country other than the continental United States shall be borne by Design-Builder. Inspection of structural fabrication shall be performed in accordance with the requirements of the appropriate VTM by a commercial Laboratory approved by VDOT. Additional cleaning or repair necessary because of environmental conditions in transit shall be at Design-Builder's expense. Materials requiring an MSDS will not be accepted at the Project NEXT site for sampling without the document.

106.07—Plant Inspection

If Concessionaire inspects materials at the source, the following conditions shall be met:

- (a) Concessionaire shall have the cooperation and assistance of Design-Builder and producer of the Materials.
- (b) Concessionaire shall have full access to parts of the plant that concern the manufacture or production of the Materials being furnished.
- (c) For Materials accepted under a quality assurance plan, Design-Builder or producer shall furnish equipment and maintain a plant laboratory at locations approved for plant processing of Materials. Design-Builder or producer shall use the laboratory and equipment to perform quality control testing.

The laboratory shall be of weatherproof construction, tightly floored and roofed, and shall have adequate lighting, heating, running water, ventilation, and electrical service. The ambient temperature shall be maintained between 68 degrees F and 86 degrees F and thermostatically controlled. The laboratory shall be equipped with a telephone, intercom, or other electronic communication system connecting the laboratory and scale house if the facilities are not in close proximity to each other. The laboratory shall be constructed in accordance with the requirements of local building codes.

Design-Builder or producer shall furnish, install, maintain, and replace, as conditions necessitate, testing equipment specified by the appropriate ASTM, AASHTO method, or VTM being used and provide necessary office equipment and supplies to facilitate keeping records and generating test reports. Design-Builder or producer's technician shall maintain current copies of test procedures performed in the laboratory. Design-Builder shall calibrate or verify all balances, scales, and weights associated with testing performed as specified in AASHTO R18. Design-Builder or producer shall also provide and maintain an approved test stand for accessing truck beds for the purpose of sampling and inspection. Concessionaire may approve a single laboratory to service more than one plant belonging to the same Design-Builder or producer.

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For crushed glass, the plant equipment requirements are waived in lieu of an independent third-party evaluation and certification of crushed glass properties by an AASHTO Materials Reference Laboratory (AMRL)-accredited commercial soil testing Laboratory demonstrating that the supplied Material conforms to Section 203 requirements. Random triplicate samples will be evaluated and analyzed for every 1,000 tons of Material supplied to the Project NEXT. The averaged results will be used for evaluation purposes. Suppliers of crushed glass shall maintain third party certification records for a period of three years.

- (d) Adequate safety measures shall be provided and maintained.
- (e) Design-Builder shall inspect all Materials upon delivery to the site for compliance with Contract requirements. All non-conforming Materials shall be rejected and removed from the site.

106.08—Storing Materials

Materials shall be stored in a manner so as to ensure the preservation of their quality and fitness for the work. When considered necessary by Concessionaire, materials shall be stored in weatherproof buildings on wooden platforms or other hard, clean surfaces that will keep the Material off the ground. Materials shall be covered when directed by Concessionaire. Stored Material shall be located so as to facilitate their prompt inspection. Approved portions of the Right of Way may be used for storage of Material and Equipment and for plant operations. However, Equipment and Materials shall not be stored within the clear zone of the travel lanes open to traffic.

Design-Builder shall provide additional required storage space at his expense. Private property shall not be used for storage purposes without the written permission of the owner or lessee. Design-Builder shall furnish copies of the owner's written permission to Concessionaire. Upon completion of the use of the property, Design-Builder shall furnish Concessionaire a release signed by the property owner indicating that the property has been satisfactorily restored.

Chemicals, fuels, lubricants, bitumens, paints, raw sewage, and other harmful materials as determined by Concessionaire and the VPDES *General Permit for Discharge of Stormwater from Construction Activities* shall not be stored within any floodplain unless no other location is available and only then shall the material be stored in a secondary containment structure(s) with an impervious liner. Also, any storage of these materials in proximity to natural or man-made drainage conveyances or otherwise where the materials could potentially reach a waterway if released under adverse weather conditions, must be stored in a bermed or diked area or inside a container capable of preventing a release. Double-walled storage tanks shall meet the berm/dike containment requirement except for storage within flood plains. Any spills, leaks, or releases of such materials shall be addressed in accordance with Section 107.16(b) and (e). Accumulated rain water may also be pumped out of the impoundment area into approved dewatering devices. All proposed pollution prevention measures and practices must be identified by Design-Builder in his Pollution Prevention Plan as required by the Specifications, other NEXT Contract Documents and/or the VPDES *General Permit for Discharge of Stormwater from Construction Activities*.

106.09—Handling Materials

Materials shall be handled in a manner that will preserve their quality, integrity, and fitness for the NEXT Work. Aggregates shall be transported in vehicles constructed to prevent loss or segregation of materials.

106.10—Unacceptable Materials

Materials that do not conform to the requirements of the NEXT Contract Documents shall be considered unacceptable. Such Materials, whether in place or not, will be rejected and shall be removed from the site of the NEXT Work and replaced at no additional cost to Concessionaire. If it is not practical for Design-Builder to remove rejected Material immediately, Concessionaire will mark the rejected Material for identification. Rejected Material whose defects have been corrected shall not be used until Concessionaire gives written approval for its use. Upon Design-Builder's failure to comply promptly with any order of Concessionaire made under this Section, Concessionaire may, in addition to other rights and remedies, have the unacceptable material removed and replaced, and deduct the cost of such removal

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and replacement from monies due or to become due Design-Builder. Concessionaire shall file documentation of the correction with resolution of the Non-conformance report (NCR).

106.11—Material Furnished by Concessionaire

Design-Builder shall furnish all Materials required to complete the NEXT Work except those specified to be furnished by Concessionaire.

Material furnished by Concessionaire will be delivered or made available to Design-Builder at the points specified in the Contract. The cost of handling and placing Materials after delivery to Design-Builder shall be included in the Contract Price

After receipt of the Materials, Design-Builder shall be responsible for Material delivered to him, including shortages, deficiencies, and damages that occur after delivery, and any demurrage charges.

106.12—Critical Materials (Not Used)**SECTION 107—LEGAL RESPONSIBILITIES**

107.01—Legal Requirements to Be Observed (Not Used) Refer to Part 4 (NEXT General Conditions) – Section 2.5, Legal Requirements

107.02—Permits, Certificates, and Licenses. (Not Used) Refer to Part 4 (NEXT General Conditions) – Section 2.6, Governmental Approvals, and Section 3.5, Governmental Approvals

107.03—Federal-Aid Provisions (Not Used) Refer to Part 3 (NEXT Design-Build Contract) Exhibit 11.3 federal Requirements

107.04—Furnishing Right of Way (Not Used) Refer to Part 4 (NEXT General Conditions)

107.05—Patented Devices, Materials, and Processes (Not Used) Refer to Part 4 (NEXT General Conditions) – Article 7, Indemnification

107.06—Personal Liability of Public Officials (Not Used) Refer to Part 4 (NEXT General Conditions)

107.07—No Waiver of Legal Rights (Not Used)

107.08—Protecting and Restoring Property and Landscape

Design-Builder shall preserve property and improvements along the boundary lines of and adjacent to the NEXT Work unless their removal or destruction is specified in the NEXT Contract Documents. Design-Builder shall use suitable precautions to prevent damage to such property.

When Design-Builder finds it necessary to enter on private property, beyond the limits of the construction Easement shown in the NEXT Contract Documents, he shall secure from the owner or lessee a written permit for such entry prior to moving thereon. An executed copy of this permit shall be furnished to Concessionaire.

Design-Builder shall be responsible for any damage or injury to property during the prosecution of the NEXT Work resulting from any act, omission, neglect, or misconduct in Design-Builder's method of executing the NEXT Work or attributable to defective work or Materials. This responsibility shall not be released until Final Completion of the Project NEXT and a written release from the owner or lessee of the property is obtained. The term "property" includes motor vehicles.

When direct or indirect damage is done to property by or on account of any act, omission, neglect, or misconduct in Design-Builder's method of executing the NEXT Work or in consequence of the non-execution thereof on the part of

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Design-Builder, Design-Builder shall restore such property to a condition similar or equal to that existing before such damage was done by repairing, rebuilding, or restoring, as may be directed by Concessionaire, or shall make a settlement with the property owner for such property damage. Design-Builder shall secure from the owner a written release from any claim against Concessionaire without additional compensation therefore. A copy of this release shall be furnished to Concessionaire.

107.09—Design-Builder’s Responsibility for Utility Property and Services

At points where Design-Builder’s operations are on or adjacent to the properties of any utility, including railroads, and damage to which might result in expense, loss, or inconvenience, work shall not commence until arrangements necessary for the protection thereof have been completed.

Design-Builder shall cooperate with owners of utilities so that removal and adjustment operations may progress in a timely, responsible, and reasonable manner, duplication of adjustment work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted.

If any utility service is interrupted as a result of accidental breakage or of being exposed or unsupported, Design-Builder shall promptly notify the proper authority and shall cooperate fully with the authority in the restoration of service. If utility service is interrupted, repair work shall be continuous until service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority. When Design-Builder’s work operations require the disconnection of “in service” fire hydrants, Design-Builder shall notify the locality’s fire department or communication center at least 24 hours prior to disconnection. In addition, Design-Builder shall notify the locality’s fire department or communications center no later than 24 hours after reconnection of such hydrants. Design-Builder shall be responsible for any damage to utilities that, in the investigation and determination of Concessionaire, is found to be attributable to Design-Builder’s neglect, means, or methods of performing the NEXT Work.

Nothing in this Section shall be construed to be in conflict with Section 107.08.

Design-Builder shall comply with all requirements of the *Virginia Underground Utility Damage Prevention Act* (the Miss Utility law). Design-Builder shall not make or begin any Excavation or demolition without first notifying the Miss Utility notification center for the area where the Project NEXT is located. Design-Builder shall wait to begin its Excavation or demolition until 7:00 a.m. on the third working day following Design-Builder’s notice to the notification center, unless the underground utilities cannot be marked within that time due to extraordinary circumstances. Design-Builder may commence Excavation or demolition work only if confirmed through the Ticket Information Exchange (TIE) System, or Design-Builder is notified directly, that all applicable utilities have either marked their underground line locations or reported that no lines are present in the NEXT Work zone.

107.10—Restoration of Work Performed by Others (Not Used) Refer to Section 1.7.3 of Part 2 (NEXT Technical Requirements)

107.11—Use of Explosives (Not Used) Refer to Section 1.8.10 of Part 2 (NEXT Technical Requirements)

107.12—Responsibility for Damage Claims (Not Used) Refer to Part 4 (NEXT General Conditions), Article 7 Indemnification)

107.13—Labor and Wages (Not Used) Refer to Part 3 Exhibit 11.3 (Federal Requirements)

107.14—Equal Employment Opportunity (Not Used) Refer to Part 3 Exhibit 11.3 (Federal Requirements)

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107.15—Use of Disadvantaged Business Enterprises (DBEs), Small, Women-Owned, and Minority-Owned Businesses (SWaM) Requirements

During performance of the Design-Build Work for the Project NEXT, Design-Builder shall achieve the following goals with respect to small and minority business participation, on-the-job training, and workforce development:

- .1 Disadvantaged Business Enterprise (DBE) participation equal to fifteen percent (15%) of the Adjusted Contract Value after amounts for the project elements listed below are excluded , plus Small, Women, and Minority (SWaM) firm participation equal to twenty-five percent (25%) of the Adjusted Contract Value. For clarity, the total DBE/SWaM percentage is forty (40%) of the Adjusted Contract Value and no funds paid to qualified firms shall be double counted toward this goal.
- .2 Providing at least twenty-seven (27) on-the-job trainee positions in accordance with VDOT’s trainee and apprenticeship program.

Design-Builder shall comply with all requirements of Exhibits 107.15.1 and 107.15.2, in meeting these obligations.

The following project elements and associated costs may be excluded when determining the Adjusted Contract Value for the purposes of monitoring participation and compliance with the Project’s DBE and SWaM participation goals. If Design-Builder ultimately uses DBE and/or SWaM firms for any of the elements for which the associated costs were excluded in determining the Adjusted Contract Value, such utilization shall not count toward the DBE/SWaM participation goals in 107.15.1 above. The Adjusted Contract Value used for the Project shall be approved by Concessionaire prior to Contract award.

- Bonding and Insurance
- Mobilization Payments
- Design-Builder (Lead Contractor) Self-Performed Construction Work, up to a maximum value of thirty percent (30%) of the NEXT Contract Price*
- Design-Builder Project Management (Office-Based)
- Subcontractor Procurement and Contract Administration
- Permitting
- Environmental Mitigation Credits
- Cantilever Sign Structures Fabrication and Installation
- Private Utility Relocation – Self-Performed by Utility or Utility-Nominated Subcontractors
- Traffic Management System (TMS) Equipment/Devices Procurement, Installation and Integration
- Dynamic Message Signage Equipment/Devices Procurement, Installation and Integration
- Traffic Management System Back-Office Integration
- Tolling Back Office System Back-Office Integration

*For the purpose of calculating “Design-Builder (Lead Contractor) Self-Performed Construction Work”, Design-Builder is permitted to include all elements described in Part 3, Exhibit 11.3, Attachment 2, Sections VI.1.a and VI.2; provided, however, that Design-Builder shall not double count any values contained in other bulleted items listed herein.

107.16—Environmental Stipulations

By signing the Proposal, the Offeror shall have stipulated (1) that any facility to be used in the performance of the Contract (unless the Contract is exempt under the Clean Air Act as amended 42 U.S.C. 1857, et seq., as amended by P.L. 91-604], the Federal Water Pollution Control Act as amended 33 U.S.C. 1251 et seq. as amended by P.L. 92-500], and Executive Order 11738 and regulations in implementation thereof 40 C.F.R., Part 15) is not listed on the EPA’s List of Violating Facilities pursuant to 40 C.F.R. 15.20; and (2) that Concessionaire will be promptly notified prior to the Award of the Contract if the Offeror receives any communication from the Director, Office of Federal Activities, EPA, indicating that a facility to be used for the Contract is under consideration to be listed on the EPA’s List of Violating Facilities.

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No separate payment will be made for the NEXT Work or precautions described herein.

Reference is made in various subsections of this section to Tidewater, Virginia. For the purposes of identifying the affected regions assigned to this designation and the requirements therein Tidewater, Virginia is defined as the Counties of Accomack, Arlington, Caroline, Charles City, Chesterfield, Essex, Fairfax, Gloucester, Hanover, Henrico, Isle of Wight, James City, King George, King and Queen, King William, Lancaster, Mathews, Middlesex, New Kent, Northampton, Northumberland, Prince George, Prince William, Richmond, Spotsylvania, Stafford, Surry, Westmoreland and York and the Cities of Alexandria, Chesapeake, Colonial Heights, Fairfax, Falls Church, Fredericksburg, Hampton, Hopewell, Newport News, Norfolk, Petersburg, Poquoson, Portsmouth, Richmond, Suffolk, Virginia Beach and Williamsburg.

- (a) **Erosion and Siltation:** Design-Builder shall exercise every reasonable precaution, including temporary and permanent soil stabilization measures, throughout the duration of the Project NEXT to control erosion and prevent siltation of adjacent lands, rivers, streams, wetlands, lakes, and impoundments. Soil stabilization or erosion control measures shall be applied to erodible soil or ground materials exposed by any activity associated with construction, including clearing, grubbing, and grading, but not limited to local or on-site sources of materials, stockpiles, Disposal Areas and haul roads.

Design-Builder shall comply with Sections 301.02 and 303.03 of the Specifications. Should Design-Builder as a result of negligence or noncompliance fail to provide soil stabilization in accordance with these specifications, the cost of temporary soil stabilization in accordance with the provisions of Section 303 shall be at Design-Builder's expense.

Temporary measures shall be coordinated with the NEXT Work to ensure effective and continuous erosion and sediment control. Permanent erosion control measures and drainage facilities shall be installed as the NEXT Work progresses.

Design-Builder shall have within the limits of the Project NEXT during land disturbance activities, an employee certified by VDOT in Erosion and Sediment control who shall inspect erosion and sediment control and pollution prevention practices, devices and measures for proper installation and operation and promptly report their findings to the Inspector. Failure on the part of Design-Builder to maintain appropriate erosion and sediment control or pollution prevention devices in a functioning condition may result in Concessionaire notifying Design-Builder in writing of specific deficiencies. Deficiencies shall be corrected immediately or as otherwise directed by Concessionaire. If Design-Builder fails to correct or take appropriate actions to correct the specified deficiencies within 24 hours (or as otherwise directed) after receipt of such notification, Concessionaire may do one or more of the following: require Design-Builder to suspend work in other areas and concentrate efforts towards correcting the specified deficiencies, withhold payment of monthly progress estimates, or proceed to correct the specified deficiencies and deduct the entire cost of such work from monies due Design-Builder. Failure on the part of Design-Builder to maintain a VDOT certified erosion and sediment control employee within the Project NEXT limits when land disturbance activities are being performed will result in Concessionaire suspending work related to any land disturbance activity until such time as Design-Builder is in compliance with this requirement.

- (b) **Pollution:**

1. **Water:** Design-Builder shall exercise every reasonable precaution throughout the duration of the Project NEXT to prevent pollution of rivers, streams, and impoundments. Pollutants such as, but not limited to, chemicals, fuels, lubricants, bitumens, raw sewage, paints, sedimentation, and other harmful material shall not be discharged into or alongside rivers, streams, or impoundments or into Channels leading to them. Design-Builder shall cover all dumpsters at the end of each work shift and when not in use during a rain event. Design-Builder shall provide Concessionaire a contingency plan for reporting and immediate actions to be taken in the event of a dump, discharge, or spill within eight hours after he has mobilized to the Project NEXT site.

Construction discharge water shall be filtered to remove deleterious materials prior to discharge into State waters. Filtering shall be accomplished by the use of a standard dewatering basin or a dewatering bag or other

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measures approved by Concessionaire. Dewatering bags shall conform to Section 245. During specified spawning seasons, discharges and construction activities in spawning areas of State waters shall be restricted so as not to disturb or inhibit aquatic species that are indigenous to the waters. Neither water nor other effluence shall be discharged onto wetlands or breeding or nesting areas of migratory waterfowl. When used extensively in wetlands, heavy Equipment shall be placed on mats. Temporary construction fills and mats in wetlands and flood plains shall be constructed of approved non-erodible materials and shall be removed by Design-Builder to natural ground when Concessionaire so directs.

If Design-Builder dumps, discharges, or spills any oil or chemical that reaches or has the potential to reach a waterway, he shall immediately notify all appropriate jurisdictional Governmental Units in accordance with the requirements of the Contract and the VPDES *General Permit For Discharge of Stormwater From Construction Activities* and shall take immediate actions to contain, remove, and properly dispose of the oil or chemical.

Solids, sludges, or other pollutants removed in the course of the treatment or management of pollutants shall be disposed of in a manner that prevents any pollutant from such materials from entering surface waters in compliance with all applicable state and federal laws and regulations.

Excavation material shall be disposed of in approved areas above the mean high water mark shown in the NEXT Contract Documents in a manner that will prevent the return of solid or suspended materials to State waters. If the mark is not shown on the Plans, the mean high water mark shall be considered the elevation of the top of stream banks.

Constructing new Bridge(s) and dismantling and removing existing Bridge(s) shall be accomplished in a manner that will prevent the dumping or discharge of construction or Disposable Materials into rivers, streams, or impoundments.

Construction operations in rivers, streams, or impoundments shall be restricted to those areas where identified on the Plans and to those that must be entered for the construction of structures. Rivers, streams, and impoundments shall be cleared of falsework, piling, debris, or other obstructions placed therein or caused by construction operations. Stabilization of the streambed and banks shall occur immediately upon completion of work if work is suspended for more than 14 days.

Design-Builder shall prevent stream constriction that would reduce stream flows below the minimum, as defined by the State Water Control Board, during construction operations.

If it is necessary to relocate an existing stream or drainage facility temporarily to facilitate construction, Design-Builder shall design and provide temporary Channels or culverts of adequate size to carry the normal flow of the stream or drainage facility. Design-Builder shall submit a temporary relocation design to Concessionaire for review and acceptance in sufficient time to allow for discussion and correction prior to beginning the NEXT Work the design covers. Costs for the temporary relocation of the stream or drainage facility shall be included in the Contract. Stabilization of the streambed and banks shall occur immediately upon completion of, or during the NEXT Work, if the NEXT Work is suspended for more than 14 days.

Temporary Bridges or other minimally invasive structures shall be used wherever Design-Builder finds it necessary to cross a stream more than twice in a 6-month period unless otherwise authorized by water quality permits issued by the U.S. Army Corps of Engineers, Virginia Marine Resources Commission, or the Virginia Department of Environmental Quality for the Contract.

Conduct all operations near rivers, streams, or impoundments in accordance with applicable water quality permits. Do not conduct clearing or grubbing within 100 feet of the limits of Ordinary High Water or a delineated wetland until authorized by Concessionaire.

2. **Air:** Design-Builder shall comply with the provisions of the Contract and the State Air Pollution Control Law and Rules of the State Air Pollution Control Board, including notifications required therein. Precautions

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shall be taken at all times to prevent particulate matter from becoming airborne according to the State Air Pollution Control Board regulation 9 V AC 5 Chapter 50, Article 1, Standards of Performance for Visible Emissions and Fugitive Dust/Emissions.

Burning shall be performed in accordance with all applicable local laws and ordinances and under the constant surveillance of watchpersons. Care shall be taken so that the burning of materials does not destroy or damage property or cause excessive air pollution. Design-Builder shall not burn rubber tires, asphalt, used crankcase oil, or other materials that produce dense smoke. Burning shall not be initiated when atmospheric conditions are such that smoke will create a hazard to the motoring public or airport operations. Provisions shall be made for flagging vehicular traffic if visibility is obstructed or impaired by smoke. At no time shall a fire be left unattended.

Asphalt mixing plants shall be designed, equipped, and operated so that the amount and quality of air pollutants emitted will conform to the rules of the State Air Pollution Control Board.

a. **VOC Emission Control Areas** - Design-Builder is advised that when the Project NEXT is located in a volatile organic compound (VOC) emissions control area identified in the State Air Control Board Regulations (9 VAC 5-20-206) and in the Table I-3 below the following limitations shall apply:

- (1) Open burning is prohibited during the months of May, June, July, August, and September in VOC Emissions Control areas
- (2) Cutback asphalt is prohibited April through October except when use or application as a penetrating prime coat or tack is necessary in Virginia Department of Environmental Quality Volatile Organic Compound (VOC) Emissions Control Areas.* See the 9 VAC 5-40, Article 39 (Emission Standards for Asphalt Paving Operations) and 9 VAC 5-130 (Regulation for Open Burning) for further clarification.

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TABLE I-3		
VOC Emissions Control Area	VDOT District	Jurisdiction
Northern Virginia	NOVA	Alexandria City Arlington County Fairfax County Fairfax City Falls Church City Loudoun County Manassas City Manassas Park City Prince William County
Northern Virginia	Fredericksburg	Stafford County
Fredericksburg	Fredericksburg	Spotsylvania County Fredericksburg City
Hampton Roads	Fredericksburg	Gloucester County
Hampton Roads	Hampton Roads	Chesapeake City Hampton City Isle of Wight County James City County Newport News City Norfolk City Poquoson City Portsmouth City Suffolk City Virginia Beach City Williamsburg City York County
Richmond	Richmond	Charles City County Chesterfield County Colonial Heights City Hanover County Henrico County Hopewell City Petersburg City Prince George County Richmond City
Western Virginia	Staunton	Frederick County Winchester City
Western Virginia	Salem	Roanoke County Botetourt County Roanoke City Salem City

* Regulations for the Control and Abatement of Air Pollution ([9 VAC 5-20-206](#))

- (3) Emission standards for asbestos incorporated in the EPA's National Emission Standards for Hazardous Air Pollutants apply to the demolition or renovation of any institutional, commercial, or industrial building, structure, facility, installation, or portion thereof that contains friable asbestos or where Design-Builder's methods for such actions will produce friable asbestos.

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Design-Builder shall submit demolition notification the United States Environmental Protection Agency (USEPA) and the Virginia Department of Labor and Industry a minimum of 10 business days prior to starting work on the following bridge activities:

- a) Dismantling and removing existing structures
- b) Moving an entire structure
- c) Reconstruction and repairs involving the replacement of any load-bearing component of a structure

Demolition notification shall be addressed to:

Virginia Department of Labor and Industry
Asbestos Program
Powers-Taylor Building
13 South Thirteenth Street
Richmond, VA 23219

Land and Chemical Division
EPA Region III
Mail Code LC62
1650 Arch St.
Philadelphia, PA 19103-2029

3. **Noise:** Design-Builder's operations shall be performed so that exterior noise levels measured during a noise-sensitive activity shall not exceed 80 decibels. Such noise level measurements shall be taken at a point on the perimeter of the construction limit that is closest to the adjoining property on which a noise sensitive activity is occurring. A *noise-sensitive activity* is any activity for which lowered noise levels are essential if the activity is to serve its intended purpose and not present an unreasonable public nuisance. Such activities include, but are not limited to, those associated with residences, hospitals, nursing homes, churches, schools, libraries, parks, and recreational areas.

Design-Builder shall monitor construction-related noise. If construction noise levels exceed 80 decibels during noise sensitive activities, Design-Builder shall take corrective action before proceeding with operations. Design-Builder shall be responsible for costs associated with the abatement of construction noise and the delay of operations attributable to noncompliance with these requirements.

Concessionaire may prohibit or restrict to certain portions of the Project NEXT any work that produces objectionable noise between 10 PM and 6 AM If other hours are established by local ordinance, the local ordinance shall govern.

Equipment shall in no way be altered so as to result in noise levels that are greater than those produced by the original equipment.

When feasible, Design-Builder shall establish haul routes that direct his vehicles away from developed areas and ensure that noise from hauling operations is kept to a minimum.

These requirements shall not be applicable if the noise produced by sources other than Design-Builder's operation at the point of reception is greater than the noise from Design-Builder's operation at the same point.

- (c) **Forest Fires:** Design-Builder shall take all reasonable precautions to prevent and suppress forest fires in any area involved in construction operations or occupied by him as a result of such operations. Design-Builder shall cooperate with the proper authorities of Governmental Units in reporting, preventing, and suppressing forest fires. Labor, tools, or equipment furnished by Design-Builder upon the order of any forest official issued under authority

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granted the official by law shall not be considered a part of the Contract. Design-Builder shall negotiate with the proper forest official for compensation for such labor, tools, or equipment

- (d) **Archeological, Paleontological, and Rare Mineralogical Findings:** In the event of the discovery of prehistoric ruins, Indian or early settler sites, burial grounds, relics, fossils, meteorites, or other articles of archeological, paleontological, or rare mineralogical interest during the prosecution of NEXT Work, Design-Builder shall act immediately to suspend work at the site of the discovery and notify Concessionaire. Concessionaire will immediately notify the proper State authority charged with the responsibility of investigating and evaluating such finds. Design-Builder shall cooperate and, upon the request of Concessionaire, assist in protecting, mapping, and removing the findings. Labor, tools, or Equipment furnished by Design-Builder for such work will be paid for in accordance with the requirements of Section 104.03. Findings shall become the property of the Commonwealth unless they are located on federal lands, in which event they shall become the property of the U.S. government.

When such findings delay the progress or performance of the NEXT Work, Design-Builder shall notify Concessionaire in accordance with the Contract.

- (e) **Storm Water Pollution Prevention Plan and VPDES General Permit for the Discharge of Stormwater from Construction Activities**

A Stormwater Pollution Prevention Plan (SWPPP) identifies potential sources of pollutants which may reasonably be expected to affect the stormwater discharges from the construction site and any off-site support facilities located on VDOT rights of way and easements. The SWPPP also describes and ensures implementation of practices which will be used to minimize or prevent pollutants in such discharges.

The SWPPP shall include, but not be limited to, the approved Erosion and Sediment Control (ESC) Plan, the approved Stormwater Management (SWM) Plan (if applicable), the approved Pollution Prevention Plan, and all related Specifications, Standards, and requirements contained within the NEXT Contract Documents and shall be required for all land-disturbing activities that disturb 10,000 square feet or greater, or 2,500 square feet or greater in Tidewater, Virginia.”

Land-disturbing activities that disturb one 1 acre or greater require coverage under the Department of Environmental Quality’s VPDES General Permit for the Discharge of Stormwater from Construction Activities (hereafter referred to as the VPDES Construction Permit) According to IIM-LD-242, VDOT will apply for and secure VPDES Construction Permit coverage for all applicable land disturbing activities on VDOT rights of way or easements for which it has contractual control, including off-site (outside the Project NEXT limits) support facilities on VDOT rights of way or easements that directly relate to the construction activity.

Design-Builder shall be responsible for securing VPDES Construction Permit coverage and complying with all permit conditions for all support facilities that are not located on VDOT rights of way or easements.

The required contents of a SWPPP for those land disturbance activities requiring coverage under the VPDES Construction Permit are found in Section II of the permit. While a SWPPP is an important component of the VPDES Construction Permit, it is only one of the many requirements for the land disturbing activity that must be addressed in order to be in full compliance with the conditions of this permit. The requirements of this permit will be satisfied by Design-Builder’s compliance with the Project NEXT SWPPP terms and conditions.

Design-Builder and all other persons that oversee or perform activities covered by the VPDES Construction Permit shall be responsible for reading, understanding, and complying with all of the terms, conditions and requirements of the permit and the Project NEXT SWPPP including, but not limited to, the following:

1. Project NEXT Implementation Responsibilities

Design-Builder shall be responsible for the installation, maintenance, inspection, and, on a daily basis, ensuring the functionality of all erosion and sediment control measures on a daily basis and all other stormwater runoff control and pollution prevention measures identified within or referenced within the

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SWPPP, the construction plans, the specifications, all applicable permits, and all other NEXT Contract Documents or applicable governmental approvals.

Design-Builder shall be solely responsible for the temporary erosion and sediment control protection and permanent stabilization of all borrow areas and soil disposal areas located outside of VDOT right of way or easement.

Design-Builder shall prevent or minimize any storm water or non-storm water discharge that will have a reasonable likelihood of adversely affecting human health or public and/or private properties.

2. Certification Requirements

In addition to satisfying the Section 107.16(a) personnel certification requirements, Design-Builder shall certify his activities by completing, signing, and submitting Form C-45 VDOT SWPPP Design-Builder Certification Statement to Concessionaire at least 7 days prior to commencing any Project NEXT-related land-disturbing activities, both within the Project NEXT limits and any support facilities located on VDOT rights of way or easements outside the Project NEXT limits.

3. SWPPP Requirements for Support Facilities

Design-Builder shall develop and enforce a Spill Prevention Control and Countermeasure (SPCC) Plan conforming to 40 CFR 112 if the aggregated volume of Oil stored within the Project limits at any one time is greater than 1,320 gallons. Oil, in this context, shall be defined according to 40 CFR 112. The aggregated volume includes that of both stationary and portable storage facilities but does not include individual storage containers with less than a 55 gallon capacity. Design-Builder shall include the SPCC Plan as a part of his Pollution Prevention Plan for the project.

Support facilities shall include, but not be limited to, off-site Borrow and Disposal Areas, construction and waste materials or Equipment storage areas, equipment and vehicle washing, maintenance, storage and fueling areas, storage areas for fertilizers, fuels, or chemicals, concrete wash out areas, sanitary waste facilities and any other areas that may generate a storm water or non-stormwater discharge directly related to the construction site.

Support Facilities located on VDOT rights of way or easements:

- a. For those support facilities located within the Project NEXT limits but not included in the construction plans for the Project NEXT, Design-Builder shall develop a SWPPP in accordance with Chapter 10 of the VDOT Drainage Manual which shall include, where applicable, an erosion and sediment control plan, a stormwater management plan according to IIM-LD-195, and a pollution prevention plan according to these Specifications and the SWPPP General Information Sheet notes in the construction plans or other such NEXT Contract Documents. All plans developed shall be reviewed and approved by appropriate personnel certified through DEQ's ESC and SWM Certification program and shall be developed according to Section 105.10 and shall be submitted to Concessionaire for review and approval. Once approved, Concessionaire will notify Design-Builder in writing that the plans are accepted as a component of the Project NEXT SWPPP and VPDES Construction Permit coverage (where applicable) and shall be subject to all conditions and requirements of the VPDES Construction Permit and all other NEXT Contract Documents. No land disturbing activities can occur in the support area(s) until written notice to proceed is provided by Concessionaire.
- b. For support facilities located outside the Project NEXT limits and not included in the construction plans for the Project NEXT, Design-Builder shall develop a SWPPP in accordance with Chapter 10 of the VDOT Drainage Manual which shall include, where applicable, an erosion and sediment control plan, a stormwater management plan (where applicable) according to IIM-LD-195, a pollution prevention plan according to these specifications and the SWPPP General Information Sheet notes in the construction plans or other such NEXT Contract Documents and all necessary documents for obtaining VPDES

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Construction Permit coverage according to IIM-LD-242. All plans developed shall be reviewed and approved by appropriate personnel certified through DEQ's ESC and SWM Certification program and shall be developed according to Section 105.10 and shall be submitted to Concessionaire for review and approval. Once approved by Concessionaire, Design-Builder will apply for VPDES Construction Permit coverage according to IIM-LD-242. The support facility shall be subject to all conditions and requirements of the VPDES Construction Permit and all other NEXT Contract Documents. No land disturbing activities can occur in the support area(s) until written notice to proceed is provided by Concessionaire.

4. Inspection Procedures**a. Inspection Requirements**

Design-Builder shall be responsible for conducting site inspections in accordance with the requirements herein. Site inspections shall include erosion and sediment control and pollution prevention practices and facilities; all areas of the site disturbed by construction activity; all on-site support facilities; and all off site support facilities within VDOT right of way or easement. Design-Builder shall document such inspections by completion of Form C-107, Construction Runoff Control Inspection Form, in strict accordance with the directions contained within the form. This inspection shall be incorporated into the SWPPP no later than 4 days after the inspection. Inspections shall be conducted using one of the following schedules:

Schedule 1 - Inspections shall be conducted at least once every 7 calendar days (equivalent to once every five business days in the VPDES *General Permit for Discharge of Stormwater from Construction Activities*) and within 48 hours following any measureable storm event. In the event a measureable storm event occurs when there are more than 48 hours between business days, the inspection shall occur no later than the next business day. A business day is defined as Monday through Friday excluding State holidays. A measurable storm event is defined as one producing 0.25 inches of rainfall or greater over a 24-hour time period. Design-Builder shall install rain gauge(s) in accordance with VDOT Drainage Manual on the Project NEXT site for the purposes of determining the occurrence of a measureable storm event. Where the project is of such a length that one rain gauge may not provide an accurate representation of the occurrence of a measurable storm event over the entire project site, Design-Builder shall install as many rain gauges as necessary to accurately reflect the amount of rainfall received over all portions of the project. The rain gauge(s) shall be observed no less than once each business day at the time prescribed in the SWPPP General Information Sheet notes in the construction plans or other NEXT Contract Documents to determine if a measureable storm event has occurred. The procedures for determining the occurrence of a measurable storm event are identified in the SWPPP General Information Sheet notes in the construction plans or other NEXT Contract Documents.

Schedule 2 - At least each Monday and Thursday (equivalent to the once every four business days schedule in the VPDES *General Permit for Discharge of Stormwater from Construction Activities*). Where Monday or Thursday is a non-business day, the inspection may be performed on the next business day afterward. In no case shall the inspections be performed less than once every four business days. A rain gauge will not be required when using Schedule 2.

The Inspection Schedule (1 or 2) is to be selected prior to the beginning of land disturbance. Once an inspection schedule is selected, it shall be defined in the appropriate note in the SWPPP General Information Sheets contained in the construction plan set and shall be used for the duration of the project. A business day is defined as Monday through Friday excluding State holidays. A measurable storm event is defined as one producing 0.25 inches of rainfall or greater over a 24 hour time period.

For those areas of the site that have been temporarily stabilized or where land disturbing activities have been suspended due to continuous frozen ground conditions and stormwater discharges are unlikely, the inspection schedule may be reduced to once per month. If weather conditions (such as above freezing temperatures or rain or snow events) make stormwater discharges likely, Design-Builder shall

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immediately resume the regular inspection schedule. Those definable areas where final stabilization has been achieved will not require further inspections provided such areas have been identified in the Project NEXT Stormwater Pollution Prevention Plan.

b. Corrective Actions

If a site inspection identifies an existing control measure that is not being maintained properly or operating effectively; an existing control measure that needs to be modified; locations where an additional control measure is necessary; or any other deficiencies in the erosion and sediment control and pollution prevention plan, corrective action(s) shall be completed as soon as practical and prior to the next anticipated measurable storm event but no later than seven days after the date of the site inspection that identified the deficiency.

5. Unauthorized Discharges and Reporting Requirements

Design-Builder shall not discharge into State waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances nor shall otherwise alter the physical, chemical, or biological properties of such waters that render such waters detrimental for or to domestic use, industrial consumption, recreational or other public uses.

a. Notification of non-compliant discharges

Design-Builder shall immediately notify Concessionaire upon the discovery of or the potential of any unauthorized, unusual, extraordinary, or non-compliant discharge from the land construction activity or any of support facilities located on VDOT right of way or easement. Where immediate notification is not possible, such notification shall be not later than 24 hours after said discovery.

b. Detailed report requirements for non-compliant discharges

Design-Builder shall submit to Concessionaire within 5 days of the discovery of any actual or potential non-compliant discharge a written report describing details of the discharge to include a description of the nature and location of the discharge; the cause of the discharge; the date of occurrence; the length of time that the discharge occurred, the volume of the discharge; the expected duration and total volume if the discharge is continuing; a description of any apparent or potential effects on private and/or public properties and State waters or endangerment to public health; and any steps planned or taken to reduce, eliminate, and prevent a recurrence of the discharge. A completed Form C-107 shall be used for such reports.

6. Changes and Deficiencies (Not Used)**7. Amendments, Modifications, Revisions and Updates to the SWPPP**

- a. Design-Builder shall amend the SWPPP whenever site conditions, construction sequencing or scheduling necessitates revisions or modifications to the erosion and sediment control plan, the pollution prevention plan, or any other component of the SWPPP for the land disturbing activity or onsite support facilities,
- b. Design-Builder shall amend the SWPPP to identify any additional or modified erosion and sediment control and pollution prevention measures implemented to correct problems or deficiencies identified through any inspection or investigation process.
- c. Design-Builder shall amend the SWPPP to identify any new or additional person(s) or contractor(s) not previously identified that will be responsible for implementing and maintaining erosion and sediment control and pollution prevention devices.

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- d. Design-Builder shall update the SWPPP to include:
 - (1) A record of dates when major grading activities occur, construction activities temporarily or permanently cease on a portion of the site, and stabilization measures are initiated.
 - (2) Documentation of replaced or modified erosion and sediment control and pollution prevention controls where periodic inspections or other information have indicated that the controls have been used inappropriately or incorrectly.
 - (3) Identification of areas where final stabilization has occurred and where no further SWPPP or inspection requirements apply.
 - (4) The date of any prohibited discharges, the discharge volume released, and what actions were taken to minimize the impact of the release.
 - (5) A description of any measures taken to prevent the reoccurrence of any prohibited discharge.
 - (6) A description of any measures taken to address any issues identified by the required erosion and sediment control and pollution prevention inspections.
- e. Design-Builder shall update the SWPPP no later than seven days after the implementation and/or the approval of any amendments, modifications, or revisions to the erosion and sediment control plan, the pollution prevention plan, or any other component of the SWPPP.
- f. Revisions or modifications to the SWPPP shall be approved by Concessionaire and shall be documented by Design-Builder on a designated plan set (Record Set) in accordance with Chapter 10 of the VDOT Drainage Manual. All updates to the SWPPP shall be signed by the delegated authority as identified on the SWPPP.
- g. The record set of plans shall be maintained with other SWPPP documents on the Project NEXT site or at a location convenient to the Project NEXT site where no on site facilities are available.

107.17—Construction Safety and Health Standards

- (a) In the performance of this Contract Design-Builder shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). Design-Builder, Subcontractors at any tier, and their respective employees, agents and invitees, shall at all times while in or around the Project NEXT site comply with all applicable laws, regulations, provisions, and policies governing safety and health under the Virginia Occupational Safety and Health (VOSH) Standards adopted under the Code of Virginia, and any laws, regulations, provisions, and policies incorporated by reference including but not limited to the Federal Construction Safety Act (Public Law 91-54), 29 CFR Chapter XVII, Part 1926, Occupational Safety and Health Regulations for Construction, and the Occupation Safety and Health Act (Public Law 91-596), 29 CFR Chapter XVII, Part 1910 Occupational Safety and Health Standards for General Industry, and subsequent publications updating these regulations.
- (b) Design-Builder shall provide all safeguards, safety devices and protective equipment, and take any other needed actions as it determines, or as Concessionaire 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 NEXT Work. Design-Builder shall be responsible for maintaining and supervising all safety and health protections and programs to ensure compliance with this Section. Design-Builder shall routinely inspect the Project NEXT site for safety and health violations. Design-Builder shall immediately abate any violations of the safety and health requirements or duties at no cost to Concessionaire.
- (c) It is a condition of this Contract, and shall be made a condition of each subcontract, which Design-Builder enters into pursuant to this Contract, that Design-Builder and any Subcontractor shall not permit any employees in

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performance of the Contract, to work in surroundings or under conditions which are unsanitary, hazardous, or dangerous to their health or safety as determined by the Virginia Work Area Protection Manual or 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).

- (d) VOSH personnel, on all Federal-aid construction contracts and related subcontracts, pursuant to 29 CFR 1926.3, 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 their duties.

107.18—Sanitary Provisions

Design-Builder shall provide and maintain in a neat, sanitary condition such accommodations for the use of Employees as may be necessary to comply with the requirements of the State and local Board of Health or other bodies or tribunals having jurisdiction.

107.19—Railway-Highway Provisions (Not Used)**107.20— U.S. Coast Guard Coordination of Construction Over or Adjacent to Navigable Waters**

Although a U.S. Coast Guard permit is not required for the sign replacement work over the Potomac River (because Design-Builder should not need to block the navigation channel to perform this work), formal coordination with the U.S. Coast Guard is required. Prior to starting construction operations, Design-Builder shall meet with Concessionaire, VDOT and the U.S. Coast Guard (U.S. Coast Guard Coordination Meeting) to present its planned operations and the potential impacts those operations may pose to water traffic. As part of this meeting, the parties shall establish in writing the proper protocol for emergency closures and be governed accordingly.

Following the U.S. Coast Guard Coordination meeting, Design-Builder shall submit its proposed schedule of operations in writing to Concessionaire. Concessionaire shall review and provide written comments, if applicable, to Design-Builder within 7 days following receipt of Design-Builder's schedule of operations. Design-Builder shall incorporate Concessionaire's comments and submit its notice of scheduled operations to Concessionaire, VDOT and to the U.S. Coast Guard at least 30 days prior to commencement of any permitted construction or demolition operations. U.S. Coast Guard acceptance of Design-Builder's written schedule of operations is a condition precedent to Design-Builder's commencement of those operations.

In addition, Design-Builder shall request and obtain Concessionaire and U.S. Coast Guard approval in writing before commencing any operations that deviate from Design-Builder's schedule of operations when these operations interfere or have the potential to interfere with navigation of water traffic outside of timeframes previously approved by Concessionaire and the U.S. Coast Guard.

Notices shall be sent to the U.S. Coast Guard, Fifth District Bridge Office (OBR), 431 Crawford Street, Portsmouth, VA 23704-5004. Payment of any penalty or fine that may be levied by the U.S. Coast Guard for Design-Builder violations of Bridge regulations found in 33 CFR Parts 114, 115, 116, 117 and 118 shall be the responsibility of Design-Builder. Further, any delay to the Contract as a result of actions or inaction by Design-Builder relative to the requirements herein that are determined by Concessionaire to be the fault of Design-Builder will be a non-compensable and non-excusable delay.

The cost to comply with the requirements of this provision and to provide and maintain and temporary navigation lights, signals and other temporary work associated with the structure(s) under this Contract required by the U.S. Coast Guard for the protection of navigation during construction or demolition operations shall be included in the NEXT Contract Price.

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107.21—Size and Weight Limitations

- (a) **Hauling or Moving Material and Equipment on Public Roads Open to Traffic:** Design-Builder shall comply with legal size and weight limitations in the hauling or moving of Material and Equipment on public Roads open to traffic unless the hauling or moving is covered by a hauling permit.
- (b) **Hauling or Moving Material and Equipment on Public Roads Not Open to Traffic:** Design-Builder shall comply with legal weight limitations in the hauling or moving of Material and Equipment on public Roads that are not open to traffic unless the hauling or moving is permitted elsewhere herein or is otherwise covered by a hauling permit. Design-Builder shall be liable for damage that results from the hauling or moving of Material and Equipment. The hauling or moving of Material and Equipment on the Pavement Structure or across any structure during various stages of construction shall be subject to additional restrictions as specified or directed by Concessionaire.
- (c) **Furnishing Items in Component Parts of Sections:** If the size or weight of fabricated or manufactured items together with that of the hauling or moving vehicle exceeds the limitations covered by hauling permit policies and other means of transportation are not available, permission will be given to furnish the items in component parts of sections with adequately designed splices or connections at appropriate points. Permission for such adjustments shall be requested in writing, and approval in writing shall be secured from Concessionaire prior to fabrication or manufacture of the items. The request shall state the reasons for adjustment and shall be accompanied by supporting data, including Working Drawings where necessary.
- (d) **Construction Loading of Structures:** In the construction, reconstruction, widening, or repair of bridge, culvert, retaining wall and other similar type structures including approaches, Design-Builder shall consider construction loads during the planning and prosecution of the work. If the loading capacity of these type structure(s) is not shown in the Contract, Design-Builder is responsible for contacting the office of the appropriate district bridge engineer to obtain the loading capacity information. Construction loads include but are not limited to the weight of cranes, trucks, other heavy construction or material delivery equipment, as well as the delivery or storage of materials placed on or adjacent to the structure or parts thereof during the various stages (phases) of the work in accordance with Design-Builder's proposed work plan. Design-Builder shall consider the effect(s) of construction loads on the loading capacity of these type structure(s) in his sequencing of the work and operations, including phase construction. At Concessionaire's request Design-Builder shall be prepared to discuss or review his proposed operations with Concessionaire with regard to construction loads to demonstrate he has taken such into consideration in the planning and execution of the work.

SECTION 108—PROSECUTION AND PROGRESS OF WORK

108.01—Prosecution of Work (Not Used) Refer to Part 2 (NEXT Technical Requirements)

108.02—Limitation of Operations (Not Used) Refer to Part 2 (NEXT Technical Requirements)

108.03—Progress Schedule (Not Used) Refer to Part 3 (NEXT Design-Build Contract) – Article 11 - Other Provisions

108.04—Determination and Extension of Completion Date (Not Used) Refer to Part 4 (NEXT General Conditions) – Article 8 Time, Article 9 Changes to the NEXT Contract Price and Time, and Article 10 Contract Adjustments and Disputes

108.05—Suspension of NEXT Work Ordered by Concessionaire (Not Used) Refer to Part 4 (NEXT General Conditions) Article 11 Stop Work and Termination for Cause

108.06—Failure to Complete on Time (Not Used) Refer to Part 4 (NEXT General Conditions) – Article 8 Time

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108.07—Default of Contract (Not Used) Refer to Part 4 (NEXT General Conditions) – Article 11 Stop Work and Termination for Cause

108.08—Termination of Contract (Not Used) Refer to Part 4 (NEXT General Conditions) – Article 11 Stop Work and Termination for Cause

108.09—Acceptance (Not Used) Refer to Part 4 (NEXT General Conditions) – Article 6 Payment

108.10—Termination of Design-Builder’s Responsibilities (Not Used) Refer to Part 4 (NEXT General Conditions) – Article 11 Stop Work and Termination for Cause

SECTION 109—MEASUREMENT AND PAYMENT**109.01—Measurement of Quantities**

- (a) **General:** Unless otherwise specifically stated to the contrary in Article 6 of the Part 3 (NEXT Design-Build Contract), this Section 109.01 will only be applicable to NEXT Contract Price adjustments made under Article 9 of Part 4 (NEXT General Conditions). The methods of measurement and computations to be used to determine quantities of Material furnished and work performed will be those generally recognized as conforming to good engineering practice.

Longitudinal measurements for surface area computations will be made along the surface and transverse measurements will be the surface measure shown in the NEXT Contract Documents or ordered in writing by Concessionaire. Individual areas of obstructions with a surface area of 9 square feet or less will not be deducted from surface areas measured for payment.

Structures will be measured in accordance with the neat lines shown in the NEXT Contract Documents

Items that are measured by the linear foot will be measured parallel to the base or foundation upon which they are placed.

Allowance will not be made for surfaces placed over an area greater than that shown in the NEXT Contract Documents or for any Material moved from outside the area of the cross-section and lines shown in the NEXT Contract Documents.

When standard manufactured items are specified and are identified by weights or dimensions, such identification will be considered nominal. Unless more stringently controlled by tolerances in the NEXT Contract Documents, manufacturing tolerances established by the industries involved will be accepted.

- (b) **Measurement by Weight:** Materials that are measured or proportioned by weight shall be weighted on accurate scales as specified in this Section. When material is paid for on a tonnage basis, personnel performing the weighing shall be certified by VDOT and shall be bonded to the Commonwealth of Virginia in the amount of \$10,000 for the faithful observance and performance of the duties of the weighperson required herein. The bond shall be executed on a form having the exact wording as the Weighpersons Surety Bond Form furnished by the VDOT and shall be submitted to VDOT prior to the furnishing of the tonnage material.

Design-Builder shall have the weighperson perform the following:

1. Furnish a signed weigh ticket for each load that shows the date, load number, plant name, size and type of material, project number, schedule or purchase order number, and the weights specified herein.
2. Maintain sufficient documentation so that the accumulative tonnage and distribution of each lot of material, by contract, can be readily identified.

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3. Submit by the end of the next working day a summary of the number of loads and total weights for each type of material by contract.

Trucks used to haul Material being paid for by weight shall display the truck uniform identification number and legal gross and legal net weight limits. These markings shall be no less than 2 inches high and permanently stenciled on each side of the truck with contrasting color and located as to be clearly visible when the vehicle is positioned on the scales and observed from normal position of the weigh Person at the scale house.

The truck to be used in the weighing operation shall be the weight of the empty truck determined with full tank(s) of fuel and the operator seated in the cab. The tare weight of trucks shall be recorded to the nearest 20 pounds. At the option of Design-Builder, a new tare may be determined for each load. When a new tare is obtained for each load, the requirement for full tank(s) of fuel will be waived.

Net rail shipment weights may be used for pay quantities when evidenced by railroad bills of lading. However, such weights will not be accepted for pay quantities of Materials that subsequently pass through a stationary mixing plant.

Scales shall conform to the requirements for accuracy and sensitivity as set forth in the *National Institute of Standards and Technology Handbook No. 44 for Specification Tolerances and Requirements for Commercial and Weighing Devices*. Scales used in the weighing of Materials paid for on a tonnage basis shall be approved and sealed in accordance with the requirements of the policies of the Bureau of Weights and Measures of the Department of Agriculture and Consumer Services, or other approved agencies, at least once every six months and upon being moved. Hopper and truck scales shall be serviced and tested by a scale service representative at least once every six months. Hopper scales shall be checked with a minimum 500 pounds of test weights and truck scales shall be checked with a minimum 20,000 pounds of test weights.

Copies of scale test reports shall be maintained on file at the scale location for at least 18 months, and copies of all scale service representative test reports shall be forwarded to Concessionaire.

The quantity of Materials paid for on a tonnage basis shall be determined on scales equipped with an automatic printer. Truck scale printers shall print the net weight and either the gross or tare weight of each load. Hopper scale printers shall print the net weight of each load. The weigh ticket shall also show the legal gross weight for Material weighed on truck scales and the legal net weight for Material weighed on hopper scales.

If the automatic printer becomes inoperative, the weighing operation may continue for 48 hours provided satisfactory visual verification of weights can be made. The written permission of the District Materials Engineer shall be required for the operation of scales after 48 hours.

If significant discrepancies are discovered in the printed weight, the ultimate weight for payment will be calculated on volume measurements of the Materials in place and unit weights determined by VDOT.

- (c) **Measurement by Cubic Yard:** Material that is measured by the cubic yard, loose measurement or vehicular measurement, shall be hauled in approved vehicles and measured therein at the point of delivery. Material measured in vehicles, except streambed gravel, silt cleanout, or other self-consolidating material will be allowed at the rate of 2/3 the volume of the vehicle. The full volume of the vehicle will be allowed for streambed gravel. Such vehicles may be of any size or type acceptable to Concessionaire provided the body is of such shape that the actual contents can be readily and accurately determined. Unless all approved vehicles are of uniform capacity, each vehicle shall bear a plainly legible identification mark indicating the specific approved capacity. Each vehicle shall be loaded to at least its water level capacity.

When approved by Concessionaire in writing, Material specified to be measured by the cubic yard may be weighed and such weights converted to cubic yards for payment purposes. Factors for conversion from weight to volume measurement will be determined by Concessionaire and shall be agreed to by Design-Builder before they are used.

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(d) **Measurement by Lump Sum:** When used as an item of payment, the term *lump sum* will mean full payment for completion of work described in the Contract. When a complete structure or structural unit is specified as a Contract Item, the unit of measurement will be lump sum, and shall include all necessary fittings and accessories. The quantities may be shown in the NEXT Contract Documents for items for which lump sum is the method of measurement. If shown, the quantities are approximate and are shown for estimating purposes only and no measurement of quantities will be made for payment. Items that are to be measured as complete units will be counted by Concessionaire in the presence of a representative of Design-Builder.

(e) **Measurement for Specific Materials:**

1. **Concrete (Measured by Volume Measure):** Concrete will be measured and computed by dividing the work into simple geometrical figures and adding their volumes.
2. **Concrete (Measured by Square or Lineal Measure):** Concrete will be measured and computed by dividing the work into simple geometrical figures and adding their areas or measuring linearly along the item's surface.
3. **Excavation, Embankment, and Borrow:** In computing volumes of Excavation, Embankment, and Borrow, methods having general acceptance in the engineering profession will be used. When the measurement is based on the cross-sectional area, the average end area method will be used.
4. **Asphalt:** Asphalt will be measured by the gallon, volumetric measurement, based on a temperature of 60 degrees F using the following correction factors:
 - a. 0.00035 per degree F for petroleum oils having a specific gravity 60/60 degrees F above 0.966
 - b. 0.00040 per degree F for petroleum oils having a specific gravity 60/60 degrees F between 0.850 and 0.966
 - c. 0.00025 per degree F for emulsified asphalt

Unless volume correction tables are available, the following formula shall be used in computing the volume of asphalt at temperatures other than 60 degrees F:

$$V^1 = V_x [1 - K(T - 60)]$$

Where:

V = volume of asphalt to be corrected;

V^1 = volume of asphalt at 60 degrees F;

K = correction factor (coefficient of expansion); and

T = temperature in degrees F of asphalt to be corrected.

When asphalt is delivered by weight, the volume at 60 degrees F will be determined by dividing the net weight by the weight per gallon at 60 degrees F.

Asphalt will be measured by weight. Net certified scale weights, or weights based on certified volumes in the case of rail shipments, will be used as a basis of measurement, subject to correction when asphalt has been lost from the car or the distributor, disposed of, or otherwise not incorporated in the work.

When asphalt is shipped by truck or transport, net certified weights or volumes subjected to correction for loss or foaming may be used to compute quantities.

Only the quantity of asphalt actually placed in the work and accepted will be considered in determining the amount due Design-Builder.

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5. **Timber:** Timber will be measured in units of 1,000 foot-board-measure actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
6. **Equipment rental:** Equipment rental will be measured by time in hours of actual working time and necessary traveling time of the Equipment within the limits of the Project NEXT or source of supply and the Project NEXT except when another method of measurement is specified.

109.02—Plan Quantities (Not Used)

109.03—Scope of Payment (Not Used) Refer to Part 4 (NEXT General Conditions)

109.04—Compensation for Altered Quantities (Not Used) Refer to Part 3 (NEXT Design-Build Contract) - Article 6, Contract Price and Part 4 (NEXT General Conditions) - Article 9, Changes to NEXT Contract Price and Time

109.05—NEXT Contract Price Adjustments

NEXT Contract Price adjustments shall be made in conformance with the requirements of Article 9 of the Part 4 (NEXT General Conditions). In the event the NEXT Contract Price adjustment is to be made under Subparagraphs .3 or .4 of Section 9.4.1, or in the event of claims by Design-Builder under Article 10, then the rates for labor, Equipment, Materials and otherwise will be compensated in the following manner:

- (a) **Labor:** Unless otherwise approved, Design-Builder will receive the rate of wage or scale as set forth in his most recent payroll for each classification of laborers, forepersons, and superintendent(s) who are in direct charge of the specific operation. The time allowed for payment will be the number of hours such workers are actually engaged in the work. If overtime work is authorized, payment will be at the normal overtime rate set forth in Design-Builder's most recent payroll. If workers performing the class of labor needed have not been employed on the Project NEXT, mutually agreed on rates will be established. However, the rates shall be not less than those predetermined for the Project NEXT, if applicable. An amount equal to 45 percent of the approved payroll will be included in the payment for labor to cover administrative costs, profit, and benefits or deductions normally paid by Design-Builder.
- (b) **Insurance and Tax:** Design-Builder will receive an amount equal to 25 percent of the approved payroll exclusive of additives of administrative cost as full compensation for property damage and liability, workers' compensation insurance premiums, unemployment insurance contributions, and social security taxes.
- (c) **Materials:** Design-Builder will receive the actual cost of Materials accepted by Concessionaire that are delivered and used for the work including taxes, transportation, and handling charges paid by Design-Builder, not including labor and Equipment rentals as herein set forth, to which 15 percent of the cost will be added for administration and profit. Design-Builder shall make every reasonable effort to take advantage of trade discounts offered by Material suppliers. Any discount received shall pass through to Concessionaire. Salvageable temporary construction Materials will be retained by Concessionaire or their appropriate salvage value shall be credited, as agreed on by Concessionaire.
- (d) **Equipment:** Design-Builder shall provide Concessionaire a list of all Equipment to be used in the work. For each piece of Equipment, the list shall include the serial number; date of manufacture; location from which Equipment will be transported; and for rental Equipment, the rental rate and name of the company from which it is rented. Design-Builder will be paid rental rates for pieces of machinery, Equipment, and attachments necessary for prosecution of the work that are approved for use by Concessionaire. Equipment rental will be measured by time in hours of actual time engaged in the performance of the work and necessary traveling time of the Equipment within the limits of the Project NEXT or source of supply and the Project NEXT. Hourly rates will not exceed 1/176 of the monthly rates of the schedule shown in the *Rental Rate Blue Book* modified in accordance with the *Rental Rate Blue Book* rate adjustment tables that are current at the time the Extra Work is performed. Equipment rental rates not modified by the adjustment factors or rate modifications indicated in the *Rental Rate Blue Book* will not be considered. Hourly rates for Equipment on standby will be at 50 percent of the rate paid for Equipment performing work. Operating costs shall not be included in the standby rate. For the purposes herein "standby

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time” is defined as the period of time Equipment ordered to the jobsite by Concessionaire is available on-site for the work but is idle for reasons not the fault of Design-Builder or normally associated with the efficient and necessary use of that Equipment in the overall operation of the work at hand.

Payment will be made for the total hours the Equipment is performing work. When Equipment is performing work less than 40 hours for any given week and is on standby, payment for standby time will be allowed for up to 40 hours, minus hours performing work. Payment will not be made for the time that Equipment is on the Project NEXT in excess of 24 hours prior to its actual performance in the work. An amount equal to the *Rental Rate Blue Book* estimated operating cost per hour will be paid for all hours the Equipment is performing work. This operating cost shall be full compensation for fuel, lubricants, repairs, greasing, fueling, oiling, small tools, and other incidentals. No compensation will be paid for the use of machinery or equipment not authorized by Concessionaire.

Design-Builder will be paid freight cost covering the moving of Equipment to and from the specific work operation provided such cost is supported by an invoice showing the actual cost to Design-Builder. However, such payment will be limited to transportation from the nearest source of available equipment. If Equipment is not returned to the nearest equipment storage lot but is moved to another location, the freight cost paid will not exceed the cost of return to the nearest storage lot.

The rates for Equipment not listed in the *Rental Rate Blue Book* schedule shall not exceed the hourly rate being paid for such Equipment by Design-Builder at the time of the performance of the Extra Work. In the absence of such rates, prevailing rates being paid in the area where the authorized work is to be performed shall be used.

If Design-Builder does not possess or have readily available Equipment necessary for performing the Extra Work and such Equipment is rented from a source other than a company that is an Affiliate, payment will be based on actual invoice rates, to which 15 percent of the invoice cost will be added for administrative cost and profit. If the invoice rate does not include the furnishing of fuel, lubricants, repairs, and servicing, the invoice rate will be converted to an hourly rate, and an amount equal to the *Rental Rate Blue Book* estimated operating cost per hour will be added for each hour the Equipment is performing work.

- (e) **Miscellaneous:** No additional allowance will be made for attachments that are common accessories for Equipment as defined in the *Rental Rate Blue Book*, general superintendents, timekeepers, secretaries, the use of small hand-held tools or other costs for which no specific allowance is herein provided. Design-Builder will receive compensation equal to the cost of the bond, special railroad insurance premiums, and other additional costs necessary for the specific work as determined by Concessionaire. Design-Builder shall supply documented evidence of such costs.
- (f) **Compensation:** The compensation as set forth in this Section shall be accepted by Design-Builder as payment in full for work performed on the basis described in this Section 109.05. At the end of each day, Design-Builder’s Representative and the Inspector shall compare and reconcile records of the hours of work and Equipment, labor, and Materials used in such work. Such accounting may not include actual costs or labor rates where these are not available but shall be used to verify quantities, types of Materials or labor, and number and types of Equipment.

If all or a portion of the work is performed by approved Design Consultants, Subcontractors, or Sub-Subcontractors, Design-Builder will be paid ten percent (10%) of the subcontract net costs to cover Design-Builder’s profit and administrative cost. The amount resulting will not be subject to any further additives. The itemized statements of costs as required below shall be submitted on a form that separates the subcontracted portions of the labor, Materials, and Equipment from the other costs.

- (g) **Statements:** Payments will not be made for work performed on the basis described in this Section 109.05 until Design-Builder has furnished Concessionaire duplicate itemized statements of the cost of such work detailed as follows:
 - 1. payroll indicating name, classification, date, daily hours, total hours, rate, and extension of each laborer, foreperson, and Superintendent.

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2. designation, dates, daily hours, total hours, rental rate, and extension for each unit of Equipment.
3. quantities of Materials, prices, and extensions.
4. transportation of Materials.

Statements shall be accompanied and supported by invoices for all Materials used and transportation charges. However, if Materials used are not specifically purchased for such work but are taken from Design-Builder's stock, then in lieu of the invoices, Design-Builder shall furnish an affidavit certifying that such Materials were taken from his stock; that the quantity claimed was actually used; and that the price, transportation, and handling claimed represented his actual cost.

109.06—Common Carrier Rates (Not Used)**109.07—Eliminated Items (Not Used)****109.08—Partial Payments (Not Used)****109.09—Payment for Material on Hand**

When requested in writing by Design-Builder, payment allowances may be made for materials secured for use on the Project NEXT and required to complete the Project NEXT. Such material payments will be made for only those actual quantities of materials identified in the Contract, approved change orders (Work Orders), or otherwise authorized and documented by Concessionaire based on delivery tickets, bills of lading, or paid invoices. All such payments shall be in accordance with the following terms and conditions:

- (a) **(Not Used)**
- (b) **Other Materials:** For steel, precast, aggregate, pipe, guardrail, signs and sign assemblies, and other nonperishable material, an allowance of 100 percent of the cost to Design-Builder for materials may be made when such material is delivered to the Project NEXT and stockpiled or stored in accordance with the requirements specified herein. Prior to the granting of such allowances, the material shall have been tested and found acceptable to Concessionaire. Allowances will be based on invoices, bills, or the estimated value of the material as approved by Concessionaire.
- (c) **Excluded Items:** No allowance will be made for fuels, form lumber, False Work, temporary structures, or other work that will not become an integral part of the finished construction. Additionally, no allowance will be made for perishable material such as cement, seed, plants, or fertilizer.
- (d) **Storage:** Material for which payment allowance is requested shall be stored in an approved manner in areas where damage is not likely to occur. If any of the stored materials are lost or become damaged, Design-Builder shall repair or replace them at no additional cost to Concessionaire. Repair or replacement of such material will not be considered the basis for any extension of NEXT Contract Time. If payment allowance has been made prior to such damage or loss, the amount so allowed or a proportionate part thereof will be deducted from the next progress estimate payment and withheld until satisfactory repairs or replacement has been made.

When it is determined to be impractical to store materials within the limits of the Project NEXT, Concessionaire may approve storage on private property or, for structural units and reinforcing steel, on the manufacturer's or fabricator's yard. Requests for payment allowance for such stored material shall be accompanied by a release from the owner or tenant of such property or yard agreeing to permit the removal of the materials from the property without cost to Concessionaire. Concessionaire must be allowed access to the materials for inspection during normal business hours.

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- (e) **Materials Inventory:** If Design-Builder requests a payment allowance for properly stored Material, he shall submit a certified and itemized inventory statement to Concessionaire no earlier than five days and no later than two days prior to the progress estimate date. The statement shall be submitted on forms furnished by Concessionaire and shall be accompanied by invoices or other documents that will verify the Material’s cost. Following the initial submission, Design-Builder shall submit to Concessionaire a monthly-certified update of the itemized inventory statement within the same time frame. The updated inventory statement shall show additional Materials received and stored with invoices or other documents and shall list Materials removed from storage since the last certified inventory statement, with appropriate cost data reflecting the change in the inventory. If Design-Builder fails to submit the monthly-certified update within the specified time frame, Concessionaire will deduct the full amount of the previous statement from the progress estimate.

At the conclusion of the Project NEXT, the cost of Material remaining in storage for which payment allowance has been made will be deducted from the progress estimate.

109.10—Final Payment (Not Used)

109.11—Exhibits

The following exhibits are made part of, and incorporated into these Division I Amendments to the Standard Specifications.

EXHIBIT 107.15.1 - USE OF DISADVANTAGED BUSINESS ENTERPRISES FOR DESIGN-BUILD PROJECTS

EXHIBIT 107.15.2 - USE OF SMALL, WOMEN-OWNED, AND MINORITY-OWNED BUSINESSES FOR DESIGN-BUILD PROJECTS

**END OF PART 5
DIVISION I AMENDMENTS TO THE STANDARD SPECIFICATIONS**

**VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION
EXHIBIT 107.15.1
USE OF DISADVANTAGED BUSINESS ENTERPRISES
FOR DESIGN-BUILD PROJECTS**

July 28, 2016

A. Disadvantaged Business Enterprise (DBE) Program Requirements

Any Design-Builder, subcontractor, supplier, DBE firm, and contract surety involved in the performance of work on a federal-aid contract shall comply with the terms and conditions of the United States Department of Transportation (USDOT) DBE Program as the terms appear in Part 26 of the Code of Federal Regulations (49 CFR as amended), the USDOT DBE Program regulations; and the Virginia Department of Transportation's (VDOT or the Department) Road and Bridge Specifications and DBE Program rules and regulations.

For the purposes of this provision, Offeror is defined as any individual, partnership, corporation, or Joint Venture that formally submits a Statement of Qualification or Proposal for the work contemplated there under; Design-Builder is defined as any individual, partnership, or Joint Venture that contracts with the Department to perform the Work; and subcontractor is defined as any supplier, manufacturer, or subcontractor performing work or furnishing material, supplies or services to the contract. The Design-Builder shall physically include this same contract provision in every supply or work/service subcontract that it makes or executes with a subcontractor having work for which it intends to claim credit.

In accordance with 49 CFR Part 26 and VDOT's DBE Program requirements, the Design-Builder, for itself and for its subcontractors and suppliers, whether certified DBE firms or not, shall commit to complying fully with the auditing, record keeping, confidentiality, cooperation, and anti-intimidation or retaliation provisions contained in those federal and State DBE Program legal requirements. By submitting a Proposal on this contract, and by accepting and executing this contract, the Design-Builder agrees to assume these contractual obligations and to bind the Design-Builder's subcontractors contractually to the same at the Design-Builder's expense.

The Design-Builder and each subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Design-Builder shall carry out applicable requirements of 49 CFR Part 26 in the award, administration, and performance of this contract. Failure by the Design-Builder to carry out these requirements is a material breach of this contract, which will result in the termination of this contract or other such remedy, as VDOT deems appropriate.

All administrative remedies noted in this provision are automatic unless the Design-Builder exercises the right of appeal within the required timeframe(s) specified herein. Appeal requirements, processes, and procedures shall be in accordance with guidelines stated herein and current at the time of the proceedings. Where applicable, the Department will notify the Design-Builder of any changes to the appeal requirements, processes, and procedures after receiving notification of the Design-Builder's desire to appeal.

All time frames referenced in this provision are expressed in business days unless otherwise indicated. Should the expiration of any deadline fall on a weekend or holiday, such deadline will automatically be extended to the next normal business day.

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B. DBE Certification

The only DBE firms eligible to perform work on a federal-aid contract for DBE contract goal credit are firms certified as Disadvantaged Business Enterprises by the Virginia Department of Small Business and Supplier Diversity (SBSD) or the Metropolitan Washington Airports Authority (MWAA) in accordance with federal and VDOT guidelines. DBE firms must be certified in the specific work listed for DBE contract goal credit. A directory listing of certified DBE firms can be obtained from the Virginia Department of Small Business and Supplier Diversity's website: <http://www.sbsd.virginia.gov>.

C. DBE Program-Related Certifications Made by Offerors/Design-Builders

By submitting a Proposal and by entering into any contract on the basis of that Proposal, the Offeror/Design-Builder certifies to each of the following DBE Program-related conditions and assurances:

1. That the Offeror/Design-Builder agrees to comply with the project construction and administration obligations of the USDOT DBE Program, 49 CFR Part 26 as amended, and the Standard Specifications setting forth the Department's DBE Program requirements.
2. Design-Builder shall comply fully with the DBE Program requirements in the execution and performance of the contract. Design-Builder acknowledges that failure to comply may result in enjoinder from participation in future Department or State procurements and/or other legal sanctions.
3. To ensure that DBE firms have been given full and fair opportunity to participate in the performance of the contract. The Design-Builder certifies that all reasonable steps were, and will be, taken to ensure that DBE firms had, and will have, an opportunity to compete for and perform work on the contract. The Design-Builder further certifies that the Design-Builder shall not discriminate on the basis of race, color, age, national origin, or sex in the performance of the contract or in the award of any subcontract. Any agreement between a Design-Builder and a DBE whereby the DBE promises not to provide quotations for performance of work to other Design-Builders are prohibited.
4. Design-Builder shall make good faith efforts to obtain DBE participation in the proposed contract at or above the goal. The Offeror shall submit a written statement as a part of its Statement of Qualifications and/or Proposal indicating the Offeror's commitment to achieve the minimum requirement related to DBE goal indicated in Request for Qualification (RFQ) and/or Request for Proposal (RFP) for the entire value of the contract. The Offeror, by signing and submitting its Proposal, certifies the DBE participation information that will be submitted within the required time thereafter is true, correct, and complete, and that the information to be provided includes the names of all DBE firms that will participate in the contract, the specific item(s) that each listed DBE firm will perform, and the creditable dollar amounts of the participation of each listed DBE.
5. Offeror further certifies, by signing its Proposal, it has committed to meet the contract goal for DBE participation. Award of the contract will be conditioned upon meeting these and other listed requirements of 49 CFR Part 26.53 and the contract documents. By signing the Proposal, the Offeror certifies that good faith efforts will be made on work that it proposes to sublet; and that it will seek out and consider DBE firms as potential subcontractors and subconsultants. The Design-Builder shall, as a continuing obligation, contact DBE firms to solicit their interest, capability, and prices in sufficient time to allow them to respond effectively, and shall retain on file proper documentation to substantiate its good faith efforts.
6. Design-Builder shall not unilaterally terminate, substitute for, or replace any DBE firm that was designated in the executed contract in whole or in part with another DBE, any non-DBE firm, or with the Design-Builder's own forces or those of an affiliate of the Design-Builder without the prior written consent of Department as set out within the requirements of this Special Provision.

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7. Design-Builder shall designate and make known to the Department a liaison officer who is assigned the responsibility of administering and promoting an active and inclusive DBE program as required by 49 CFR Part 26 for DBE firms. The designation and identity of this officer needs to be submitted only once by the Design-Builder.
8. Design-Builder shall comply fully with all contractual requirements and Legal Requirements of the USDOT DBE Program, and shall cause each DBE firm participating in the contract to fully perform the designated work items with the DBE firm's own forces and equipment under the DBE firm's direct supervision, control, and management. Where a contract exists and where the Design-Builder, DBE firm, or any other firm retained by the Design-Builder has failed to comply with federal or Department DBE Program requirements, Department has the authority and discretion to determine the extent to which the DBE contract regulations have not been met, and will assess against the Design-Builder any remedies available at law or provided in the contract.
9. If a bond surety assumes the completion of work, if for any reason VDOT has terminated the Design-Builder, the surety shall be obligated to meet the same DBE contract terms and requirements as were required of the original Design-Builder in accordance with the requirements of this specification.

D. DBE Program Compliance Procedures

The following procedures shall apply to the contract for DBE Program compliance purposes:

1. **Prequalification of Subcontractors:** All prospective DBE subcontractors shall prequalify with the Department in accordance with the *Rules Governing Prequalification*.
2. **DBE Goal, Good Faith Efforts Specified:** Design-Builder shall evidence attainment of the DBE commitment equal to or greater than the required DBE Goal through submission, to Department, of completed Form C-111, Minimum DBE Requirements; Form C-112, Certification of Binding Agreement; and Form C-48, Subcontractor/Supplier Solicitation and Utilization, as a part of the good faith efforts documentation set forth below:

Design Phase: Thirty (30) days after the Notice to Proceed for Design, the Design-Builder shall submit to Department for review and approval Forms C-111 and C-112 for each DBE firm to be utilized during the design phase to meet the DBE minimum requirement and Form C-48. Failure to submit the required documentation within the specified timeframe shall be cause to deny credit for any work performed by a DBE firm and delay approval of the Design-Builder's monthly payment.

Construction Phase: No later than thirty (30) days prior to the DBE firm undertaking any work, Design-Builder shall submit to Department for review and approval Forms C-111, C-112, and C-48. Failure to submit the required documentation within the specified timeframe shall result in disallowed credit of any work performed prior to approval of Forms C-111 and C-112 and delay approval of monthly payment.

The District Civil Rights Office (DCRO) will monitor good faith effort documentation quarterly to determine progress being made toward meeting the DBE minimum requirement established for the contract.

Forms C-48, C-49, C-111, and C-112 can be obtained from the VDOT website at:

<http://vdotforms.vdot.virginia.gov/>

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- 3. Good Faith Efforts Described:** Department will determine if Design-Builder demonstrated adequate good faith efforts, and if given all relevant circumstances, those efforts were made actively and aggressively to meet the DBE requirements. Efforts to obtain DBE participation are not good faith efforts if they could not reasonably be expected to produce a level of DBE firm participation sufficient to meet the DBE Program requirements and DBE Goal. Good faith efforts may be determined through use of the following list of the types of actions the Design-Builder may make to obtain DBE participation. This is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts of similar intent may be relevant in appropriate cases:
- (a) Soliciting through reasonable and available means, such as but not limited to, attendance at pre-bid meetings, advertising, and written notices to DBE firms who have the capability to perform the work of the contract. Examples include: advertising in at least one daily/weekly/monthly newspaper of general circulation, as applicable; phone contact with a completely documented telephone log, including the date and time called, contact person, or voice mail status; and internet contacts with supporting documentation, including dates advertised. DBE firms shall have no less than five (5) business days to reasonably respond to the solicitation. Design-Builder shall determine with certainty if the DBE firms are interested by taking reasonable steps to follow up initial solicitations as evidenced by documenting such efforts as requested on Form C-49, DBE Good Faith Efforts Documentation.
 - (b) Selecting portions of the work to be performed by DBE firms in order to increase the likelihood that the DBE Goal will be achieved. This includes, where appropriate, breaking out work items into economically feasible units to facilitate DBE firm participation, even when the Design-Builder might otherwise prefer to completely perform all portions of this work in its entirety or use its own forces;
 - (c) Providing interested DBE firms with adequate information about the plans, specifications, and requirements of the contract in a timely manner, which will assist the DBE firms in responding to a solicitation;
 - (d) Negotiating for participation in good faith with interested DBE firms;
 - 1. Evidence of such negotiation shall include the names, addresses, and telephone numbers of DBE firms that were considered; dates DBE firms were contacted; a description of the information provided regarding the plans, specifications, and requirements of the contract for the work selected for subcontracting; and, if insufficient DBE participation seems likely, evidence as to why additional agreements could not be reached for DBE firms to perform the work;
 - 2. Design-Builder should, using good business judgment, consider a number of factors in negotiating with subcontractors/subconsultants, and should take a DBE firm's price, qualifications, and capabilities, as well as contract goals, into consideration. However, the fact that there may be some additional costs involved in finding and using DBE firms is not sufficient reason for a Design-Builder's failure to meet the DBE goal as long as such costs are reasonable and comparable to costs customarily appropriate to the type of work under consideration. Also, the ability or desire of a Design-Builder to perform the work with its own organization does not relieve the Design-Builder of the responsibility to make diligent good faith efforts. Design-Builders are not, however, required to accept higher quotes from DBE firms if the price difference can be shown by the Design-Builder to be excessive, unreasonable, or greater than would normally be expected by industry standards;
 - (e) A Design-Builder cannot reject a DBE firm as being unqualified without sound reasons based on a thorough investigation of the DBE firm's capabilities. The DBE firm's standing within its industry, membership in specific groups, organizations, associations, and political or social

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- affiliations, and union vs. non-union employee status are not legitimate causes for the rejection or non-solicitation of bids in the Design-Builder's efforts to meet the contract goal for DBE participation;
- (f) Making efforts to assist interested DBE firms in obtaining bonding, lines of credit, or insurance as required by Department or by Design-Builder;
 - (g) Making efforts to assist interested DBE firms in obtaining necessary equipment, supplies, materials, or related assistance or services subject to the restrictions contained in this Special Provision;
 - (h) Effectively using the services of appropriate personnel from VDOT and from SBSD; available minority/women community or minority organizations; contractors' groups; local, state, and Federal minority/ women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and utilization of qualified DBEs.

E. Documentation and Administrative Reconsideration of Good Faith Efforts

Design-Builder must provide Form C-49, DBE Good Faith Efforts Documentation, of its efforts made to meet the DBE goal within the time frames specified in this provision. The means of transmittal and the risk for timely receipt of this information shall be the responsibility of the Design-Builder. Design-Builder shall attach additional pages to the certification, if necessary, in order to fully detail specific good faith efforts made to obtain the DBE firm's participation in the proposed work.

However, Design-Builder shall timely submit its completed and executed forms C-111, C-112, C-48, and C-49, as aforementioned. Failure to submit the required documentation within the specified time frames shall be cause to disallow DBE goal credit and delay approval of the Design-Builder's monthly payment.

During the Contract: If a DBE, through no fault of the Design-Builder, is unable or unwilling to fulfill his agreement with the Design-Builder, the Design-Builder shall immediately notify the Department and provide all relevant facts. If a Design-Builder relieves a DBE subcontractor of the responsibility to perform work under their subcontract, the Design-Builder is encouraged to take the appropriate steps to obtain another DBE firm to perform the remaining subcontracted work for the amount that would have been paid to the original DBE firm. In such instances, Design-Builder is expected to seek DBE participation towards meeting the goal during the performance of the contract.

If at any point during the execution and performance of the contract it becomes evident that the remaining dollar value of allowable DBE goal credit for performing the subcontracted work is insufficient to obtain the DBE contract goal, and the Design-Builder has not taken the preceding actions, the Design-Builder and any aforementioned affiliates may be subject to disallowance of DBE credit until such time as sufficient progress toward achievement of the DBE goal is achieved or evidenced.

Project Completion: If, at final completion, the Design-Builder fails to meet the DBE goal, and fails to adequately document that it made good faith efforts to achieve sufficient DBE goal, then Design-Builder and any prime contractual affiliates, as in the case of a joint venture, may be enjoined from bidding, responding, or participating on Department projects for a period of ninety (90) days and be removed from Department's prequalification list.

Prior to such enjoinder or removal, Design-Builder may submit documentation to the State Construction Engineer or other designee of Department to substantiate that failure was due solely to quantitative underrun(s), elimination of items subcontracted to DBEs, or to circumstances beyond Design-Builder's control and that all feasible means had been used to achieve the DBE goal. The State Construction Engineer, or such other designee, upon verification of such documentation shall determine whether Design-Builder has met the requirements of the contract.

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If it is determined that the aforementioned documentation is insufficient or the failure to meet required participation is due to other reasons, the Design-Builder may request an appearance before the Department's Administrative Reconsideration Panel to establish that all feasible means were used to meet such participation requirements. The Administrative Reconsideration Panel will be made up of Department Division Administrators or their designees, none of who took part in the initial determination that the Design-Builder failed to make the DBE goal or make adequate good faith efforts to do so. After reconsideration, Department shall notify the Design-Builder in writing of its decision and explain the basis for finding that the Design-Builder did or did not meet the DBE goal or make adequate good faith efforts to do so. The decision of the Administrative Reconsideration Panel shall be administratively final. If the decision is made to enjoin the Design-Builder from bidding or participating on other Department work as described herein, the enjoinderment period will begin upon Design-Builder's failure to request a hearing within the designated time frame or upon the Administrative Reconsideration Panel's decision to enjoin, as applicable.

F. DBE Participation for Contract Goal Credit

DBE participation on the contract will count toward meeting the DBE contract goal in accordance with the following criteria:

1. The applicable percentage of the total dollar value of the contract or subcontract awarded to the DBE firm will be counted toward meeting the DBE goal in accordance with the **DBE Program-Related Certifications Made by Offerors/Design-Builder's** section of this Special Provision for the value of the work, goods, or services that are actually performed or provided by the DBE firm itself or subcontracted by the DBE to other DBE firms.
2. When a DBE performs work as a participant in a joint venture with a non-DBE firm, the Design-Builder may count toward the DBE goal only that portion of the total dollar value of the subcontract equal to the distinctly defined portion of the work that the DBE firm has performed with the DBE firm's own forces or in accordance with the provisions of this Section. The Department shall be contacted in advance regarding any joint venture involving both a DBE firm and a non-DBE firm to coordinate Department review and approval of the joint venture's organizational structure and proposed operation where the Design-Builder seeks to claim the goal credit.
3. When a DBE firm subcontracts part of the work to another firm, the value of that subcontracted work may be counted toward the DBE contract goal only if the DBE firm's subcontractor is a DBE firm. Work that a DBE firm subcontracts to a non-DBE firm, or to a firm that may be eligible to be a DBE firm, but has not yet been certified as a DBE firm, will not count toward the DBE. The cost of supplies and equipment a DBE subcontractor purchases or leases from the Design-Builder or prime contractual affiliates, as in the case of a joint venture, will not count toward the DBE goal.
4. The Design-Builder may count expenditures to a DBE subcontractor toward the DBE goal only if the DBE performs a Commercially Useful Function (CUF) on that subcontract, as such term is defined in subparagraph H below.
5. A Design-Builder may not count the participation of a DBE subcontractor toward the DBE goal until the amount being counted has actually been paid to the DBE firm. Design-Builder may count sixty (60) percent of its expenditures actually paid for materials and supplies obtained from a DBE certified as a regular dealer, and one hundred (100) percent of such expenditures actually paid for materials and supplies obtained from a regular dealer of the goods or a manufacturer DBE firm.
 - (a) For the purposes of this Special Provision, a "regular dealer" is defined as a firm or person that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles, or equipment required and used under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a regular dealer,

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the DBE firm or person shall be an established business that regularly engages, as its principal business and under its own name, in the purchase and sale or lease of the products or equipment in question. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions will not be considered regular dealers.

- (b) A DBE firm or person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business where it keeps such items in stock if the DBE firm both owns and operates distribution equipment for the products it sells and provides for the work, provided further that the DBE firm or person has been certified with an appropriate North American Industry Classification System (NAICS) code for supply of such bulk items. Any supplementation of a regular dealer's own distribution equipment shall be by a long-term lease agreement and not on an *ad hoc* or contract-by-contract basis to be eligible for credit to meet the DBE goal credit.
- (c) If a DBE regular dealer is used for DBE goal credit, no additional credit will be given for hauling or delivery to the project site goods or materials sold by that DBE regular dealer. Those delivery costs shall be deemed included in the price charged for the goods or materials by the DBE regular dealer, which shall be responsible for distribution of the goods or materials.
- (d) For the purposes of this Special Provision, a manufacturer will be defined as a firm that operates or maintains a factory or establishment that produces on the premises the materials, supplies, articles, or equipment required under the contract and of the general character described by the project specifications. A manufacturer shall include firms that produce finished goods or products from raw or unfinished material, or purchase and substantially alter goods and materials to make them suitable for construction use before reselling them.
- (e) A Design-Builder may count toward the DBE goal the following expenditures to DBE firms that are not regular dealers or manufacturers for DBE program purposes:
 - 1. The entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant or managerial services, or for providing bonds or insurance specifically required for the performance of the federal-aid contract, if the fee is reasonable and not excessive or greater than would normally be expected by industry standards for the same or similar services.
 - 2. The entire amount of that portion of the contract that is performed by the DBE firm's own forces and equipment under the DBE firm's supervision. This includes the cost of supplies and materials ordered and paid for by the DBE firm for work, including supplies purchased or equipment leased by the DBE firm, except Design-Builder supplies and equipment a DBE subcontractor purchases or leases from the Design-Builder or its affiliates.
- (f) Design-Builder may count toward the DBE goal one hundred (100) percent of the fees paid to a DBE trucker or hauler for the delivery of material and supplies required on the project job site, but not for the cost of those materials or supplies themselves, provided that the trucking or hauling fee is determined by Department to be reasonable, as compared with fees customarily charged by non-DBE firms for similar services. Design-Builder shall not count costs for the removal or relocation of excess material from or on the job site when the DBE trucking company is the manufacturer of or a regular dealer in those materials and supplies. The DBE trucking firm shall also perform a CUF on the project and not operate merely as a pass through for the purposes of gaining DBE goal credit. Prior to entering into a trucking subcontract, Design-Builder shall determine, or contact the Department Civil Rights Division or its district offices for assistance in determining, whether a DBE trucking firm will meet the criteria for performing a CUF on the project. See section on **Miscellaneous DBE Program Requirements; Factors used to Determine if a DBE Trucking Firm is Performing a CUF**.

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- (g) Design-Builder will receive DBE goal credit for the fees or commissions charged by and paid to a DBE broker who arranges or expedites sales, leases, or other work arrangements provided that those fees are determined by Department to be reasonable and not excessive as compared with fees customarily charged by non-DBE firms for similar services. For the purposes of this Special Provision, a broker is defined as a person or firm that regularly engages in arranging for delivery of material, supplies, and equipment, or regularly arranges for the providing of project services as a course of routine business, but does not own or operate the delivery equipment necessary to transport materials, supplies or equipment to or from a job site.

G. Performing a Commercially Useful Function (CUF)

No credit toward the DBE goal will be allowed for payments or reimbursement of expenditures to a DBE firm if that DBE firm does not perform a CUF on that contract. A DBE firm performs a CUF when the DBE is solely responsible for execution of a distinct element of the work and the DBE firm actually performs, manages, and supervises such work with the DBE firm's own forces or in accordance with the provisions of the **DBE Participation for Contract Goal Credit** section of this Special Provision. To perform a CUF the DBE firm alone shall be responsible and bear the risk for the material and supplies used on the contract, selecting a supplier or dealer from those available, negotiating price, determining quality and quantity, ordering the material and supplies, installing those materials with the DBE firm's own forces and equipment, and paying for those materials and supplies. The amount the DBE firm is to be paid under the subcontract shall be commensurate with the work the DBE actually performs and the DBE goal credit claimed for the DBE firm's performance.

Monitoring CUF Performance: It shall be the Design-Builder's responsibility to confirm that all DBE firms selected for subcontract work on the contract, for which he seeks to claim credit toward the DBE goal, perform a CUF. Further, the Design-Builder is responsible for and shall confirm that each DBE firm fully performs the DBE firm's designated tasks in accordance with the provisions of the **DBE**

Participation for Contract Goal Credit section of this Special Provision. For the purposes of this Special Provision the DBE firm's equipment will mean either equipment directly owned by the DBE as evidenced by title, bill of sale or other such documentation, or leased by the DBE firm, and over which the DBE has control as evidenced by the leasing agreement from a firm not owned in whole or part by the Design-Builder or an affiliate of the Design-Builder.

Department will monitor Design-Builder's DBE involvement during the performance of the contract. However, Department is under no obligation to warn the Design-Builder that a DBE firm's participation will not count toward the goal.

DBE Firms Must Perform a Useful and Necessary Role in Contract Completion: A DBE firm does not perform a CUF if the DBE firm's role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE firm participation.

DBE Firms Must Perform The Contract Work With Their Own Workforces: If a DBE firm does not perform and exercise responsibility for at least thirty (30) percent of the total cost of the DBE firm's contract with the DBE firm's own work force, or the DBE firm subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involve, Department will presume that the DBE firm is not performing a CUF and such participation will not be counted toward the DBE goal.

Department Makes Final Determination On Whether a CUF Is Performed: Department has the final authority to determine, in its sole discretion, whether a DBE firm has performed a CUF on the contract. To determine whether a DBE is performing or has performed a CUF, Department will evaluate the amount of work subcontracted by that DBE firm or performed by other firms and the extent of the involvement of other firms' forces and equipment. Any DBE work performed by the Design-Builder or by employees or equipment of the Design-Builder shall be subject to disallowance under the DBE

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Program, unless the independent validity and need for such an arrangement and work is demonstrated. When a DBE firm is presumed not to be performing a commercially useful function the DBE may present evidence to rebut the Department's finding. Department has the final authority to determine, in its sole discretion, whether a DBE firm has performed a CUF on the contract.

H. Verification of DBE Participation and Imposed Damages

Within fourteen (14) days after subcontract execution between Design-Builder and DBE subcontractors (or subcontract execution between DBE subcontractors and DBE subcontractors), Design-Builder shall submit to the DCRO, a copy of the fully executed subcontract agreement for each DBE firm used to claim credit in accordance with the requirements stated on Form C-111. The subcontract shall be executed by both parties stating the work to be performed, the details or specifics concerning such work, and the price which will be paid to the DBE subcontractor. Because of the commercial damage that the Design-Builder and its DBE subcontractor could suffer if their subcontract pricing, terms, and conditions were known to competitors, the Department staff will treat subcontract agreements as proprietary Design-Builder trade secrets with regard to Freedom of Information Act requests. In lieu of subcontracts, purchase orders may be submitted for haulers, suppliers, and manufacturers. These too, will be treated confidentially and protected. Such purchase orders must contain, as a minimum, the following information: authorized signatures of both parties; description of the scope of work to include contract item numbers, quantities, and prices; and required federal contract provisions.

The Design-Builder shall also furnish, and shall require each subcontractor to furnish, information relative to all DBE involvement on the project for each quarter during the life of the contract in which participation occurs and verification is available. The information shall be indicated on Form C-63, DBE and SWAM Payment Compliance Report. The Department reserves the right to request proof of payment via copies of cancelled checks with appropriate identifying notations. Failure to provide Form C-63 to the DCRO within five (5) business days after the reporting period may result in delay of approval of the Design-Builder's monthly payment. The names and certification numbers of DBE firms provided by the Design-Builder on the various forms indicated in this Special Provision shall be exactly as shown on SBSB's latest list of certified DBEs. Signatures on all forms indicated herein shall be those of authorized representatives of the Design-Builder as shown on the Prequalification Application, Form C-32 or the Prequalification/Certification Renewal Application, Form C-32A, or authorized by letter from the Design-Builder. If DBE firms are used which have not been previously documented with the Design-Builder's minimum DBE requirements documentation and for which the Design-Builder now desires to claim credit toward the contract goal, the Design-Builder shall be responsible for submitting necessary documentation in accordance with the procedures stipulated in this Special Provision to cover such work prior to the DBE firm beginning work. Form C-63 can be obtained from the VDOT website at: <http://vdotforms.vdot.virginia.gov/>

Design-Builder shall submit to the Department's Project Manager with a copy to the DCRO, a narrative with each project schedule submission, as required in the Special Provision for Design-Build Project Schedule (Part 3, Exhibit 11.1). The project schedule narrative shall include a log of applicable DBE participation activities in the Design-Builder's project schedule for which the Design-Builder intends to claim credit for attaining the DBE goal required in the contract. The log shall include the proposed start/finish dates, durations, and dollar values of the DBE participation activities. Narratives or other agreeable format of schedule information requirements and subsequent progress determination shall be based on the commitment information shown on the latest Form C-111 as compared with the appropriate Form C-63.

Prior to beginning any major component of the work to be performed by a DBE firm not previously submitted, Design-Builder shall furnish a revised Form C-111 showing the name(s) and certification number(s) of any such DBEs for which Design-Builder seeks DBE goal credit. Design-Builder shall obtain the prior approval of the Department for any assistance it may provide to the DBE firm beyond its existing resources in executing its commitment to perform the work in accordance with the requirements listed in the **Good Faith Efforts Described** section of this Special Provision. If Design-

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Builder is aware of any assistance beyond a DBE firm's existing resources that Design-Builder, or another subcontractor, may be contemplating or may deem necessary and that have not been previously approved, Design-Builder shall submit a new or revised narrative statement for Department's approval prior to assistance being rendered.

If the Design-Builder fails to correctly complete and any of the required documentation requested by this Special Provision within the specified time frames, the Department will withhold payment until such time as the required submissions are received by Department. Where such failures to provide required submittals or documentation are repeated, Department will move to enjoin the Design-Builder and any prime contractual affiliates, as in the case of a joint venture, from bidding, responding or participating Department projects until such submissions are received.

I. Documentation Required for Semi-final Payment

Design-Builder must submit Form C-63 to the DCRO sixty (60) days prior to date of final completion, set forth on the Baseline Schedule (as updated from time to time in accordance with the contract). The form must include each DBE firm used on the contract and the work performed by each DBE firm. The form shall include the actual dollar amount paid to each DBE firm for the accepted creditable work. The form shall be certified under penalty of perjury, or other applicable legal requirements, to be accurate and complete. Department will use this certification and other information available to determine applicable DBE credit allowed to date by Department and the extent to which the DBE firms were fully paid for that work. The Design-Builder acknowledges by the act of filing the form that the information is supplied to obtain payment regarding the contract as a federal participation contract. A letter of certification, signed by both the Design-Builder and appropriate DBE firms, will accompany the form, indicating the amount, including any retainage, if present, that remains to be paid to the DBE firm(s).

J. Documentation Required for Final Payment

In anticipation of final payment, Design-Builder shall submit a final Form C-63 marked "Final" to the DCRO, within thirty (30) days of the anticipated date of final completion, as set forth on the Baseline Schedule (as updated from time to time in accordance with the contract). The form must include each DBE firm used on the contract and the work performed by each DBE firm. The form shall include the actual dollar amount paid to each DBE firm for the creditable work. Department will use this form and other information available to determine if Design-Builder and DBE firms have satisfied the DBE goal and the extent to which credit was allowed. Design-Builder acknowledges by the act of signing and filing the form that the information is supplied to obtain payment regarding the contract as a federal participation contract.

K. Prompt Payment Requirements

Design-Builder shall make prompt and full payment to the subcontractor(s) (including DBE subcontractors) of any retainage held by Design-Builder after the subcontractor's work is satisfactorily completed.

For purposes of this Special Provision, a subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished, documented, and accepted as required by the contract documents by Department. If Department has made partial acceptance of a portion of the contract, then Department will consider the work of any subcontractor covered by that partial acceptance to be satisfactorily completed. Payment will be made in accordance with the requirements of Section 107.01, Section 109.08, and Section 109.09 of the Division I Amendments to the Standard Specifications (Part 5).

Upon Department's payment of the subcontractor's portion of the work as shown on the application for payment and the receipt of payment by Design-Builder for such work, the Design-Builder shall make compensation in full to the subcontractor for that portion of the work satisfactorily completed and

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accepted by the Department. For the purposes of this Special Provision, payment of the subcontractor's portion of the work shall mean the Design-Builder has issued payment in full, less agreed upon retainage, if any, to the subcontractor for that portion of the subcontractor's work that Department paid to Design-Builder pursuant to the applicable application for payment.

Design-Builder shall make payment of the subcontractor's portion of the work within seven (7) days of the receipt of payment from Department in accordance with the requirements of Section 107.01, Section 109.08, and Section 109.09 of the Division I Amendments to the Standard Specifications (Part 5).

If Design-Builder fails to make payment for the subcontractor's portion of the work within the time frame specified herein, the subcontractor shall notify the Department and the Design-Builder's bonding company in writing. Upon written notice from the subcontractor, the Design-Builder's bonding company and Department will investigate the cause for non-payment. Barring mitigating circumstances that would make the subcontractor ineligible for payment, the Design-Builder's bonding company shall be responsible for insuring payment to the subcontractor in accordance with the requirements of Section 107.01, Section 109.08, and Section 109.09 of the Division I Amendments to the Standard Specifications (Part 5).

By accepting and executing this contract, the Design-Builder agrees to assume these obligations, and to bind the Design-Builder's subcontractors contractually to these obligations.

Nothing contained herein shall preclude Design-Builder from withholding payment to the subcontractor in accordance with the terms of the subcontract in order to protect the Design-Builder from loss or cost of damage due to a breach of the subcontract by the subcontractor.

L. Miscellaneous DBE Program Requirements

Loss of DBE Eligibility: When a DBE firm has been removed from eligibility as a certified DBE firm, the following actions will be taken:

1. When a Design-Builder has made a commitment to use a DBE firm that is not currently certified, thereby making the Design-Builder ineligible to receive DBE goal credit for work performed, the ineligible DBE firm's work does not count toward the DBE goal. Design-Builder shall meet the DBE goal with a DBE firm that is eligible to receive DBE credit for work performed, or must demonstrate to the DCRO that it has made good faith efforts to do so.
2. When a Design-Builder has executed a subcontract with a DBE firm prior to official notification of the DBE firm's loss of eligibility, Design-Builder may continue to use the firm on the contract and shall continue to receive DBE credit toward DBE goal for the subcontractor's work.
3. When Department has executed a prime contract with a DBE firm that is certified at the time of contract execution but that is later ruled ineligible, the portion of the ineligible firm's performance on the contract before VDOT has issued the notice of its ineligibility shall count toward the contract goal.

Termination of DBE: If a DBE subcontractor is terminated, or fails, refuses, or is unable to complete the work on the contract for any reason, Design-Builder must promptly request approval to substitute or replace that DBE firm in accordance with this section of this Special Provision.

Design-Builder, shall notify DCRO in writing before terminating and/or replacing the DBE firm that is being used or represented to fulfill DBE-related contract obligations during the term of the contract. Written consent from the DCRO for terminating the performance of any DBE firm shall be granted only when the Design-Builder can demonstrate that the DBE firm is unable, unwilling, or ineligible to perform its obligations for which the Design-Builder sought credit toward the DBE goal. Such written consent by the Department to terminate any DBE shall concurrently constitute written consent to substitute or replace the terminated DBE with another DBE. Consent to terminate a DBE firm shall not be based on the Design-Builder's ability to negotiate a more advantageous contract with another

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subcontractor whether that subcontractor is, or is not, a DBE firm.

1. All Design-Builder requests to terminate, substitute, or replace a DBE firm shall be in writing, and shall include the following information:
 - (a) The date the Design-Builder determined the DBE to be unwilling, unable, or ineligible to perform.
 - (b) The projected date that the Design-Builder shall require a substitution or replacement DBE to commence work if consent is granted to the request.
 - (c) A brief statement of facts describing and citing specific actions or inaction by the DBE firm giving rise to Design-Builder's assertion that the DBE firm is unwilling, unable, or ineligible to perform;
 - (d) A brief statement of the DBE firm's capacity and ability to perform the work as determined by the Design-Builder;
 - (e) A brief statement of facts regarding actions taken by the Design-Builder, that Design-Builder believes constitute good faith efforts toward enabling the DBE firm to perform;
 - (f) The current percentage of work completed by the DBE firm;
 - (g) The total dollar amount currently paid for work performed by the DBE firm;
 - (h) The total dollar amount remaining to be paid to the DBE firm for work completed, but for which the DBE firm has not received payment, and with which the Design-Builder has no dispute;
 - (i) The total dollar amount remaining to be paid to the DBE firm for work completed, but for which the DBE firm has not received payment, and over which the Design-Builder and/or the DBE firm have a dispute.
2. Design-Builder's Written Notice to DBE of Pending Request to Terminate and Substitute with another DBE.

Design-Builder shall send a copy of the "request to terminate and substitute" letter to the affected DBE firm and make best efforts to ensure its receipt by the DBE firm, in conjunction with submitting the request to the DCRO. The DBE firm may submit a response letter to the DCRO and Department within two (2) business days of receiving the notice to terminate from the Design-Builder. If the DBE firm submits a response letter, then Design-Builder shall, as part of its subcontract, obligate the DBE firm to explain its position concerning performance on the committed work. The Department will consider both the Design-Builder's request and the DBE firm's response and explanation before approving the Design-Builder's termination and substitution request.

If, after making its best efforts to deliver a copy of the "request to terminate and substitute" letter, the Design-Builder is unsuccessful in notifying the affected DBE firm, the Department will verify that the DBE firm is unable or unwilling to continue performing its subcontract let with respect to the contract. Department will timely approve the Design-Builder's request for a substitution.

3. Proposed Substitution of Another Certified DBE

Upon termination of a DBE firm, Design-Builder shall use reasonable good faith efforts to replace the terminated DBE firm. The termination of such DBE firm shall not relieve Design-Builder of

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its obligations under this Special Provision, and the unpaid portion of the terminated DBE firm's subcontract will not be counted toward the DBE goal.

When a DBE substitution is necessary, the Design-Builder shall submit an amended Form C-111 to the DCRO for approval with the name of another DBE firm, the proposed work to be performed by that DBE firm, and the dollar amount of the work to replace the unfulfilled portion of the work of the original DBE firm.

Should Design-Builder be unable to commit the remaining required dollar value to the substitute DBE firm, the Design-Builder shall provide written evidence of good faith efforts made to obtain the substitute value requirement. Department will review the quality, thoroughness, and intensity of those efforts. Efforts that are viewed by Department as merely superficial or pro-forma will not be considered good faith efforts to meet the DBE goal. Design-Builder must document the steps taken that demonstrated its good faith efforts to obtain participation as set forth in the **Good Faith Efforts Described** section of this Special Provision.

Factors Used to determine if a DBE Trucking Firm is performing a CUF:

The following factors will be used to determine whether a DBE trucking company is performing a CUF:

1. To perform a CUF, the DBE trucking firm shall be completely responsible for the management and supervision of the entire trucking operation for which the DBE trucking firm is responsible by subcontract under the contract. There shall not be a contrived arrangement, including, but not limited to, any arrangement that would not customarily and legally exist under customary construction project subcontracting practices for the purpose of meeting the DBE goal;
2. The DBE firm must own and operate at least one fully licensed, insured, and operational truck used in the performance of the contract work. This does not include a supervisor's pickup truck or a similar vehicle that is not suitable for and customarily used in hauling the subject materials or supplies;
3. Design-Builder is eligible to receives full credit toward the DBE goal for the total reasonable amount the DBE firm is paid for the transportation services provided on the subcontract under the contract using acceptable trucks the DBE firm owns, insures, and operates using drivers that the DBE employs and manages;
4. The DBE trucking firm may lease trucks from another DBE firm, including from an owner-operator who is a DBE firm. Design-Builder is eligible to receive credit for the total fair market value actually paid for transportation services the lessee DBE firm provides to the DBE firm that leases trucks from such lessee DBE firm on the contract;
5. The DBE firm may also lease trucks from a non-DBE firm, including an owner-operator. Design-Builder may be eligible to receive DBE goal credit for the services of a DBE firm who leases trucks from a non-DBE firm up to the total value of the transportation services provided by non-DBE lessees, *not to exceed the value of transportation services provided by DBE-owned trucks on the contract*. For additional participation by non-DBE lessees, the DBE will only receive credit for the fee or commission it receives as a result of the lease arrangement.

Truck Counting

Design-Builders may count for credit against the DBE goal the dollar volume attributable to no more than twice the number of trucks owned by a DBE firm or leased from another DBE firm.

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As an example, DBE credit would be awarded for the total transportation services provided by DBE Firm X and DBE Firm Y, and may also be awarded for the total value of transportation services by four (4) of the six (6) trucks provided by non-DBE Firm Z (not to exceed the value of transportation services provided by DBE-owned trucks).

Value of Transportation Services
(For Illustrative Purposes Only)

Firm X

Truck 1	Owned by DBE	\$100 per day
Truck 2	Owned by DBE	\$100 per day

Firm Y

Truck 3	Leased from DBE	\$110 per day
Truck 4	Leased from DBE	\$110 per day

Firm Z

Truck 1	Leased from Non-DBE	\$125 per day
Truck 2	Leased from Non-DBE	\$125 per day
Truck 3	Leased from Non-DBE	\$125 per day
Truck 4	Leased from Non-DBE	\$125 per day
Truck 5	Leased from Non-DBE*	\$125 per day
Truck 6	Leased from Non-DBE*	\$125 per day

DBE credit would be awarded for the total transportation services provided by DBE firm X and DBE Firm Y, and may also be awarded for the total value of transportation services by four (4) of the six (6) trucks provided by non-DBE Firm Z (not to exceed the value of transportation services provided by DBE-owned trucks).

Credit = 8 Trucks

Total Value of Transportation Services = \$820,000

In all, full DBE credit would be allowed for the participation of eight (8) trucks (twice the number of DBE trucks owned and leased) and the dollar value attributable to the Value of Transportation Services provided by the 8 trucks.

* With respect to the other two trucks provided by non-DBE Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks that DBE Firm X receives as a result of the lease with non-DBE Firm Z.

- For purposes of this section, the lease must indicate that the DBE firm leasing the truck has exclusive use of and control over the truck. This will not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, provided the lease gives the DBE absolute priority for and control over the use of the leased truck. Leased trucks must display the name and identification number of the DBE firm that has leased the truck at all times during the life of the lease.

M. Suspect Evidence of Criminal Behavior

Failure of Design-Builder or any subcontractor to comply with the Standard Specifications, this Special Provision, or any other contract document wherein there appears to be evidence of criminal conduct shall be referred to the Attorney General for the Commonwealth of Virginia and/or the FHWA Inspector General for criminal investigation and, if warranted prosecution.

Suspected DBE Fraud

In appropriate cases, Department will bring to the attention of the United States Department of Transportation any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps, e.g., referral to the Department of Justice for criminal prosecution, referral to the USDOT Inspector General, action under suspension and debarment or “Program Fraud and Civil Penalties” rules provided in 49 CFR Part 31.

**VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION**

EXHIBIT 107.15.2

**USE OF SMALL, WOMEN-OWNED, AND MINORITY-OWNED
BUSINESSES (SWaM) FOR DESIGN-BUILD PROJECTS**

November 19, 2018

It is the policy of the Department that Small, Women-Owned, and Minority-Owned (SWaM) Businesses shall have the maximum opportunity to participate in the performance of VDOT contracts. The Design-Builder is encouraged to take necessary and reasonable steps to ensure that SWaM firms have the maximum opportunity to compete for and perform work on the Contract, including participation in any subsequent subcontracts.

A SWaM firm shall mean a small business concern (as defined pursuant to the Code of Virginia, Title 2.2 - 1401) for the purpose of reporting small, women-owned, and minority-owned business participation in VDOT contracts and purchases pursuant to §§ 2.2-1404 and 2.2-1405. To that end the following terms shall apply:

Small business means an independently owned and operated business which, together with affiliates, has 250 or fewer employees, or average annual gross receipts of \$10 million or less.

Women-owned business means a business concern that is at least 51 percent owned by one or more women who are U.S. citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51 percent of the equity ownership interest is owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with the United States immigration law, and both the management and daily business operations are controlled by one or more women who are U.S. citizens or legal resident aliens.

Minority-owned business means a business concern that is at least 51 percent owned by one or more minority individuals or in the case of a corporation, partnership, or limited liability company or other entity, at least 51 percent of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals.

Minority individual means an individual who is a citizen of the United States or a non-citizen who is in full compliance with United States immigration law and who satisfies one or more of the following definitions:

1. African American means a person having origins in any of the original peoples of Africa and who is regarded as such by the community of which this person claims to be a part.
2. Asian American means a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands, including but not limited to Japan, China, Vietnam, Samoa, Laos, Cambodia, Taiwan, Northern Mariana, the Philippines, a U.S. territory of the Pacific, India, Pakistan, Bangladesh, or Sri Lanka and who is regarded as such by the community of which this person claims to be a part.
3. Hispanic American means a person having origins in any of the Spanish-speaking peoples of Mexico, South or Central America, or the Caribbean Islands or other Spanish or Portuguese cultures and who is regarded as such by the community of which this person claims to be a part.

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4. Native American means a person having origins in any of the original peoples of North America and who is regarded as such by the community of which this person claims to be a part or who is recognized by a tribal organization.
5. a member of another group, or other individual, found to be economically and socially disadvantaged by the Small Business Administration under 8(a) of the Small Business Act as amended (15 U.S.C. 637[a]).

State agency means any authority, board, department, instrumentality, institution, agency, or other unit of state government. "State agency" shall not include any county, city, or town.

A list of Virginia Department Small Business and Supplier Diversity (SBSD) certified SWaM firms is maintained on the SBSD web site (<http://www.sbsd.virginia.gov>) under the **SWaM Vendor Directory** link.

SWaM certification entitles firms to participate in <https://www.sba.gov/>; however, this certification does not guarantee that the firm will obtain work nor does it attest to the firm's abilities to perform any particular work.

The Design-Builder shall designate and make known to the Department a liaison officer who is assigned the responsibility of actively and effectively administering, encouraging and promoting a responsive program for the use of SWaM firms.

The performance of the Contract for the purpose of this specification shall be interpreted to include, but not necessarily be limited to, subcontracting; furnishing materials, supplies, and services; and, leasing equipment or where applicable, any combination thereof.

If the Design-Builder intends to sublet a portion of the work on the project in accordance with the provisions of Section 105.06 of the Division I Amendments (Part 5), the Design-Builder is encouraged to seek out and consider SWaM firms as potential subcontractors. The Design-Builder is encouraged to contact SWaM firms to solicit their interest, capability, and prices and shall retain on file the proper documentation to substantiate such contacts.

The Design-Builder shall report SWaM sub-Design-Builder and vendor payments in accordance with the Special Provision for **Division I Amendments (Part 5), Section 105.06–Subcontracting**.

If any subcontractor is relieved of the responsibility to perform work under their subcontract, the Design-Builder is encouraged to take the appropriate steps to obtain a SWaM subcontractor to perform an equal or greater dollar value of the remaining subcontracted work. The substitute subcontractor's name, description of the work, and dollar value of the work shall be submitted to the Department on Form C-31 prior to such subcontractor beginning the work.