

**ATTACHMENT 3.4****COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION**

RFP NO. C00109486DB99  
 PROJECT NO.: PR15-076-236, P101, R201, C501

**ACKNOWLEDGEMENT OF RFP, REVISION AND/OR ADDENDA**

Acknowledgement shall be made of receipt of the Request for Proposals (RFP) and/or any and all revisions and/or addenda pertaining to the above designated project which are issued by the Department prior to the Letter of Submittal submission date shown herein. Failure to include this acknowledgement in the Letter of Submittal may result in the rejection of your proposal.

By signing this Attachment 3.4, the Offeror acknowledges receipt of the RFP and/or following revisions and/or addenda to the RFP for the above designated project which were issued under cover letter(s) of the date(s) shown hereon:

1. Cover letter of RFP – July 7, 2017  
(Date)
2. Cover letter of RFP Addendum No. 1 – August 8, 2017  
(Date)
3. Cover letter of RFP Addendum No. 2 – August 17, 2017  
(Date)

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 SIGNATURE

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 DATE

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 PRINTED NAME

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 TITLE

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## **PART 2**

### **TECHNICAL INFORMATION & REQUIREMENTS**

#### **1.0 DESIGN-BUILDER’S SCOPE OF WORK**

##### **1.1 Project Description**

The Project is located in the northeast quadrant of the Interstate 66 (I-66) and U.S. Route 15 Interchange in the Town of Haymarket and Prince William County, Virginia, and involves designing and constructing a new 230-space Park & Ride lot. The project includes two bus bays and two bus shelters, bicycle racks and lockers, kiss-and-ride area, lighting, and an access/entrance road with a sidewalk on the north side and a graded shoulder with ditch on the south side. The limits of the Project are from just north of Ramp B (westbound to northbound ramp) of the I-66 and Route 15 Interchange to Heathcote Boulevard approximately 700 feet east of Route 15. It is noted that the description and length are approximate only and are based on the RFP Conceptual Plans provided in the RFP Information Package. The final Project length may vary depending on the Design-Builder’s final design; however, any change in the project limits requires approval by VDOT.

A conceptual design has been developed and was made available for public review. A Posting of Willingness was advertised on January 11-13, 2017 and again on January 18-20, 2017. No request was received for a Public Hearing. The major design features of the Project were approved by the Assistant State Location & Design Engineer on June 16, 2017. The conceptual design contained in the RFP Information Package reflects a basic line, grade, typical sections, major cross drainage pipes, and potential locations of stormwater management facilities. These elements are considered to be the basic Project configuration. The Design-Builder is responsible for final design in accordance with the Contract Documents. The PDF copy of the RFP Conceptual Plans shall supersede the electronic drawing files (DGN) contained in the RFP Information Package.

##### **1.2 Anticipated Scope of Work**

The anticipated scope of work to be undertaken by the Design-Builder for this Project will include, but is not limited to:

- Survey
- Acquiring necessary environmental permits,
- Acquiring VDPEs permit,
- Acquiring rights of way,
- Developing and completing the design,
- Roadway and Park & Ride lot construction,
- Erosion and sediment control,
- Eradication of pavement markings

- Pavement markings, including and restriping portions of Heathcote Boulevard to provide turn bays,
- Signing (and other traffic control devices)
- Handrails,
- Storm drainage,
- Stormwater management facilities,
- Bus shelters with benches,
- Bicycle racks and lockers,
- Lighting,
- Parking Management System,
- Maintenance and management of traffic during all phases of construction,
- Coordinating and performing, or causing to be performed, required utility relocations, additions, and adjustments (if needed),
- Overall project management and coordination with other active construction projects in the vicinity,
- Quality assurance and quality control for design and construction, and
- Stakeholder coordination and public outreach.

Descriptions and technical requirements of the anticipated work are set forth in Part 2, Section 2.

### **1.3 Anticipated Design Services**

Design services shall address all items necessary for construction and operation of the completed facility. Design services are anticipated to include, but are not limited to, those services necessary to produce roadway construction plans relative to the technical disciplines listed in Part 2, Section 1.2 above. Other data collection and technical studies anticipated include, but are not necessarily limited to: geotechnical investigation, borings and analysis, materials analysis, pavement design, traffic counts and analyses, additional environmental studies (if warranted, as described in Part 2, Section 2.4), and hydraulic and hydrologic analysis. Offerors should note that all work performed on this Project shall be completed using English Units.

### **1.4 Anticipated Environmental Services**

The Design-Builder shall carry out environmental commitments during design and construction, as applicable, as identified in the Categorical Exclusion (CE) dated June 23, 2017; the Plans, the Specifications, and Estimates (PS&E) Re-evaluation Authorization (EQ-200) dated June 26, 2017; and the Environmental Certification/Commitments Checklist (EQ-103), dated June 26, 2017. All commitment compliance shall be supported by the appropriate documentation, to be provided by the Design-Builder to the VDOT Project Manager. Further details are provided in Part 2, Section 2.4.

The Design Builder shall acquire all water quality permits for the Project in the Design-Builder's name (i.e., the Design-Builder shall be the "Permittee") and shall provide for any necessary stream and/or wetland compensation required by permits to accomplish the work.

Anticipated environmental services to be performed by the Design-Builder include, but not limited to, water quality permits acquisition and compensatory mitigation, and site investigation for potential petroleum contaminated soil. The Design-Builder may also be required to perform other environmental technical studies and analysis to support a reevaluation of the CE (if necessary).

The Design-Builder shall be responsible for compliance with pre-construction and construction-related environmental commitments and shall be responsible for compliance with pre-construction, construction-related permit conditions, as well as post-construction monitoring if required by regulatory agencies. The Design-Builder shall assume all obligations and costs incurred by complying with the terms and conditions of the permits and environmental certifications. Any fines associated with environmental permit or regulatory violations shall be the responsibility of the Design-Builder.

Any changes in scope or project footprint from that contained in the Contract Documents proposed by the Design-Builder, which are acceptable to VDOT, may require additional environmental technical studies and analysis to be performed by the Design-Builder at its cost. These technical studies and analyses are to be conducted in accordance with the professional standards and guidelines of each NEPA-related discipline, as well as the criteria described in Section 2.4. VDOT shall be responsible for the coordination of any NEPA document re-evaluations with FHWA. The Design-Builder shall then carry out any additional environmental commitments that result from such coordination at its sole expense and at no additional cost and/or time delays to the Project.

## **1.5 Anticipated Right of Way and Utilities**

The Offeror's conceptual design included in its Proposal shall be wholly contained within the right of way limits shown on the RFP Conceptual Plans, including the permanent drainage easements and temporary construction easements, but excluding utility easements. Utility easements have not yet been identified or shown on the RFP Conceptual Plans. Deviations from the proposed right of way limits shown on the RFP Conceptual Plans will be subject to VDOT approval in accordance with Part 1, Sections 2.7 and 2.8.

The Design-Builder's final design shall also be contained within the right of way limits shown on the RFP Conceptual Plans, including the permanent drainage easements and temporary construction easements, but excluding utility easements and where minor adjustments are required during the final design process, and only after approval by VDOT. If the Design-Builder proposes significant change to the right of way limits shown on the RFP Conceptual Plans, then this shall be considered a deviation of the Contract Documents and shall be addressed as described in Part 2, Section 2.0.

The Design-Builder’s services shall include all work necessary to acquire right of way and to perform utility coordination, relocations, and/or adjustments as required by the Project. All right of way acquisition costs (compensation paid to landowners for right of way or permanent easement) will be paid by VDOT, and shall not be included in the Offeror’s Price Proposal. All costs for utility relocations, excluding betterments, shall be included in the Offeror’s Price Proposal. Utility betterments shall not be included in the Offeror’s Price Proposal, but shall be reimbursed to the Design-Builder through agreement with the requesting utility owner.

## 1.6 Anticipated Construction Services

The construction services to be undertaken by the Design-Builder for this Project are anticipated to include, but are not limited to: earthwork, Park & Ride lot, roadway, drainage, utility relocations/adjustments and coordination, electrical/lighting, parking management system, transportation management plan, traffic control devices, erosion and sediment control, and compliance with all environmental requirements, commitments and permit conditions, as described in Part 2, Section 2.0 of this RFP. The Design-Builder shall provide construction engineering inspection and management, quality assurance and quality control. Additionally, the Design-Builder is responsible for all plant quality assurance inspection and testing, excluding items listed under Part 2, Section 2.13.2.

## 1.7 Coordination with Active Construction Projects

The Design-Builder shall be responsible for coordinating with contractors of other active construction projects in the vicinity of the Park & Ride Lot at I-66/Route 15 Interchange Project in accordance with Section 3.6 of Part 4. It is expected that progress milestones will be jointly developed and mutually agreed to by the Design-Builder and Contractors for the projects listed below.

### **Transform I-66 Outside the Beltway Project**

Location: Fairfax and Prince William Counties  
Project No.: 0066-96A-422  
UPC#: 110496  
Status: Express Mobility Partners (Cintra, Meridiam, Ferrovia Agroman US, and Allan Myers VA, Inc.), will finance, design, build, maintain and operate the project under the Public-Private Transportation Act. Work is expected to start in fall 2017.  
VDOT Contact: Harinderbir ‘Charlie’ Warraich  
(703) 691-6740 (O)  
HS.Warraich@vdot.virginia.gov

In all cases, the existing projects and their respective contractors shall have priority in scheduling activities and the Offerors should take this into consideration in its Price Proposal.

## **1.8 Scope Validation**

The scope validation process is described Part 4, Article 2, Section 2.2 of the RFP. The purpose of the scope validation clause is to give the Design-Builder an opportunity to notify VDOT of issues that are discovered during the post-award review period that represent defects, errors, or inconsistencies that materially differ from what the Department provided in the RFP Documents during the procurement process. If it is not reasonable for the Design-Builder to have discovered these issues prior to the Agreement Date, and the issues materially impact the price or time to perform the work, then VDOT is willing to consider relief in accordance with Article 9 of RFP Part 4.

The clause is not intended to serve as a vehicle for the Design-Builder to raise issues that would ordinarily arise during the final design iteration process. The RFP Documents, including the RFP Conceptual Plans contained in the RFP Information Package, are never represented to be complete. Consequently, Offerors are expected to make a variety of assumptions as to what they view as necessary to finalize the design and provide VDOT with a firm contract price and schedule. The Design-Builder is responsible for final design in accordance with the Contract Documents.

The RFP Documents contain numerous general depictions of existing conditions that the Design-Builder is obliged to verify through field investigations and surveys before completing its final design of the Project and then integrating such design into its construction means and methods. It is the Offerors' responsibility to consider all of this during the proposal process in developing its price and schedule. The scope validation process does not envision that the final design development and related construction services (e.g., surveying and maintenance of traffic) would, on their own, create Scope Issues.

## **2.0 PROJECT TECHNICAL INFORMATION & REQUIREMENTS**

The Offeror's proposed conceptual design shall meet all requirements of the RFP. Any proposed deviations from the requirements of the RFP Documents by the Offerors shall be in accordance with Part 1, Sections 2.7 and 2.8.

The Design-Builder's final design shall meet or exceed all requirements included in the Contract Documents (which in some cases exceeds the minimum design standards). If the Design-Builder proposes any deviation that results in a modification to the Contract Documents then the Design-Builder shall follow the Value Engineering Proposals (VEP) process, as described in Section 104.02 of Division I Amendments to the Standard Specifications (Part 5) (even though the proposed deviations may not qualify as a VEP), unless otherwise directed by VDOT. Ultimately, any modification to the Contract Documents requires VDOT approval.

## **2.1 References and Information**

The design and construction work for the Project shall be performed in accordance with the applicable federal and state laws and VDOT Standards, Specifications and Reference Documents to include, but not limited to the documents listed herein. The Design-Builder must

verify and use the latest version of the documents listed herein as of the date of the RFP or latest Addendum.

### **2.1.1 Standards and Reference Documents**

If during the course of the design, the Design-Builder determines that a specific Standard, Specification or Reference Document is required but is not listed herein, it is the responsibility of the Design-Builder to identify the pertinent Standard, Specification, or Reference Document and submit to VDOT for review and approval prior to inclusion in the Contract Documents.

The 2016 VDOT Road and Bridge Specifications, and its associated Special Provision Copied Notes, contain pricing language under sections entitled “Measurement and Payment” that is not applicable in the Design-Build context of this RFP. Thus, in accordance with the hierarchy of documents, the Design-Builder will refer to Part 3, Articles 6 and 7, Part 4, Article 6, and applicable portions of the Division I Amendments (Part 5) to the Standard Specifications for more information regarding the pricing and payment to the Design-Builder. Similarly, other references below that contain pricing methodologies for the “Contractor” shall likewise not be used. The requirements, as described in the text of Part 2 herein, take precedence over the referenced documents listed below, unless otherwise indicated.

The standards and references for the Project are listed below in the following order: (a) Standards and Specifications; (b) Reference Manuals; (c) Special Provisions List, including Special Provisions, Special Provision Copied Notes and Supplemental Specifications. Items (a) and (b) are published references that are available publicly, for which copies are not provided to the Offerors in the RFP Information Package, but these items are to be used as manuals for design and construction. Items listed in (c) are included in the RFP Information Package.

#### (a) Standards and Specifications

- 23CFR625 – Design Standards for Highways (FHWA)
- 49CFR Part 24 – The Uniform Relocation Assistance and Real Properties Acquisitions Act of 1970
- AASHTO A Policy on Geometric Design of Highways and Streets, 6th Edition, 2011
- AASHTO Guide for Design of Pavement Structures (Rigid Pavement and Flexible Pavement), 1993 Edition
- AASHTO Guide for Park-and-Ride Facilities, 2<sup>nd</sup> Edition or later
- AASHTO Roadside Design Guide, 4th Edition, 2011
- AASHTO’s Highway Safety Manual, 1st Edition, Vol. 1-3, 2010 (including all revisions)
- Americans with Disabilities Act Accessibility Guidelines for State and Local Government Facilities
- DCR Virginia Erosion and Sediment Control Handbook, Third Edition, 1992
- DCR Virginia Stormwater Management Handbook, Vol. 1 and Vol. 2, First Edition, 1999
- Engineering Properties of Clay Shales, Report 1 by W. Heley and B. N. McIver

- FHWA’s Mitigation Strategies for Design Exceptions, July 2007
- FHWA’s Standard Highway Signs including Pavement Markings and Standard Alphabets, 2004 Edition and 2012 Supplement (for use with the 2009 Manual on Uniform Traffic Control Devices for Streets and Highways), or most current Edition
- IEEE National Electric Safety Code (NESC) Standards
- Manual of Uniform Traffic Control Devices (MUTCD), 2009 Edition and latest updates
- Transportation Research Board Highway Capacity Manual, 2010 Edition
- U.S. Army Corps of Engineers EM-1110-2-1906, Laboratory Soils Testing, 1986
- U.S. Army Corps of Engineers TM-5-822-6, Rigid Pavements for Roads, Streets, Walks, and Other Storage Areas, 1977
- American Concrete Pavement Association (ACPA) Design and Construction of Joints for Concrete Streets
- —
- VDOT 2014 Pavement Design Guide For Subdivision And Secondary Roads In Virginia
- VDOT 2017 Supplement to the 2016 VDOT Road and Bridge Specifications
- VDOT Appraisal Guide
- VDOT CADD Manual, 2012 (including all revisions)
- VDOT Construction Inspection Manual, January 2015
- VDOT Construction Manual, 2005 (including July 2008 revisions)
- VDOT Drainage Manual, Revised May 2017 or current edition
- VDOT Guidelines for Management of Contaminated Soils Associated with Utility Installation and Maintenance Activities, February 23, 2012
- VDOT Instructional & Informational Memorandums (I&IM), All Divisions
- VDOT Land Use Permit Regulations Guidance Manual, Revised May 20, 2013
- VDOT Manual of Instruction for Material Division, including revisions through July 2016
- VDOT Materials Division Approved List, dated May 2017
- VDOT Materials Division Memoranda
- VDOT Minimum Requirements for Quality Assurance & Quality Control on Design Build and Public-Private Transportation Act Projects, January 2012
- VDOT Policy Manual for Public Participation in Transportation Projects, revised November 2016
- VDOT Post Construction Manual, August 2014 Edition
- VDOT Right of Way Manual of Instructions (January 2011, including May 2016 revisions)
- VDOT Road and Bridge Specifications, 2016 (all except Section 100), including all revisions
- VDOT Road and Bridge Standards, Vol. 1 and Vol. 2, 2016, including all revisions
- VDOT Road Design Manual, Vol. I, including all revisions
- VDOT Survey Manual, 2016 Edition
- VDOT Traffic Engineering Design Standards and Guidelines, dated September 2, 2014

- VDOT Traffic Engineering Division Numbered Memoranda (Traffic Engineering (TE) and Mobility Management (MM))
- VDOT Utilities Manual of Instruction (11<sup>th</sup> Edition Published October 1, 2016 )
- VDOT Virginia Work Area Protection Manual Revision 1, April 1, 2015
- VDOT's Project Management Policy PMO-Policy-2011-1, July 1, 2011
- Virginia Department Of Transportation Hazardous Waste Co-Generator Policy Memorandum, June 15, 2010
- Virginia Stormwater BMP Clearinghouse (See <http://vwrrc.vt.edu/swc/>)
- Virginia Supplement to 2009 MUTCD, 2011 Edition Revision 1, updated September 2013

(b) Reference Manuals

- American National Standards Institute (ANSI)/Insulated Cable Engineers Association (ICEA) S-87-640-2006 requirements
- DCR Stream Channel Erosion Control - Technical Bulletin No. 1 (See <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/TechBulletin1.pdf>)
- DCR Minimum Standard 3.02: Principal Spillways - Technical Bulletin No. 7 (See <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/TechBulletin7.pdf>)
- DCR Vector Control: Mosquitoes & Stormwater Management - Technical Bulletin No. 8 (See <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/TechBulletin8.pdf>)
- 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
- Field Partnering Guide for VDOT Projects, November 2005
- FHWA publications HEC-11, HEC-14, HEC-15, HEC-20, HEC-21, and HEC-22
- FHWA Context Sensitive Solutions/Design
- gINT© Manual
- Institute of Electrical and Electronics Engineer (IEEE) Standards
- International Telecommunication Union (ITU) Requirements
- ISEE Blasters Handbook (Current Edition)
- National Electric Code (NEC)
- National Electrical Manufacturers Association (NEMA) Standards
- Society for Protective Coatings (SSPC) Standards
- Telecommunications Industry Association (TIA) and Electronic Industries Alliance (EIA) Standards and Specifications
- Underwriters Laboratories (UL) Standards
- VA Statewide Fire Prevention Code
- Virginia Calibration Methods, January 2014
- Virginia Test Methods Manual, June 2016
- Virginia Uniform Statewide Building Code

(c) Special Provisions List, Special Provision Copied Notes and Supplemental Specifications

*Park & Ride Lot:*

- Special Provision for Bus Shelters, dated August 8, 2011
- Special Provision for Bicycle Racks, dated October 17, 2016
- Special Provision for Bike Lockers, dated June 13, 2011
- Special Provision for Trash Receptacles, dated June 24, 2011

*Environmental:*

- Special Provision For Phase I and Phase II Environmental Site Assessments For Design-Build Projects, November, 2016
- Guidelines for Management of contaminated soils associated with utility installation and maintenance activities, February 23, 2012
- Hazardous Waste Co-Generator Policy Memorandum, June 15, 2010

*Geotechnical/Material:*

- Special Provision for Lime Modification of Soils Design-Build Projects, November 23, 2009
- Special Provision for Design-Build Tracking (DBT) numbers, June 4, 2015

*Roadway/Drainage:*

- Special Provision for Bioretention Basins, September 26, 2016
- SS244-002016-01 Section 244 – Roadside Development Materials, July 5, 2016; Issued October 5, 2016
- Special Provision for Compost Amended Soils, January 6, 2017
- Special Provision for Miscellaneous Stormwater Items, January 5, 2017
- SPCN c302-030100-00 Section 302.03 (b) Precast Drainage Structures, January 14, 2008; Reissued July 12, 2016

*NRO Traffic Operations:*

- Lane Closures in NOVA District Memorandum; Issued September 29, 2016
- Special Provision Copied Note for Lane Closure Advisory Management System (LCAMS) Training, October 3, 2016

*General Conditions:*

- SS52200 Supplemental Section 522 – Partnering Design-Build Projects, December 2, 2009; revised June 1, 2012
- SPCN cq512-000120-00 Uniformed Flaggers; July 12, 2016
- Special Provision for Personnel Requirements for Work Zone Traffic Control, June 11, 2009

- Special Provision for Work Zone Traffic Control Management, Design-Build Projects, January 14, 2008; Revised November, 2009

The above list of Special Provisions is not intended to be an all-inclusive list. The Design-Builder is responsible for achieving the Work in accordance with all current VDOT standards as of the date of the RFP issuance, including any revisions and/or addenda thereof. If a construction element is not adequately addressed within VDOT Standard Specifications or the Special Provisions listed for the purpose of the Design-Builders design, it is the responsibility of the Design-Builder to develop an alternative specification that is acceptable to VDOT for that element of work.

In the event of a discrepancy between VDOT and non-VDOT Standards and References listed herein, the 2016 VDOT Road and Bridge Specifications, design standards, and manuals shall take precedence, with the following exception. If AASHTO or the MUTCD require that a higher or better standard be applied, then AASHTO and/or the MUTCD shall take precedence. In accordance with Part 2, Section 2.1.3 below, all deviations from AASHTO minimum specified design values shall be documented, justified, and approved by VDOT and FHWA.

Special Provisions included in this contract document or other Special Provisions approved by VDOT shall govern over the VDOT specifications, design standards and manuals. Special Provision Copied Notes approved by VDOT and requirements specified within the text of this RFP shall govern over both the Special Provisions and VDOT specifications, design standards and manuals.

### 2.1.2 RFP Information Package

An RFP Information Package is available for interested Offerors on CD for \$50. Interested Offerors should complete the RFP Information Package Order Form included as Attachment 2.6 of Part 1. An RFP Information Package will be provided to the point of contact for each short listed firm. The RFP Information Package includes the following:

- RFP Conceptual Plans (DGNs and PDFs) (~~revised~~)-revised only to include note on Limited Access)
- Design Approval, dated June 16, 2017
- Environmental Documents
  - Categorical Exclusion, including Appendices and FHWA Review document, dated June 23, 2017
  - Preliminary Right of Way (RW) Authorization (EQ-201) dated June 26, 2017
  - Preliminary Plans, Specifications and Estimates (PS&E) Authorization (EQ-200), dated June 26, 2017
  - Preliminary Environmental Certification/Commitments Checklist (EQ-103), dated June 26, 2017
  - VDOT/VA SHPO Correspondence, dated November 15, 2016
  - Cultural Resource Summary Report, dated May 24, 2017
  - Permit Determination, dated January 11, 2017

- Wetland Delineation, dated September 16, 2016
- Fish, Plant, and Wildlife Resources Form, dated February 27, 2017
- Air Quality Analysis Report, dated May 18, 2017
- Hazardous Materials Summary Report, May 1, 2017
- Phase II Environmental Site Assessment, Gossom Property, dated May 2, 2016
- Asbestos Inspection Reports for 6430, 6432, and 6434 James Madison Highway, dated May 26 & 27, 2016
- Analysis Reports (Asbestos) for 6430, 6432, and 6434 James Madison Highway, dated May 26, 2016
- Project Closeout and Statements of Proper Workmanship (Asbestos) for 6430, 6432 and 6434 James Madison Highway, dated July 8, 2016
- Survey files, including utility designation (revised to include utilities that were installed/relocated as part of the I-66 / Route 15 interchange project)
- Geotechnical
  - Geotechnical Data Report, dated March 9, 2017
  - gINT© files
  - Soil Design Parameters for Sound Barrier Walls, Retaining Walls and Non-Critical Slopes, dated April 14, 2011
- Hydraulics
  - Preliminary Drainage and Outfall Report, dated May 2017
  - Nutrient Credit Purchase Form (LD-453) Completed by VDOT (added)
- Traffic
  - ENTRADA Traffic Data, dated October 31, 2016
  - Traffic Analysis Memo, dated July 27, 2017 (revised to correct 45 mph posted speed rather than 35 mph)
  - ITS Plans from I-66 Widening Design-Build Project 0066-076-003, C501, UPC# 93577 (added)
- Special Provisions

Requirements described in the Technical Information and Requirements (Part 2 of the RFP) shall supersede the information contained in the RFP Information Package, including the information depicted in the RFP Conceptual Plans. In the event that there is a discrepancy between the RFP Conceptual Plans (or other information contained in the RFP Information Package) and the Technical Information and Requirements (Part 2 of the RFP) herein, the Technical Information and Requirements (Part 2) shall take precedence.

### **2.1.3 Design Exceptions and Design Waivers**

Design Exceptions (DEs) will be required for any element of the design among the ten controlling criteria that do not meet AASHTO minimum design standards. Design Waivers (DWs) will be required for any element that meets AASHTO minimum design standards, but does not meet VDOT minimum standards or for any element other than the ten controlling criteria that do not meet AASHTO minimum design standards. The Design-Builder will be required to follow the process as described in IIM LD-227, S&B 70 regarding DEs and DWs.

VDOT has not identified any DEs or DWs with respect to the RFP Conceptual Plans for the I-66/Route 15 Park & Ride Lot.

If, during development of the design, the Design-Builder identifies or proposes substandard features, the Design-Builder is required apply for the appropriate DEs and/or DWs. VDOT will be responsible for submitting the DEs and/or DWs to the appropriate authority(-ies) for review and approval. The costs for preparation of DWs and/or DEs and any information needed to support these documents is the responsibility of the Design-Builder. Implementing any mitigation strategies proposed by the Design-Builder or required by VDOT, as part of the DE and/or DW approval process, shall be the responsibility of the Design-Builder and shall be carried out at no additional cost to the Department. Any schedule delays as a result of the approval process are the responsibility of the Design-Builder.

## **2.2 Mainline and Other Roadway Improvements**

### **2.2.1 Access Roadway**

The roadway inventory information and major design criteria are summarized in Attachment 2.2. The information contained in the Attachment shall serve as a basis for the Design-Builder to determine the appropriate criteria to apply to the design of the access roadway. Offerors are on notice that the entirety of the information contained in the Design Criteria Table and Part 2, Section 2.2 of this document, including, but not limited to, the design criteria, and other notes and data, contain the minimum roadway geometric design requirements that the Design-Builder shall meet in its performance of the Work. By submitting its Proposal, Offeror certifies that the Project Concept presented in its proposal is fully compliant with such minimum requirements. Unless otherwise approved by VDOT, no changes to or deviation from the listed criteria shall be allowed. Any schedule delays as a result of changes or deviations are the responsibility of the Design-Builder.

The entrance road alignment and pavement width must accommodate the simultaneous movements of inbound and outbound 40-foot transit vehicles.

Vertical drop-offs (for instance at the headwalls of drainage pipes and structures) and steep slopes adjacent to sidewalks will require installation of handrails in accordance with VDOT's Road Design Manual, Appendix A.

The Design-Builder shall relocate signs in the median along Heathcote Blvd between Route 15 and Old Carolina Rd if the signs reduce the sight distance required per VDOT standards at the entrance road.

The access road alignment through Gainesville Investments property has been coordinated with the property owner and shall not change horizontally.

### **2.2.2 Park & Ride Facilities Requirements**

The Design-Builder shall provide a Park & Ride facility that provides commuter parking spaces and accommodation for bus transit and kiss-and-ride (pick-up/drop-off area). Design of the Park & Ride facility shall be in accordance with the AASHTO *Roadside Design Guide*, AASHTO Guide for Park and Ride Facilities, 2<sup>nd</sup> Edition or later, Department of Justice *ADA Standards for Accessible Design*, and other standards and specifications listed in Part 2, Section 2.1.1. All parking lot pavement designs shall be in accordance with the minimum pavement design provided in Part 2, Section 2.6.1.

The Park & Ride facility shall be located on Parcel 003 shown on the RFP Conceptual Plans, which was acquired as residue Parcels 012, 013, and 014 under State Project Number 0066-076-074, C501, also known as the I-66/Route 15 Interchange Reconstruction Project. The Park & Ride facility shall, at a minimum, include the following:

- A minimum of 230 parking spaces. Parking spaces shall be paved, marked, connected with internal vehicular system, served with adequate stormwater management facilities, connected by pedestrian facilities, and lighted according to Part 2, Section 2.8.3.
- A minimum of nine (9) of the parking spaces shall be designated for accessible (ADA) parking, of which 2 will be van accessible.
- All parking spaces shall be sized with minimum dimensions of 9 feet x 18 feet with minimum 24 feet aisle separation. No compact parking spaces shall be provided.
- A minimum 40 feet x 12 feet paved area shall be designated as kiss-and-ride.
- Aisle end treatments shall be painted and shall be no more than 4 feet wide to discourage vehicles from using as parking spots.
- Two bus bays in one bus loop, as well as a pick-up and drop-off area. A raised island shall be included in the center of the bus loop.
- Interconnected, but separate accommodations and circulation for bus facilities, parking areas, kiss-and-ride, general vehicular, pedestrians and bicyclists.
- One point of entry and egress to the roadway network at the Park & Ride lot with full access to all turning movements in and out of the site at its intersection with Heathcote Boulevard.
- Sidewalks connecting crosswalks, accessible parking, kiss-and-ride, bicycle parking, and transit.
- On-site and off-site vehicle and pedestrian signage (including all necessary external and internal facility, routing, wayfinding, regulatory, and bus stop information signage) in accordance with the latest edition of the MUTCD and applicable VDOT standards and local ordinances.
- Pavement marking consistent with the latest edition of the MUTCD and the VDOT standards.
- Lighting (vehicular and pedestrian areas) for the Park & Ride facility (including parking, bicycle racks, bicycle lockers, transit, and kiss-and-ride areas) and at the access road intersection with Heathcote Boulevard. Lighting shall be designed in accordance with Part 2, Section 2.8.3.

- Two bus shelters, including one bench each, shall be located near the bus loop, kiss-and-ride, and handicap parking areas. The bus shelters shall be designed and installed in accordance with the Special Provision for Bus Shelters, dated August 8, 2011.
- Two trash receptacles shall be provided and located near the bus shelters. The trash receptacles shall be designed and installed in accordance with the Special Provision for Trash Receptacles.
- Bicycle racks to accommodate a minimum of eight (8) bicycles and four (4) double-sided bicycle lockers to accommodate eight (8) bicycles near the bus shelters. The bicycle racks and bike lockers shall be designed and installed in accordance with the Special Provision for Bicycle Racks and the Special Provision for Bike Lockers, respectively.
- Along the western and southern edges of the Park & Ride facility (along Route 15 and I-66 Westbound Off-Ramp), a minimum 20-foot landscaping buffer is required. The 20-foot landscaping buffer shall be seeded and fertilized in accordance with VDOT standard roadside seeding. Landscaping will be installed under a separate contract.

The Design-Builder shall be responsible for all maintenance of the Park & Ride facilities until the Project Final Completion Date to include snow removal, ensuring lighting is operational and in working order at all times, and incidental pavement repairs.

VDOT ~~is currently pursuing~~ will allow a dedicated temporary physical break in the limited access ~~fence line break from the Commonwealth Transportation Board (CTB)~~ to allow ~~construction~~ access from Route 15, just north of the I-66 Westbound to Route 15 Northbound ramp, where there is currently a construction entrance for the I-66/Route 15 Interchange Reconstruction Project, for construction activities only. The Design-Builder will be required to obscure the entrance and install the limited access fence across the construction entrance in this location.

The Design-Builder shall maintain the pavement of the Park and Ride lot and Access Roadway through project Final Completion. Should heavy equipment be brought over adjoining roads, such as Heathcote Boulevard, Route 15, etc. and cause damage to these roadways, the Design-Builder shall repair such damage.

## **2.3 Structures & Bridges**

There are no structures, bridges, or retaining walls anticipated for this Project.

## **2.4 Environmental**

### **2.4.1 Environmental Document**

FHWA has issued a NEPA decision for the Project. A copy of the Categorical Exclusion (CE) dated June 23, 2017 is included in the RFP Information Package. VDOT has also completed preliminary document re-evaluations for Right of Way (RW) Authorization (EQ-201)

dated June 26, 2017; Plans, Specifications and Estimates (PS&E) Authorization (EQ-200) dated June 26, 2017, and a preliminary Environmental Certification/Commitments Checklist (EQ-103) dated June 26, 2017, which are included in the RFP Information Package.

Once the Design-Builder has completed the design, VDOT shall update and finalize the re-evaluation for RW Authorization (EQ-201) prior to RW authorization; and update and finalize the re-evaluation for PS&E Authorization (EQ-200), and update and finalize the Environmental Certification/Commitments Checklist (EQ-103) prior to the VDOT Project Manager releasing the Project for construction. If the Project includes phased work, then final versions of these documents shall be updated and finalized by VDOT prior to authorizing RW and construction for each phase. The VDOT Project Manager 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 and Construction.

The Design-Builder shall carry out environmental commitments during design, right of way acquisition, and construction, as applicable, as identified in the CE, the final document evaluations for RW and PS&E Authorization, and the final Environmental Certification form(s). All commitment compliance shall be supported by appropriate documentation, to be provided by the Design-Builder to VDOT.

Any changes in the scope or footprint of the established basic Project concept, proposed by the Design-Builder and acceptable to VDOT, may require additional environmental technical studies and analysis to be performed by the Design-Builder at their cost. The Design-Builder shall be responsible for notifying VDOT of plan revisions, scope changes, and providing any necessary studies and other necessary information to support VDOT's completion and re-evaluation of the NEPA document. VDOT shall be responsible for the coordination of any environmental documentation re-evaluation with FHWA. The Design-Builder shall then carry out any additional environmental commitments that result from such coordination at its sole expense and no additional cost and/or time delays to the Project.

VDOT expects that the results from any additional work needed to support the Design-Builder's final design will be conveyed to the Department as quality deliverables in accordance with professional standards and guidelines for each NEPA-related discipline, as well as the criteria described in Part 2, Section 2.4. Moreover, VDOT reserves the right to return any inadequate or substandard deliverables to the Design-Builder for revision prior to coordination.

The Design-Builder is solely responsible for any costs or schedule delays related to the permit acquisition, permit modifications, and NEPA document re-evaluations associated with Design-Builder's design changes as well as the submission of inadequate or substandard deliverables. No time extensions will be granted. All costs associated with complying with these requirements shall be included in the Offeror's Price Proposal.

## 2.4.2 Cultural Resources

The Virginia Department of Historic Resources (VA SHPO) has concurred with VDOT's recommendation that the project will have no adverse effect on historic properties, finding that

the previously identified architectural properties 233-5006, 233-5007, and 076-5367 are not eligible for the National Register of Historic Places (NRHP) individually, nor as contributing elements to any historic district; and that the small portion of the Buckland Mills battlefield (030-5152) located within the project’s area of potential effect has lost integrity and does not contribute to the potential NRHP eligibility of the battlefield.

On December 15, 2016, the VA SHPO determined the Project would have No Adverse Effect on historic properties in the Area of Potential Effects (APE). The Project’s APE for archaeology is the limits of disturbance and for architecture is the areas where there will be alterations in setting and feeling. Copies of relevant VDOT/VA SHPO correspondence, including location map, showing the location of the historic property is included in the RFP Information Package. There is one historic property in the Project’s APE:

<u>VDHR No.</u>	<u>Resource Description</u>
030-5152	Buckland Mills PotNR Battlefield

The Design-Builder shall consider historic properties to be design constraints and avoid impacting them beyond what is shown in the RFP Conceptual Plans. In addition, the Design-Builder shall notify the VDOT Project Manager 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 viewshed of historic properties. These activities, any changes to the design, alignment, right of way limits, or easements shown on the RFP Conceptual Plans, or any additions to the Project such as stormwater management facilities, or wetland mitigation sites, may require review by VDOT 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 VDOT.

### **2.4.3 Section 4(f) Resources**

There is no Use of 4(f) Resources on this Project.

### **2.4.4 Water Quality Permits and Compensatory Mitigation**

VDOT completed a preliminary Permit Determination, dated January 11, 2017, concluding that water quality permits are required for this Project based on the RFP Conceptual Plans. VDOT also completed a delineation of jurisdictional streams and wetlands. The Offerors should note that the preliminary Permit Determination and wetland delineations are included in the RFP Information Package and are provided for informational purposes only. The Design-Builder shall be responsible for verifying permit requirements prior to construction. Regulatory

agencies will make the final determination as to which state/federal water quality permits will be required during coordination with the Design-Builder.

Should it be determined that water quality permits are required for the Project, the Design-Builder shall conduct the preliminary field assessment including, but not limited to, wetland delineation, stream assessment, and permit impact sketches. The Design-Builder shall also determine the required sequencing methodology to limit Project impacts to wetland systems. The Design-Builder shall utilize this information to obtain required permits.

The Design-Builder is responsible for obtaining all water quality permits required to construct the Project (including utility relocations by the Design-Builder). The Design-Builder shall be the Permittee. Should the Design-Builder propose design changes acceptable to VDOT, 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.

If the Design-Builder determines that wetlands and/or stream mitigation is required to secure the permit authorization, the Design-Builder shall provide the required compensatory mitigation. The Offerors shall account for all costs associated with water quality permit acquisition, as well as compensatory mitigation, in the Price Proposal.

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, establishment of a surface water channel within 15 days post-construction and countersinking culverts.

The Design-Builder shall be responsible for compliance with pre-construction, construction-related permit conditions, as well as post-construction monitoring if required by regulatory agencies. This shall include costs associated with acquiring water quality permits and additional compensatory mitigation for the Project, if needed.

The Design-Builder shall provide to the VDOT Project Manager copies of all permit authorizations, documentation, and relevant 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. The Design-Builder shall not proceed with work covered by the water quality permits until the VDOT Project Manager releases the work in writing. The VDOT Project Manager may release a portion or all of such work not in jurisdictional areas, but may order a suspension of the same work after its release. The Design-Builder shall not be allowed to begin work that pre-determines the work required in the jurisdictional areas until the permits are secured.

After receiving the VDOT Project Manager's release of the work, the Design-Builder shall notify the VDOT Project Manager and the regulatory permitting agencies in writing

fourteen (14) days prior to beginning work in the jurisdictional areas covered by the water quality permits.

The Design-Builder shall carry out any additional permit conditions/commitments that result from change in footprint and/or scope (assuming it is approved by VDOT) at its sole expense and no additional cost to VDOT; additionally the Design-Builder shall be responsible for any schedule delays and associated costs.

At the conclusion of the Project, the Design-Builder shall notify the VDOT Project Manager 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 back to VDOT.

All permitted construction activities shall be identified as hold points in the Design-Builder's Critical Path Method (CPM) Schedule.

#### **2.4.5 Threatened and Endangered Species**

VDOT has performed preliminary database reviews to determine the Project's potential effects on threatened and endangered (T&E) species, indicating that the Project will have no adverse effect on T&E species. The following state and federally listed T&E species were identified in the required search area:

##### **Species**

Northern Long-Eared Bat (*Myotis septentrionalis*)

Tri-colored Bat (*Perimyotis subflavus*)

Little Brown Bat (*Myotis lucifugus*)

A copy of VDOT's preliminary Fish, Plant, and Wildlife Resources Form, dated February 27, 2017, is included in the RFP Information Package.

The Offeror shall be advised that new and updated T&E information is continually added to agency databases. The Design-Builder shall be responsible for any subsequent coordination to obtain updated information, requirements, and clearances from environmental regulatory agencies that provide threatened and endangered species oversight. This additional T&E species coordination is also a standard component of the water quality permit acquisition process and may result in permit conditions for which the Design-Builder shall be responsible. The Design-Builder is responsible for ensuring that all T&E species are correctly identified and impacts assessed, noting that additional 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 to the VDOT Project Manager copies of all documentation and correspondence with regulatory agencies.

#### **2.4.6 Hazardous Materials**

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. In addition, the Design-Builder shall comply with the following contract special provisions and guidance documents:

<input checked="" type="checkbox"/>	VIRGINIA DEPARTMENT OF TRANSPORTATION SPECIAL PROVISION FOR PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS FOR DESIGN-BUILD PROJECTS – November 2016
<input checked="" type="checkbox"/>	VDOT GUIDELINES FOR MANAGEMENT OF CONTAMINATED SOILS ASSOCIATED WITH UTILITY INSTALLATION AND MAINTENANCE ACTIVITIES, February 23, 2012
<input checked="" type="checkbox"/>	VIRGINIA DEPARTMENT OF TRANSPORTATION HAZARDOUS WASTE CO-GENERATOR POLICY MEMORANDUM, June 15, 2010

For any solid 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 representative's signature and as otherwise consistent with the signatory requirement under Section 411 of the 2016 VDOT Road and Bridge Specifications.

The Design-Builder shall be responsible for the development of a Spill Prevention, Control, and Countermeasure Plan if required by regulation and for submission of any required plan to the VDOT Project Manager 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 VDOT Project Manager 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.

VDOT determined the potential for hazardous materials and/or contamination within the Project area. An ESA Phase II was completed for ROW acquisition of the Gossum property for the I-66/Route 15 Interchange Reconstruction project (on whose property the future Park & Ride lot will be constructed). Low-levels of petroleum contamination at Gossum property were identified, but do not appear to exceed the petroleum release reporting requirements. Additionally, petroleum-odor was observed in soil samples collected during geotechnical investigation of the Project, but likewise do not appear to exceed the petroleum release reporting requirements. Information pertaining to the ESA Phase II study is included in the RFP Information Package and constitutes Known Pre-existing Hazardous Materials as defined in Part 4, Article 4.

Asbestos inspection, abatement and project monitoring was performed for the Gossom Property (Parcels 012 and 013) acquired, by VDOT under the I-66/Route 15 Interchange Project, but has not been performed on the Gainesville Investments property, on which the access road to the Park & Ride Lot will be constructed. Asbestos inspection, abatement and project monitoring, if and when needed, 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 to the VDOT Project Manager.

The Offeror shall include in the Price Proposal all costs associated with complying with the above listed requirements except that any hazardous material(s) encountered that require remediation on Parcels 001 and 002 will be paid for, if and when necessary, under a Work Order in accordance with Article 9 of Part 4 (General Conditions of Contract).

The Design-Builder shall not acquire rights to Parcel 002 until a Phase I Environmental Site Assessment is complete and approved. This shall represent a hold point in the Design-Builder's CPM Schedule.

No additional Phase I ESA's or Phase II ESA's shall be required, other than the Phase I ESA required on Parcel 002, unless additional property is to be acquired beyond the proposed right of way limits (including easements) shown on the RFP Conceptual Plans.

#### **2.4.7 Air Quality**

The Project has been assessed for potential air quality impacts and conformity with all applicable Federal and state air quality regulations and requirements. The Air Quality Analysis Report, dated May 18, 2017, is provided in the RFP Information Package. The Report identifies federal and state regulatory requirements that must be adhered to during construction of the Project.

This Project is located within an 8-Hour Ozone Nonattainment area and a volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) emission control area. As such, all reasonable precautions shall be taken to limit the emissions of VOC and NO<sub>x</sub> during construction of the project. In addition, the following Virginia Department of Environmental Quality (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. The Design-Builder shall adhere to the limitations outlined in the 2016 Road and Bridge Specifications.

Construction activities shall be performed in accordance with the 2016 VDOT Road and Bridge Specifications. The specifications conform to the State Implementation Plan and require compliance with all applicable local, state, and federal air quality regulations.

## 2.4.8 Noise Mitigation

A Qualitative Preliminary Noise Analysis was performed by VDOT, which determined that no mitigation measures are required for the Project. A copy of the Qualitative Preliminary Noise Analysis Memo, dated March 31, 2017 (included in the CE Appendices), is included in the RFP Information Package. The Design-Builder shall not be required to perform any additional noise analysis, nor design or construct any noise barriers for this Project.

Construction activity may cause intermittent fluctuations in noise levels. During the construction phase of the Project, all reasonable measures shall be taken to minimize noise impacts from these activities. Part 5 of the RFP, outlines the construction noise limits. The Design-Builder shall be required to conform to this specification to reduce the impact of construction noise on the surrounding community.

## 2.4.9 Environmental Compliance

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 not in compliance with all applicable environmental laws, regulations, Executive Orders, commitments, etc., the VDOT Project Manager and the Quality Assurance Manager have 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 corrective action shall be taken by the Design-Builder to bring the item(s) back into compliance. The Design-Builder shall notify the VDOT Project Manager immediately of all non-compliant item(s) and shall provide to the VDOT Project Manager copies of all documentation and correspondence with regulatory agencies related to the non-compliant item(s) and their resolution, concurrent with each submission.

The Design-Builder shall be responsible for any schedule delays and associated costs as a result of any delays and/or shut downs associated with non-compliance. Any monetary fines associated with violations and/or any environmental restoration activities required to resolve violations shall be the responsibility of the Design-Builder.

The Design-Builder shall carry out environmental commitments during design and construction, as applicable, as identified in the CE, the Document Re-evaluations for RW Authorization (EQ-201) and PS&E Authorization (EQ-200), and the Environmental Certification/Commitments Checklist (EQ-103). All commitment compliance shall be supported by appropriate documentation, to be provided by the Design-Builder to the VDOT Project Manager.

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. Any fines associated with environmental permit or regulatory violations shall be the responsibility of the Design-Builder.

## 2.5 Survey

The Design-Builder is advised that the 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.

Preliminary field survey and utility data has been obtained for this Project. The survey is bounded by Ramp B (westbound to northbound off-ramp) at the I-66 and Route 15 Interchange to the intersection of Route 15 and Heathcote Boulevard. The field survey was conducted using conventional and aerial photogrammetric methods and data was collected within the tolerances defined in the VDOT Virginia Map Accuracy Standards. Preliminary field survey and utility data have been obtained, including, but not limited to the following:

- Notification of property owners\*
- Vertical control (Based on NAVD88 Geoid 2012A)\*\*
- Horizontal control (Based on NAD83-2011)\*\*
- Field data verified and updated
- Planimetrics
- Property data and R/W
- Utilities (Level B sub-surface utility investigation in the median from inside edge of pavement to inside edge of pavement and areas designated as potential BMP's.)
- Digital Terrain Model

\*The Virginia Code 33.2-1011 requires that Notice of Intent letter "shall be sent to the owner by mail, at the address recorded in the tax records, **not less than 15 days prior to** the first date of the proposed entry. Notice of intent to enter shall be deemed made on the date of mailing." "The notice shall include the anticipated date such entry is proposed to be made and the purpose of such entry." Advance notification of property owners is required for all data collection efforts related to the development of highway plans. Copies of the letters and address labels shall be provided to the VDOT Project Manager (who shall forward to the District Survey Manager) for approval prior to mailing to property owners.

The preliminary field survey and utility data provided in the RFP Information Package contains the general depiction of existing conditions that the Design-Builder is obligated to verify and finalize through survey before completing final design of the Project. The horizontal accuracy of the preliminary survey is at the Class 1 Level at 1"=25' scale. The vertical accuracy is Class 3 with one-foot contours. The Design-Builder shall be responsible for obtaining any survey data, including all rights-of-entry and land use 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, and construction of the Project. Additionally, the Design-Builder will be responsible for updating the plans for any changes that may occur (regarding property owner changes, subdivisions, etc.), prior to the acquisition of right of way and during the final design. Any survey changes shall be verified and certified, and submitted in final documentation.

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 LD-200 information and supporting computations submitted to the VDOT Project Manager.

Prior to Project completion, the Design-Builder shall provide and set final RM-2 right of way monuments within the Project Limits. The Design-Builder shall depict the monuments on the Right of Way Plans in accordance with the Department's current Survey Manual.

## **2.6 Geotechnical Work**

VDOT has completed a preliminary geotechnical subsurface investigation for this Project. The results of the investigation are presented in the Geotechnical Data Report, dated March 9, 2017, which is included in the RFP Information Package.

The data included in this RFP is being provided for Offeror's information in accordance with Section 102.04 of Division I Amendments (Part 5). The Design-Builder shall perform a design-level geotechnical investigation to validate and augment the geotechnical information included in this RFP. The geotechnical engineering investigation performed by the Design-Builder shall meet or exceed both Chapter 3 of the VDOT Material Division's Manual of Instructions (MOI); and Section 700.05 (c) of the 2016 VDOT Specifications.

The Design-Builder shall collect appropriate data for geotechnical evaluation of pavements, embankments, soil cuts, culverts, stormwater management facilities, minor structures including drainage pipes, and any elements of highway design and construction required for this Project. The Design-Builder will be responsible for obtaining all necessary permits and utility clearances as required by VDOT, the Commonwealth of Virginia, or any other jurisdictional body or owner prior to accessing public or private property for the purpose of conducting geotechnical field work and shall provide the necessary traffic control in accordance with the Work Area Protection Manual. The Design-Builder shall complete laboratory tests in accordance with pertinent ASTM or AASHTO standards and analyze the data to provide design and construction requirements. Soils, rock, aggregate, asphalt, concrete and other materials tests shall be performed by a laboratory accredited through the AASHTO Accreditation Program (AMRL and CCRL) for each test it conducts for the Project, unless otherwise approved by VDOT.

The Design-Builder shall provide VDOT with all records of subsurface explorations and describe the soils encountered and their depth limits in accordance with the requirements outlined in Chapter 3 of the VDOT Materials Division MOI. The Design-Builder shall provide to VDOT electronic copies of all subsurface explorations in accordance with the boring log template available on the website included in Chapter 3 of the VDOT Materials Division MOI. The electronic files shall be provided by a certified professional geologist or a suitably qualified registered professional engineer in the Commonwealth of Virginia, in gINT© software. The gINT© file for the borings contained in Geotechnical Data Report, dated March 9, 2017, are provided in the RFP Information Package.

Unless otherwise addressed by AASHTO LRFD, the Design-Builder shall incorporate reliability assessments in conjunction with standard analysis methods in accordance with Chapter 3 of the Materials MOI. An acceptable method for evaluation of reliability 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. The Design-Builder may propose to identify specific, non-critical features, and alternative methods for evaluating variability of subsurface conditions, reliability and minimum factors of safety, prior to submission of its design calculations and drawings. VDOT may, in its sole discretion, accept or reject such proposed methods.

The Design-Builder shall submit to the VDOT for its review all geotechnical design and construction memoranda and/or reports that summarize pertinent subsurface investigations, tests, and geotechnical engineering evaluations and recommendations utilized in support of their design/construction documents. This submittal shall be made at least ninety (90) days in advance of the submittal of any final design/construction documents that are dependent upon the geotechnical evaluations and recommendations. Technical specifications for construction methods that are not adequately addressed in the Standard Specifications shall be provided by the Design-Builder as part of the final design/construction documentation. Prior to submittal of any final design/construction documentation, the Design-Builder shall review the final design/construction documents to assure that it appropriately incorporated the geotechnical components and shall submit evidence of this review to accompany the final design/construction documentation. The Design-Builder shall reference the drawings that incorporate the pertinent results. The Design-Builder's Quality Assurance and Quality Control (QA/QC) Plan shall document how each specific geotechnical recommendation or requirement will be addressed in the final design/construction documentation. The results of the geotechnical investigation and laboratory results shall support design and construction efforts to meet the requirements outlined in this Section.

### **2.6.1 Minimum Pavement Sections**

Minimum pavement sections and anticipated locations for these sections shall be utilized for Proposal preparation purposes only. The anticipated locations for new pavement, sections are provided on the RFP Conceptual Plans included in the RFP Information Package. The Design-Builder shall be required to validate the minimum pavement sections and to notify the Department of its findings. If the Design-Builder's findings require a deviation from the RFP requirements, it shall notify VDOT during the Scope Validation Period consistent with Part 4 Section 2.2. Acceptable changes to the minimum pavement sections are limited to increasing the thickness of the base or subbase layers specified below. Any changes to the minimum pavement sections provided in this Part 2, Section 2.6.1 and/or location for the pavement sections shown on the RFP Conceptual Plans require approval by VDOT. The Design-Builder shall be responsible for the final design and construction of the pavements for this Project in accordance with the Contract Documents.

The Design-Builder shall prepare and incorporate into the plans, typical sections, profiles and cross-sections the validated pavement sections in accordance with the applicable manuals

noted in Part 2, Section 2.1. This includes drainage and subdrainage requirements to ensure positive drainage both within the pavement structure and on the pavement surface. Underdrains are identified in the Geotechnical Engineering Data Report, which governs over the location of underdrains shown in the RFP Conceptual Plans.

The minimum pavement designs are based upon the following criteria: (a) a minimum average soil subgrade CBR value of 5 (all imported fill material shall have a minimum CBR value of 5), (b) all subgrade is compacted in accordance with the applicable sections of the 2016 VDOT Specifications and applicable special provisions and, (c) that all unsuitable materials at, or below, subgrade have been removed or modified in accordance with applicable sections of Division I Amendments to the Standard Specification General Provisions for Design-Build Contracts under Part 5 of the RFP document.

The minimum pavement sections are as follows:

**Park & Ride Lot:**

Surface – 1” Asphalt Concrete, Type SM-4.75A estimated at 115 lbs./sq.yd.  
Intermediate – 2” Asphalt Concrete, Type IM-19.0A estimated at 230 lbs./sq.yd.  
Base – 3” Asphalt Concrete, Type BM-25.0A  
Subbase – 6” Aggregate Base Material, Type I, Size No. 21B extended 1 foot behind the curb and gutter and connected to an edgedrain, in accordance with UD-4 standard details.

**Access Road:**

Surface – 1” Asphalt Concrete, Type SM-4.75A estimated at 115 lbs./sq.yd.  
Intermediate – 2” Asphalt Concrete, Type IM-19.0A estimated at 230 lbs./sq.yd.  
Base – 6” Asphalt Concrete, Type BM-25.0A  
Subbase – 8” Aggregate Base Material, Type I, Size No. 21B extended 1 foot behind the curb and gutter and connected to an edgedrain, in accordance with UD-4 standard details.

**Bus Loop and Transfer Bays:**

Surface – 8” Hydraulic Cement Concrete Pavement in accordance with standard PR-2 with maximum 15 foot transverse joint spacing. A joint layout plan must be included in the Design-Builder’s plan assembly.  
Base – 6” Aggregate Base Material, Type I, Size No. 21B. The subbase should be extended 1 foot behind the curb and gutter and connected to a standard UD-4 edgedrain.

**Sidewalk**

Hydraulic cement concrete sidewalk shall have a minimum base course of 4” of aggregate base material Type I, Size No. 21A or No. 21B, extended a minimum 4”

beyond the edge of the surface material. The sidewalk shall be 4” thick, Class A-3 concrete.

The minimum pavement sections require that proper grading be maintained to direct surface water away from paved areas and to provide for efficient runoff from surrounding areas. Control of both surface and ground water is a very important consideration for design and construction with respect to the overall performance of these pavement designs.

Any utility excavations or excavations for storm drains within pavement areas shall be backfilled with compacted structural fill in accordance with applicable sections of the 2016 VDOT Specifications and applicable special provisions.

VDOT guidelines specify that edgedrains/underdrains be provided for all pavements with daily traffic volumes in excess of 1,000 vehicles per day. Therefore, standard UD-4 edgedrains will be required below the outer edge of shoulders for all pavements on this project. Modified UD-1 underdrain shall be provided in lieu of standard UD-4 edgedrain for pavement sub-drainage in areas of high ground water, springs or cuts in excess of 15 feet; the modification consists of wrapping the aggregate with geotextile drainage fabric. Standard Combination Underdrain (CD-1) shall be provided at the lower end of cuts. Standard Combination Underdrain (CD-2) shall be provided at grade sags, bridge approaches, and at the lower end of undercut areas.

The concrete pavement for Bus Loop and Transfer Bays is plain jointed concrete pavement in accordance with Standard PR-2. If the Design-Builder’s joint layout plan requires panels with a length to width ratio greater than 1.25:1 or if there are odd (i.e. non-square/non-rectangular) shaped panels, then wire mesh reinforcement will be required in accordance with standard industry practice (e.g., Corps of Engineers TM-5-822-6) and ACPA guidelines (e.g. Informational Brochure, ACPA, Design and Construction of Joints for Concrete Streets).

## **2.6.2 Geotechnical Requirements**

Embankments are not addressed by LRFD. Embankments and cut slopes shall be designed in accordance with Section 305 of the VDOT Materials Division’s MOI. The maximum slope ratio to be used for cut and/or roadway embankment fill slopes shall not be steeper than 2H:1V. The Design-Builder is responsible for verifying the stability of all slopes.

Material and Construction requirements shall follow VDOT Manual of the Structure and Bridge Division, Volume V – Part 11 “Geotechnical Manual for Structures” and applicable special provisions listed in Part 2, Section 2.1.1(c). Where undercutting and material replacement is required to reduce settlement or improve bearing capacity/global stability, areas requiring repair shall be clearly identified on the plans with notes provided to aid plan review, construction, and inspection.

## **2.6.3 Unsuitable Materials**

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 strength, consolidation, durability of rock or any other characteristics that are deemed unsuitable by the Design-Builders' geotechnical engineer or as denoted in the Contract Documents for use in the Work. ***The existing fills that contain significant amounts of organic materials (wood, mulch, grass, topsoil, etc.) are unsuitable and shall be completely removed to expose inorganic and stable subgrade soil. The design-builder should anticipate removal and disposal of significant amounts of organically contaminated existing fill material on this project.*** 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. The anticipated locations and methods of treatment for unsuitable materials identified by the Design-Builder's qualified geotechnical engineer shall be shown on the design plans and cross sections. 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 2016 VDOT Specifications at no additional cost to the Department. 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.

Chemical stabilization of Potomac and Diabase clays is not permitted.

## **2.6.4 Control of Rock Blasting**

### **2.6.4.1 Blasting Control**

It is anticipated the rock excavation will be needed to construct this Project. If the Design-Builder elects to use explosives to remove the rock, the Design-Builder shall include as part of the design team a blasting consultant, approved by the Department, with a minimum of 5-years of experience developing blasting plans and providing oversight of blasting operations on highway projects in rock having comparable geologic lithology. A resume to include qualifications and relevant experience of the person responsible for review of blasting plans and oversight of blasting operations shall be submitted to the Department for approval before review and approval of the blasting plans. The consultant shall review the blasting plans used by the blasting contractor to verify it includes the results of blasting on a test section. The consultant shall make regular visits to the site as excavation progresses to verify that the plan need not be modified. The Design-Builder may utilize an in-house blasting expert to perform the role of the

blasting consultant providing they meet the same minimum requirements as the blasting consultant noted above, have been approved by the Department and are not directly involved in the development of the blasting plans.

#### **2.6.4.2 Test Blast**

The Design-Builder’s blasting consultant shall design a test blast that replicates the intended “weight per delay” and number of charges typical for a production blast. Seismic monitoring shall be provided for the test blast that includes monitoring points in proximity to the blast and at distances removed from the blast. Seismic records from the test blast shall be used to determine the regression of velocity and acceleration at various distances from the test blast. These data shall be used to control the weight per delay as the blasting program progresses. Provide results from test blast program to VDOT prior to production blasting.

#### **2.6.4.3 Vibration Control**

Control vibrations to less than 0.5 ips (inches per second) at the nearest structure. In addition to private/adjacent properties, this includes structures under construction and structures owned by VDOT. The contractor will be responsible for repairing any and all damage to adjacent facilities and structures for construction-induced damage.

#### **2.6.4.4 Coordination and Review by Design-Builder’s Geotechnical Engineer**

The Design-Builder’s geotechnical engineer shall be on-site during grading operations or visit the site at sufficient intervals during construction to review slope excavation operations and verify the planned slope design is suitable or make modifications as approved by VDOT.

### **2.6.5 Pipe Installation Methods**

Culverts or utility pipes shall be installed by either conventional methods in accordance with Section 302.03 of 2016 VDOT Road and Bridge Specifications. Trenchless technology is not permitted unless otherwise approved by VDOT. The Design-Builder’s Design Engineer 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. The Design-Builder’s Design Engineer shall be responsible to establish both the vertical and horizontal tolerances in support of the design. Such tolerances shall be noted on the Construction Plans. Under no circumstances shall the design tolerances used in design of either culverts or utility pipes exceed those specified in the 2016 VDOT Road and Bridge Specifications. If trenchless technology is used to complete roadway crossings, surface settlement monitoring must be performed to verify that there is no adverse impact on the stability and performance of the embankment and pavement structure above the pipe alignments in accordance with Section 302.03 of the 2016 VDOT Road and Bridge Specifications, as applicable.

## **2.7 Hydraulics**

The Design-Builder shall provide and/or perform all investigations, evaluations, analysis, coordination, documentation, and design required to meet all Hydrologic and Hydraulic, Drainage, Stormwater Management, Erosion and Sedimentation Control, Stormwater Pollution Prevention, and Virginia Storm Water Management Program permitting requirements of the standards and reference documents listed in Part 2, Section 2.1.

### **2.7.1 Drainage**

The drainage work shall include the design and construction of culverts, open channels, storm sewer systems, underdrains, stormwater management facilities, and erosion and sediment control measures in compliance with the standards and reference documents listed in Part 2, Section 2.1 and the VDOT Erosion and Sediment Control and Stormwater Management Programs. All pipe culverts and storm sewer pipe for the Project shall be determined in accordance with the VDOT Drainage Manual and the 2016 VDOT Road and Bridge Standards and all joints shall be determined in accordance with IIM-LD-254. The Design-Builder shall provide VDOT two (2) paper and two (2) electronic copies on compact disc (CD) of a final drainage report incorporating all drainage calculations including pre and post development discharges, 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.

Underdrain outfall locations are not shown in the RFP Conceptual Plans and it shall be the responsibility of the Design-Builder to develop the underdrain design including adequate outfall locations. The Design-Builder may, at its discretion, utilize access structures (i.e. manholes, cleanouts, etc.) in lieu of EW-12's in order to outfall an underdrain according to the guidelines set forth in the 2016 VDOT Road and Bridge Standards and the VDOT Drainage Manual while maintaining the ability for the underdrain to be accessed in the future for maintenance purposes.

### **2.7.2 Stormwater Pollution Prevention Plan (SWPPP)**

A SWPPP, including, but not limited to, an Erosion and Sediment Control (ESC) Plan and Narrative, a Pollution Prevention (P2) Plan, and a post construction Stormwater Management (SWM) Plan shall be prepared and implemented by the Design-Builder in compliance with applicable requirements of the standards and reference documents listed in Part 2, Section 2.1 including the Virginia Erosion and Sediment Control Law and Regulations and the Virginia Stormwater Management Act (VSMA) and the Virginia Stormwater Management Program (VSMP) Regulation.

It shall be the responsibility of the Design-Builder to have a qualified person within their team structure, other than the ESC and post construction SWM Plan designer, who is authorized and/or certified by the Virginia Department of Environmental Quality (VDEQ) to perform plan reviews, independently review and certify that the ESC Plans and Narrative and post construction SWM Plan for the Project are in accordance with VDOT's Approved ESC and SWM Standards and Specifications. Before implementing any ESC or post construction SWM measures not included in VDOT's approved ESC and SWM Standards and Specifications, a

variance or exception respectively must be requested using form LD-448 or LD-440 through the District Drainage Engineer in accordance with the latest versions of the VDOT Drainage Manual, IIM-LD-195, IIM-LD-251, and IIM-LD-227.

The Design-Builder shall complete and submit the ESC and SWM Plan Certification form (LD-445C) to the VDOT Project Manager. The Design-Builder shall provide VDOT two (2) paper and two (2) electronic copies each on CD of the final ESC Plan and Narrative, P2 Plan and post construction SWM Plan incorporating all calculations, analysis, documentation and evaluations required. The ESC Narrative shall specifically include calculations (with supporting data) documenting that the design meets the water quantity requirements for downstream channel flood protection utilizing **Part IIB** technical requirements in the ESC Law and Regulations, and the VSMA and VSMP Regulation, as appropriate.

The Project requires coverage under the General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharge of stormwater from Construction Activities (VPDES Construction Permit). The Design-Builder is responsible for providing to the Department the necessary information for VDOT to secure permit coverage for the Project. The permit fee will be paid by VDOT and it shall not be included in the Offeror's Price Proposal. The Design-Builder shall complete the applicable sections of the VPDES Construction Permit Registration form (LD-445), the VPDES Construction Permit Contact Information (LD-445A) along with the completed ESC and SWM Plan Certification form (LD-445C) and submit them to the VDOT Project Manager. The VDOT Project Manager will review the submitted information and, if complete and acceptable, process a request for coverage under the VPDES Construction Permit in accordance with VDOT's guidelines as outlined in the latest version of IIM-LD-242. If any information submitted by the Design-Builder is found to be incomplete and/or unacceptable, the assembly will be returned to the Design-Builder for corrective action and resubmission.

For a project that is to be constructed in its entirety (not in phases), the application for permit coverage shall include the total proposed Land Disturbance Area and the total Land Development Area, including any off-site facilities in the VDOT right of way, for the overall project. The Design-Builder shall submit a SWPPP (including a complete ESC Plan, SWM Plan, and P2 plan) for the entire project, for review and approval with the initial application for permit coverage.

Where a project will be constructed in phases, the application for permit coverage shall include the total proposed Land Disturbance Area and the total Land Development Area, including any off-site facilities in the VDOT right of way, for the entire project. A preliminary submission from the Design-Builder shall be submitted to include a SWPPP (including a complete ESC Plan, SWM Plan, and P2 plan) for the entire project, for review and approval with the initial application for permit coverage. The Design-Builder shall submit a SWPPP (including a ESC Plan, a SWM Plan, and P2 Plan) subsequently for each phase that includes the scope and extent of land disturbing proposed for that phase. The SWPPP for the initial phase shall be submitted with the application for permit coverage. It is expected that the individual phase submittals will be self-sustaining and not incur a deficit in post construction SWM design requirements requiring mitigation on successive phases. Subsequent work phase submittals shall

include the required modifications to the Land Disturbance Area based upon the proposed scope and extent of land disturbing activities for that phase; however, these modifications, in total, shall not exceed the submitted total Land Development Area for the entire project.

The Design-Builder shall not proceed with work to be covered by the permit until permit coverage is secured and the VDOT Project Manager 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 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. This represents a hold point in the Design-Builder's CPM Schedule. Design-Builder shall provide a completed SWPPP Certification form (LD-455E) before commencement of any land disturbing activity and shall complete and include the SWPPP General Information Sheets in the plan assembly per the latest version of IIM-LD-246. The SWPPP Certification form (LD-455E) and SWPPP General Information Sheets shall be updated with each work segment submittal as necessary.

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, complete the VPDES Construction Permit Termination Notice form (LD-445D) and submit both documents to the VDOT Project Manager for processing. 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 erosion and sediment control 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 team shall include a VDEQ certified ESC Inspector and a VDEQ certified SWM Inspector, both representing the Quality Assurance firm for the Project. All erosion and sediment control measures, as well as temporary and permanent stormwater management features shall be inspected at regular intervals by the Design-Builder's certified ESCCC representative, VDEQ certified ESC Inspector, and VDEQ certified SWM Inspector. These inspections shall be carried out in accordance with the *Minimum Requirements for Quality Assurance and Quality Control on Design-Build Projects and Public-Private Transportation Act Projects* manual and Part 5 Section 107.16(e) as amended in Exhibit 1 to Part 3. The inspections shall be documented and certified by both the Design-Builder's ESCCC representative, VDEQ certified ESC Inspector, and VDEQ certified SWM Inspector on the Construction Runoff Control Inspection Form (C-107 Part I).

### **2.7.3 Post-Construction Stormwater Management Facilities**

The Design-Builder shall be responsible for the design and construction of stormwater management facilities as required for the Project in accordance with IIM-LD-195, and the other standards and reference documents listed in Part 2, Section 2.1 including the Virginia Stormwater Management Act and the Virginia Stormwater Management Program (VSMP) Regulation, and shall comply with the minimum geotechnical requirements contained therein. This Project is non-linear hence the design shall comply with 9VAC25-870-66-Water Quantity, Section C.

VDOT has identified potential locations for post construction stormwater management facilities as part of the RFP Conceptual Plans. These locations are preliminary; however, and have not been fully evaluated to determine if they are suitable, feasible or sufficient to address all of the stormwater management requirements of the project. The Design-Builder, as part of their final design, shall evaluate these locations, and if found acceptable, develop a final post construction stormwater management plan. If any of the locations are found to be unacceptable, the Design-Builder must identify other acceptable location(s) to meet the post construction stormwater management requirements of the Project.

The Design-Builder is to insure proper ingress and egress to any stormwater management facility and that any specific proprietary facilities have proper maintenance details included in the Record (As-Built) Plans.

The Design-Builder shall provide As-Built drawings of all post-construction storm water management facilities located on the Project. The As-Built drawings shall show the actual finished ground contours, outlet structure dimensions and elevations, entrance grading and all applicable details originally shown in the design plans as they exist at the completion of the Project. These drawings shall be signed and sealed by a Professional Engineer or Land Surveyor registered in the State of Virginia. A minimum of two benchmarks shall be provided for each BMP in the form of a Commonwealth of Virginia Survey Control Mark (3.25" aluminum disc mounted on top of a #5 bar set in concrete).

VDOT completed a preliminary stormwater management analysis for the Project. The estimated post construction phosphorus reduction requirement for the Project is 5.94 lbs/year. The RFP Conceptual Plans account for some phosphorous removal on-site. VDOT has purchased 4.78 lbs of phosphorous loading nutrient credits, the Affidavit of Sale is provided in the RFP Information Package.

The Design-Builder may elect to purchase additional nutrient credits, if necessary upon validation of the final stormwater management design, in accordance with IIM-LD-251 to satisfy the post-construction water quality requirements for the Project. It is the responsibility of the Offeror to investigate the feasibility and availability of nutrient credits and as such their purchase shall be at their risk. All costs associated with the purchase of the nutrient credits shall be included in the Offeror's Price Proposal. The use of such nutrient credits shall be identified in the Design-Builder's SWPPP, including documentation of the evaluation process as described in IM-LD-251. Where the Design-Builder elects to purchase nutrient credits, the Design-Builder shall complete Attachment 2.7.3, the Nutrient Credit Assignment Agreement and shall submit the agreement to VDOT for execution. The agreement is to be used for the transfer of the

ownership of nutrient credits from the purchaser to VDOT. The agreement is to be completed with the appropriate project specific information and a copy of the bill of sale between the Nutrient Credit Bank and the purchaser is to be attached as Exhibit A. A copy of the executed agreement is to be included with the BMP information submitted with the VDPES Construction Permit Termination form LD-445D.

#### **2.7.4 Other Drainage Requirements**

All drainage facilities (existing and newly constructed) located within the Project limits that are disturbed or extended as a part of the project and are functional elements of the final design shall be rendered in a serviceable condition, free from debris and physical obstructions. Accumulated debris resulting from project construction activities shall be removed by the Design-Builder, as such maintaining the original line and grade, hydraulic capacity or construction of the facility prior to the final acceptance of the Project.

#### **2.8 Traffic Control Devices**

The Project shall include all Traffic Control Devices (TCD), including temporary and permanent installation of the following: signage and pavement markings. All TCD designed and installed under the Project shall be in accordance with standards and references in Part 2, Section 2.1. The Signing and Pavement Marking Plans, Transportation Management Plan (TMP), including Temporary Traffic Control/ Public Information and Traffic Operations Plans are required from the Design-Builder for final approval by VDOT and shall be included as a planned work package. The Design-Builder shall comply with the Special Provision for Personnel Requirements for Work Zone Traffic Control and the Special Provision for Work Zone Traffic Control Management, Design-Build Projects (both of which are included in the RFP Information Package).

##### **2.8.1 Signs**

The Design-Builder shall be responsible for modifications to existing signs and sign structures, and furnishing and installing all required new temporary and permanent signs and structures. Any signing on adjacent roadways beyond the Project limits that require relocation, replacement, or modification due to the proposed design shall be the responsibility of the Design-Builder. The final lines of sight and sight distances must be considered in the placement of all Project signage.

The Design-Builder shall design and install a total of four ground-mounted wayfinding signs along Route 15 (in the northbound direction: one south of Route 55 and one closer to Heathcote Boulevard, and in southbound direction: one north of Old Carolina Road/Stepping Stone Drive and one closer to Heathcote Boulevard).

The Design-Builder shall design and install ground-mounted Park & Ride regulatory and guide signs, including but not limited to: prohibition of sales of goods or services signs, bicycle locker signs, “Park in Designated Spaces Only” signs, “No Parking” signs, “No Parking Beyond This Point” at the turnaround area, and an entrance sign with lot name.

An existing sign inventory shall be completed prior to site demolition in accordance with the VDOT Traffic Engineering Design Manual. This existing information shall be submitted at the same time as the first plan submittal for proposed signing.

All signs and sign structures to be removed during the construction of the Project shall be disposed of by the Design-Builder. Temporary relocation of signs may be necessary as part of this Project and it is the responsibility of the Design-Builder to perform all the required sign relocations.

### **2.8.1.1 Signing Plan Requirements**

The signing plans shall be prepared at a one (1) inch = fifty (50) feet scale when plotted full size at thirty-five (35) inches by twenty-three (23) inches. The signing plans shall show the proposed sign message, 2009 MUTCD or 2011 Virginia Supplement to the 2009 MUTCD sign designation (if applicable), size and location of all signs. The structure type used for mounting sign shall be noted on the signing plans. These signing plans shall show the location and messages of all existing signs. All existing sign removals and relocations shall be shown on the signing plans. The signing plans also shall include the location and type of delineation devices (including pavement markings and pavement messages/arrows).

### **2.8.1.2 Design of Sign Panels and Locations**

Proposed and replaced sign panels shall be in accordance with the 2016 VDOT Road and Bridge Specifications and other references in Part 2, Section 2.1. Overhead sign structures shall be located, designed, fabricated, and constructed in accordance with applicable standards and specifications. The Design-Builder shall coordinate all sign locations with all proposed and existing signing, landscaping, fencing, signals, utility, drainage, and all other roadside features to assure proper clearances and adequate sight distances. Sign sizes shall adhere to the latest edition of the FHWA Standard Highways Signs Book, the current edition of the 2009 MUTCD, the 2011 Virginia Supplement to the 2009 MUTCD, and all applicable Traffic Engineering Division Numbered memoranda. All Advance Guide Signs shall be mounted on overhead sign structures; Supplemental Guide Signs may be ground mounted. No guide signs shall be mounted on bridges.

The Design-Builder shall use Standard VDOT sign structures for new and relocated VDOT owned signs. Ground-mounted VDOT sign structures shall use Standard SSP-VIA or SSP-VA structures, unless otherwise approved by VDOT. For all non-standard signs, the Design-Builder shall use GUIDSIGN software to design the sign panels. The Design-Builder shall utilize the current edition of the MUTCD, 2011 Virginia Supplement to the 2009 MUTCD, the FHWA's Standard Highway Signs including Pavement Markings and Standard Alphabets to design all non-standard signs that do not have a MUTCD or VDOT standard sign designation. The Clearview font shall only be utilized for all positive contrast guide signs in accordance with the 2011 Virginia Supplement to the 2009 MUTCD and applicable Traffic Engineering Division Numbered Memoranda.

## 2.8.2 Pavement Markings

The Design-Builder shall include all required pavement markings and messages and symbols. Pavement markings shall conform to the requirements of the 2009 MUTCD, the 2011 Virginia Supplement to the 2009 MUTCD, and the 2016 Road and Bridge Specifications. All pavement marking plans shall be in accordance with VDOT Traffic Engineering Design Manual, dated 2011.

All existing pavement marking and markers that do not conform to the final permanent traffic patterns shall be removed via proper eradication in accordance with the 2016 VDOT Road and Bridge Specifications.

## 2.8.3 Project Lighting

The Design-Builder shall be responsible for all work necessary to design and construct lighting systems for the on this project. Lighting systems shall be provided in the following locations:

- At the entrance to the Park & Ride Lot at Heathcote Boulevard, and
- Throughout the commuter Park & Ride lot.

The lighting at the intersection of the access road and Heathcote Boulevard shall be on separate power supply or connected to an existing power supply such that the County is responsible for the maintenance and associated monthly fees. The Design-Builder shall be required to coordinate with Prince William County to satisfy any roadway lighting requirements deemed necessary by the County at the Heathcote Intersection. The lighting for the entrance at Heathcote Boulevard shall be installed and maintained by NOVEC. VDOT will not share any monetary responsibility towards the maintenance or associated monthly fees for the intersection lighting.

The lighting for the Park & Ride lot shall be LED and designed to meet VDOT requirements for lighting. The lamp posts and fixtures shall be selected by the Design-Builder, with input from VDOT, from those readily available through Dominion Energy. The lighting for the Park & Ride lot shall be maintained by Dominion Energy, with VDOT assuming monthly fees.

All project lighting shall be installed and in working order prior to opening of the Park & Ride facility.

The lighting system shall be designed in accordance with VDOT's Traffic Engineering Design Manual, Guides and Informational Instructions as well as the American National Standard Practice for Roadway Lighting publication (IES RP-8-14) prepared by the American National Standards Institute (ANSI) and the Illuminating Engineering Society of North America (IESNA). The lighting design shall meet the Illuminance and the Luminance criteria and the Design-Builder shall submit for VDOT's approval Point-to-Point lighting calculations and

analysis of the complete lighting system, using VDOT’s standard computer lighting software AGI32, or an equally capable software. The Park & Ride lot lighting may be configured and/or arranged in such a manner so as to illuminate the entire Park & Ride lot including kiss-and-ride area, the bus loop, and bus shelter areas. All ground mounted lighting standards shall be furnished with manufacturer's transformer bases and all light poles located inside the clear zone limits must be fixed with a breakaway base. For maintenance purposes, the maximum pole luminaire mounting height shall be limited to 45 feet. Luminaries shall be LED unless otherwise approved by VDOT. The lighting system shall be constructed in accordance with the current edition of VDOT’s Road and Bridge specifications and requirements of the National Electric Code. The lighting system will require Equipment Grounding Conductors, sized to match the largest feeder conductor cable, in non-metallic conduits in accordance with Article 250 of the National Electric Code. All conductor cables shall be installed in conduit and junction boxes and no direct burial cable will be permitted. The smallest wire size allowed in any feeder or branch circuit is # 8 AWG. The Design-Builder shall submit voltage drop calculations for the entire lighting system which shall not exceed 3%. The Design-Builder shall be responsible for coordinating with local electric utility company to provide service drop(s) for the lighting system.

#### **2.8.4 Parking Management System**

The Design-Builder shall provide suitable infrastructure and equipment to provide real-time information about parking space availability through an established data management system that will collect, standardize, verify and distribute the information. This shall include sensors in the pavement to maintain the accurate count of vehicles entering and leaving the Park & Ride lot.

The Design-Builder shall design and install devices to provide occupancy and utilization data for general purpose (GP) spaces, ADA spaces, and kiss-and-ride areas; loop detectors shall be used at entrances and exits to determine occupancy of GP spaces while individual space monitoring will be required to determine occupancy of ADA spaces and kiss-and-ride areas. Example individual parking occupancy detection technologies include in-ground sensors (e.g. magnetic, radar, quad-technology, loop) and out-of-ground sensors (e.g. radar, video).

Alternately, the Design-Builder may adjust the RFP Conceptual Plans to separate kiss-and-ride and ADA parking access from the general parking access in order to avoid the requirement to count kiss-and-ride and ADA spaces.

The Design-Builder shall be responsible for applying systems engineering process, designing, furnishing, installing, and maintaining the full parking management system until Final Acceptance, integration, testing, documentation, and final submission of As-Built plans for the ITS infrastructure components. ITS design and all related components of the Parking Management System shall be in accordance with the VDOT 2016 Road & Bridge Specifications and other references in Section 2.1.1. The Parking Management System shall include, but is not limited to, entrance/exit, ADA and kiss-and-ride individual space counting technology, closed circuit television camera (CCTV), a Dedicated Dynamic Message Signs (DDMS), entrance delineator, surge protector, fiber connection to VDOT’s existing fiber network on I-66, field

Ethernet switch, junction box(es), cabinet, and power. The DDMS shall be located on the north side of the Access Roadway at approximate Station 103+50.

The Design-Builder shall validate the parking space counting data and demonstrate to the Department for review via a private URL prior to Final Acceptance. The Design-Builder shall provide an integrated data stream (GP spaces and ADA spaces) for assessment and subsequent use by VDOT's Advanced Transportation Management System (ATMS) contractor Q-free, to integrate into VDOT's ATMS for parking information dissemination. The Design-Builder shall provide an integrated data stream to VDOT's Data Warehouse that will be used by VDOT's 511 contractor, Iteris, and other private sectors for disseminating the information to the general public.

The Design-Builder shall install delineators at the non-bus entrance and exit to allow for a minimum of 20 feet of vehicle travel in the detection zone before the turning movement for the purpose of improving counting accuracy.

The Design-Builder shall install a combination static/dynamic message sign at the entrance to the Park & Ride Lot, with a static message (including parking symbols for GP and ADA) and two dynamic message signs of sufficient size to show the available parking spaces for each respective type of parking. The two, one-line, DMS units shall each be mounted on the static sign panel and provide for messages up to six characters in length (displayed messages: the number of available spaces – GP or ADA, or “open”, or “closed”, or “full”).

The Design-Building shall install at least one CCTV camera on an independent pole that provides the full view of the general and ADA parking spaces.

The Design-Builder shall design, install, coordinate with utility providers, pay for new service, test, energize, document, submit As-Built Plans, maintain and compensate the utility company for power consumption until Final Acceptance for electric system for this Project. Use of a solar solution as a permanent power source will not be permitted for this Project.

The Design-Builder shall be responsible for all infrastructure components, including dedicated fiber, new fiber extensions that connect to Department's existing fiber network on I-66, installed and/or modified by the Project until Final Acceptance by VDOT. The fiber connection shall be made at the camera cabinet located near the on-ramp to I-66 eastbound from Route 15. This location is shown on Sheet 40(3) of the I-66 Widening Design-Build Project (UPC# 93577, Project # 0066-076-003, P101, R201, C501, B675, B674). The ITS Plans from this project have been added to the RFP Information Package. The conduit shall be tied in at the manhole just east of and in very close proximity to the cabinet. The Design-Builder shall avoid and minimize disruption to the existing ITS network. The additions and connection to the fiber ITS communications network and interface shall seamlessly reside and be fully interoperable with the legacy network. The Design-Builder shall furnish and install edge Ethernet communication switch manufactured by MOXA Model EDS 510A 3SFP-T or similar units from this model family that uses the MOXA Turbo Ring and Turbo Chain, self-healing Ethernet technology. VDOT is currently pursuing a certification to use the MOXA switch to match existing communication network equipment currently in use in Northern Virginia in order to

minimize potential conflict. A copy of the certification will be provided to the Design-Builder prior to award. .

The Design-Builder shall submit the proposed equipment and technology plan for VDOT review and approval prior to furnishing and installing the technology. The Design-Builder shall be responsible for providing communication protocols for all devices and equipment, being constructed by this Project, to VDOT's ATMS software provider, Q-Free. Q-Free is responsible for integrating field device to VDOT-provided ATMS and Parking Guidance System (PGS) located at a facility provided by Q-Free. The Design-Builder shall coordinate with Q-Free and Iteris regarding the device integration and connectivity of data transfer. The Design-Builder will not be responsible for ATMS and PGS software testing. The software testing will be performed by VDOT's software providers. The software testing will be performed at times mutually agreed upon by all parties: Design-Builder, VDOT, VDOT software providers, Q-Free and Iteris. All stand alone, system operation, and acceptance testing will be conducted with Design-Builder supplied software.

Any questions related to coordination with Q-Free or Iteris should be directed to the following VDOT personnel during the proposal development to determine the compatibility and ease of integration of individual space counting technology:

- The primary point of contact for VDOT's ATMS is Mr. Ken Earnest, P.E., VDOT Central Office Operations at 804-786-9743.
- The primary point of contact for VDOT's 511 system is Mr. Scott Cowherd, VDOT Central Office Operations at 804-786-2451.

Inspection, integration, and testing involve a three-tier sequential process that consists of Stand Alone functionality, System Operation, and Acceptance Testing as defined herein. Stand Alone Testing requires field acceptance at device, cabinet, communication hub and Traffic Management Center (TMC) levels in order to proceed to System Operational Testing. This Stand Alone Testing shall successfully demonstrate that users at the TMC can fully control all aspects of the ATMS before the Design-Builder can commence Acceptance Testing. The Design-Builder shall make arrangements for the witnessing of tests by VDOT staff or representatives by sending notification seven (7) days prior to scheduled test. The Design-Builder shall furnish and install a test workstation running vendor-supplied software at MPSTOC. The Design-Builder shall be responsible for installing, configuring, testing and integrating all field equipment to the test workstation. The Design-Builder must demonstrate that all devices function as specified.

The Design-Builder shall be responsible for establishing and executing a plan for inspecting, integrating, and testing of all infrastructure and device components furnished and installed by the Project. The QAM shall be responsible for ensuring that the inspection, integration, and testing plan established by the Design-Builder and approved by VDOT is properly executed, variances are reported and corrective actions are made.

The Design-Builder shall supply written test procedures for VDOT approval a minimum of thirty (30) days before testing can be started. The Design-Builder shall submit reports for all

testing levels to verify procedures followed, results recorded, timetable, and action required. The testing report shall include relevant information, such as calibration data of all test equipment, charts, graphs, evidence, photographs, failure analysis, corrective action, traceability and audit trail, with certification signature of both Design-Build Project Manager and QAM.

The Design-Builder shall perform Acceptance Testing over a sixty (60) consecutive day period under real-world operation conditions without system failure prior to acceptance by VDOT (i.e., open Park & Ride lot to traffic and test Parking Management System live). The system shall not lockup, fail, or crash due to use, operator entry of data, or equipment malfunction during the 60 days. Operators will record any deficiency as it occurs and VDOT may employ a third-party to inspect the system and record any deficiencies. Any system failure of Design-Builder supplied equipment or discovery of deficiency that causes a system failure shall be cause to halt and repeat Acceptance Testing in its entirety for another full 60-day period after correction of problem. The Design-Builder shall take this into consideration in the development of the Baseline Schedule, so as to ensure testing is complete and system accepted by Final Completion.

During Acceptance Testing, the Design-Builder shall respond to any issues within four (4) hours of notification from VDOT. All repairs shall be completed within 48 hours, with the exception of communication failures that shall be completed within 24 hours.

The Design-Builder shall provide manufacturer’s warranties on all furnished equipment for material and workmanship that are customarily issued by the equipment manufacturer. The manufacturer’s warranty period shall commence from successful completion of the field acceptance testing.

The Design-Builder shall provide documentation and training for the installation, operation, and maintenance of the ITS equipment constructed by the Project. Training shall include all infrastructure components, device components, and network component.

## **2.9 Transportation Management Plan**

The Design-Builder shall prepare a Transportation Management Plan (TMP) in accordance with I&IM-241/TE-351 for Type “A” Projects (Project Management Project Category I & II) for all proposed work associated with the Project. The TMP shall be reviewed and approved by a member of the Design-Build team who is ATTSA or VDOT Certified in Advanced Work Zone Traffic Control prior to submittal to VDOT. Proof of that review along with a copy of the Certification shall be included in the TMP submittal to VDOT. VDOT retains the right to review and provide comments, if needed, to be addressed by the Design-Builder. The TMP shall document how traffic shall be managed during the construction of the Project. The Design-Builder shall coordinate all work in accordance with the TMP. The phases in the Design-Builder’s sequence of construction shall be followed unless the Design-Builder submits and secures VDOT approval for a sequence which will both expedite construction while lessening the effect of such construction upon the traveling public. The TMP shall incorporate and address the elements provided in Part 2, Section 2.9.

### **2.9.1 Maintenance of Traffic**

The Design-Builder's TMP shall include a Maintenance of Traffic (MOT) Plan, detailing all phases of work, proposed lane closures, maintenance of traffic through the work area, and all construction accesses for approval by VDOT's Project Manager. This plan shall address safe and efficient operation of adjacent public transportation facilities and State Highways, include coordination with local agencies and other contractors performing work in the vicinity of Heathcote Boulevard, and reflect the noted Scope of Work and all applicable VDOT Standards and Specifications regarding time of work. All users must be addressed and accommodated in the TMP, including pedestrians, bicyclists, transit vehicles, and other motorists. The TMP shall also accommodate safe and efficient snow removal operations and ensure proper drainage during all phases of construction. Access must be maintained to all businesses, residential communities, and private entrances at all times.

If additional traffic counts are required, it will be the responsibility of the Design-Builder to collect such data.

The minimum allowable travel lane widths during construction shall be eleven (11) feet. At locations where Traffic Barrier Service Concrete or Group II Channelizing Devices are used, a minimum width of one (1) foot shall be provided between the travel lane and the Traffic Barrier Service or Group II Channelizing devices.

Construction signs and pavement markings (temporary) shall be installed, maintained, adjusted, and removed by the Design-Builder throughout the duration of the Project.

All entrances, intersections or pedestrian access points/routes that will be affected by the work zone or by the traffic control devices will be maintained or an acceptable alternate must be provided by the Design-Builder.

If Traffic Barrier Service Concrete (TBSC) is warranted based on the criteria for determining the application of barrier per the 2011 Work Area Protection Manual (with revisions through April 2015) and a completed Engineering and Traffic Investigation-Work Zone Channelization/Barrier Analysis, the guidelines provided in the Roadway Design Manual and IIM-LD-93.16 shall be utilized.

### **2.9.2 Lane and Road Closure Restrictions**

VDOT acknowledges that temporary lane closures may occasionally be required. Offeror's Technical and Price Proposals shall be developed to meet the lane closure restrictions specified in this section. Neither long-term detours nor full roadway closures will be permitted for this Project.

Lane closures shall be detailed in the Design-Builder's Transportation Management Plan. Anticipated and proposed temporary lane closures shall be reviewed and approved by VDOT. The Design-Builder shall restore all lanes of traffic per the times specified in this section.

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.

Single-Lane Closures*					
ARTERIAL	WEEKDAY		WEEKEND		
	Monday to Thursday	Friday	Friday to Saturday	Saturday to Sunday	Sunday to Monday
Route 15	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				
Heathcote Boulevard (Route 2502)	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				

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

These allowable hours shall be applicable to both stationary and mobile lane closures. VDOT will consider changes to the allowable lane closure hours only if the Design-Builder can demonstrate why the proposed work cannot be completed within the contract allowable lane closure hours. All requests shall include an assessment of the work zone traffic impacts using a sketch planning traffic analysis tool and/or an operational level traffic analysis software program as appropriate for approval by VDOT at least 30 days prior to the operation impacting the lanes.

In addition to the work restrictions for Holidays in Part 5, Section 108.02 (Limitation of Operations), the following holidays and events shall be subject to same restrictions:

- **Martin Luther King Jr. Day and Lee Jackson Day:** As indicated below\*.
- **President’s Day:** As indicated below\*.
- **Inauguration Day:** From Noon on the preceding day until Noon on the following day, except as indicated below\*.
- **Easter:** As indicated below\*.
- **September 11<sup>th</sup>:** From Noon on the preceding day until Noon on the following day, except as indicated below\*.
- **Columbus Day:** As indicated below\*.
- **Election Day:** From Noon on the preceding day until Noon on the following day, except as indicated below\*.
- **Veteran’s Day:** From Noon on the preceding day until Noon on the following day, except as indicated below\*.

**If the Holiday occurs on a Friday or Saturday:** From Noon on the preceding Thursday to Noon on the following Monday.

**If the Holiday occurs on a Sunday or Monday:** From Noon on the preceding Friday to Noon on the following Tuesday.

\*Note: For low volume roadways (minor arterial) no lane closure is allowed during the holidays, but no restriction to the preceding day and the following day.

Local events for which the Town of Haymarket closes Route 55 (Washington Street) to through traffic and detours traffic to Route 15 and Heathcote Boulevard include, but are not limited to, the following:

- **Haymarket Earth Day** – Saturday, April 22, 2017
- **Haymarket Health & Fitness Day** – Saturday, June 10, 2017
- **Haymarket Day** – Saturday, September 16, 2017
- **Haymarket Holiday Celebration** – Saturday, December 2, 2017

The Design/Builder shall not impose lane closures that would affect such rerouting of traffic around the Town of Haymarket on these special event dates. For future dates of these events, please refer to the “Calendar” link on the Town’s website: <http://www.townofhaymarket.org/>.

The Design-Builder shall submit all lane closure requests to the VDOT Northern Virginia TOC via the Lane Closure Advisory Management System (LCAMS) and VDOT Project Manager for coordination purposes (for determination of conflicts with other projects, for instance) no later than close of business Wednesday the week prior to closure, stating the location, purpose, date, time, and duration of the closure. The Design-Builder shall confirm at least twenty-four (24) hours before any scheduled lane 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 TOC to post the information on the VDOT website and VA511 system. The Design-Builder shall contact the Northern Virginia TOC directly 15-45 minutes prior to executing all lane closures and once work has been completed and all closures have been removed (i.e., at first cone down and at last cone up).

The Design-Builder is responsible for providing advance notification via required static signing for lane closures in accordance with the 2011 Virginia Work Area Protection Manual. Once a closing is in place, work shall commence immediately and shall progress on a continuous basis to completion or to a designated time.

If the Design-Builder is unable to remove the lane closure by the stipulated time, the Design-Builder will not be allowed further lane closures until the reasons 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 is to be provided to the VDOT Construction Manager within two (2) days of the occurrence. VDOT will respond to the adequacy of the submission within two (2) working days of receipt. No consideration for extension of time and no additional compensation will be granted for these days.

VDOT reserves the right to monitor traffic conditions impacted by the work and to make additional restrictions as may be necessary or as emergency situations dictate. Additional

restrictions for other holidays or special local events may be necessary, however, in these situations VDOT will endeavor to inform the Design-Builder at the earliest and in no case less than forty-eight (48) hours prior to the event.

## **2.10 Public Involvement / Public Relations**

The Design-Builder shall be responsible for developing and providing information that is suitable for sharing with the Public, as well as conducting meetings as described below.

The Design-Builder shall provide a point of contact and phone number for the public to use to request information or express concerns during the Project development and delivery. All written information to be released to the public shall be approved by VDOT.

During the design phase, the Design-Builder shall:

- Provide copies of preliminary design of the Park & Ride Lot and access road to the Town of Haymarket's Town Council and Prince William County Department of Transportation prior to sharing such design with the public. The Design-Builder shall be prepared to attend a meeting with the Town and/or County to discuss the details of the design as proposed.
- Conduct one (1) Public Information Meeting with affected stakeholders to present the design, anticipated construction schedule, anticipated impacts to the surrounding community, and to answer any questions. A list of affected stakeholders (including, but not limited to, community associations, schools, churches, business owners, police, fire & rescue, school bus transportation, transit operators) shall be developed by the Design-Builder and submitted to VDOT for acceptance prior to advertising the meeting. All stakeholders shall be invited to the meeting.
- Conduct other informal public meetings, at the request of VDOT or other stakeholders. Materials suitable for presentation to the public, including PowerPoint presentations, or static displays, shall be drafted and presented to VDOT for review and approval prior to the meeting(s).
- Concurrent with the first plan submittal and at intervals deemed necessary by the VDOT (at a minimum, quarterly), provide to VDOT's Project Manager written information about the Project suitable for posting by VDOT on its Website. Such information will include a Project overview, plan of work, overall Project schedule and progress, any significant changes that affect the public, potential impacts to traffic on all roadways within the project limits, up-to-date Project photos, and contact information.

During the Construction Phase, the Design-Builder shall:

- Provide information to the VDOT Project Manager regarding Traffic Alerts whenever there are new impacts to motorists. All information for Traffic Alerts must be submitted at least one week in advance of the traffic impact. If the impact is major (changes or additional lane closures that are anticipated to cause traffic delays that exceed existing conditions), VDOT must be notified one month in advance.
- Maintain a log or database of questions, complaints, and/or comments received from stakeholders and the public either via public outreach efforts or direct contact, along with dates received, responses generated, and how the issues or concerns are addressed. If appropriate, this list of questions and responses will be posted on VDOT's website.
- Provide to VDOT's Project Manager an emergency contact list of Project personnel and response plan to respond to any onsite emergency, including any work zone incidents in accordance with I&IMLD-241.

Conceptual design has been developed and was made available for public review. A Posting of Willingness was advertised on January 11-13, 2017 and again on January 18-20, 2017. No request was received for a Public Hearing. The major design features of the Project were approved by the Assistant State Location & Design Engineer on June 16, 2017. Any public meetings held shall be conducted in accordance with the VDOT Policy Manual for Public Participation in Transportation Projects.

## 2.11 Right of Way

The procedures and requirements related to Right of Way for this Project shall be in accordance with the Right of Way Manual of Instructions, 3rd Edition, FHWA Update January 1, 2016, Chapter 10 (Special Projects Section), including Attachment 2 to Chapter 10 (Right of Way Contract Provisions for Design Build Contracts).

Parcel 003 was acquired as residue Parcels 012, 013, and 014 (and designated in the Property Management inventory as such) under State Project Number 0066-076-074, C501 (UPC 100566). The Design-Builder's Right of Way Plans shall show the Parcel 003 as Proposed Right of Way. Once the Right of Way Plans are approved, the Design-Builder shall remove the interior Property Lines from Parcel 003.

## 2.12 Utilities

All efforts and costs necessary for all utility designations, utility locates (test holes), conflict evaluations, cost responsibility determination, utility relocation designs, utility relocations and adjustments, utility reimbursements, replacement land rights acquisition and utility coordination shall be included in the Offeror's Price Proposal; provided, however, that the compensation paid to landowners for replacement land rights will be paid by VDOT as a part of the right of way acquisition costs and shall **NOT** be included in the Offeror's Price Proposal.

Costs for any utility betterment(s) shall **NOT** be included in the Offeror's Price Proposal but shall be reimbursed to the Design-Builder through agreement with the requesting utility owner.

Utility information provided on the RFP Conceptual Plans identifies all known utilities, at the time of plan development, that are located within the Project limits. Aerial utilities are identified on the RFP Conceptual Plans and/or in the Survey files by the structure to which they are attached; however, it is the Offeror's responsibility to verify the owner, type, size, height and number of cables attached to the structure when preparing its Price Proposal. All underground utility data was obtained and is depicted in accordance with CI/ASCE 38-02 SUE Quality Level B designation on the RFP Conceptual Plans and/or Survey files; however, it is the Offeror's responsibility to verify the owner, type, size, number of cable/conduits, pipes, services, and horizontal and vertical (depth) location of underground utilities to include service connections and laterals with the utility owners when preparing their Price Proposal.

The Design-Builder shall be responsible for all utility designations, utility locates (test holes), conflict evaluations, cost responsibility determinations, utility relocation designs, utility relocations and adjustments, utility reimbursement, replacement land rights acquisition, utility coordination, and coordination of utility betterments required for the Project. The Design-Builder shall be responsible for all necessary utility relocations, adjustments, and betterments to occur in accordance with the accepted Baseline Schedule.

The Design-Builder shall be responsible for coordination of the Project construction with all utility owners that may be affected. The Design-Builder shall be responsible for coordinating the work of the Design-Builder, its subcontractors, and the various utilities. The Design-Builder shall initiate early coordination with all utility owners with facilities located within the Project limits. The resolution of any conflicts between utilities and the construction of the Project 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 utility owners or the operation of relocating utilities or betterments.

The Design-Builder shall make all reasonable efforts to design the Project to avoid conflicts with utilities, and minimize impacts where conflicts cannot be avoided. 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.

Utility owners and their respective contact information that are known to the Department are provided below for reference only. It is the Design-Builder's responsibility to verify whether other utility owners exist within the Project limits and coordinate with them.

**Dominion Energy**

1719 Hydraulic Road  
Charlottesville, Virginia 22906  
Ms. Debbie Coffelt – Electric T&D Projects Manager  
Mobile: (703) 999-2435  
Email: [debbie.coffelt@dom.com](mailto:debbie.coffelt@dom.com)

**Northern Virginia Electric Cooperative**

5399 Wellington Branch Drive  
Gainesville, Virginia 20155  
Mr. Randall J. Goncher – Supervisor, Distribution  
Engineering  
Office: (703) 754-6783  
Mobile: (571) 229-6108  
Email: [rgoncher@novec.com](mailto:rgoncher@novec.com)

**Verizon South**

9401 Peabody Street  
Manassas, Virginia 20110  
Mr. William “Bill” Lacy – Project Designer / Highway  
Relocations  
Office: (703)0369-9571  
Mobile: (540) 520-1905  
Email: [william.lacy@verizon.com](mailto:william.lacy@verizon.com)

**Comcast Cable**

5304 Kings Court  
Frederick, Maryland 21703  
Ms. Amy Goad – Construction Supervisor  
Office: (301) 625-3407  
Mobile: (202) 815-9919  
Email: [amy\\_goad@comcast.com](mailto:amy_goad@comcast.com)

**SummitIG**

22375 Broderick Drive, Suite 165  
Dulles, Virginia 20166  
Mr. Steve Ragland – Director of Construction  
Mobile: (804) 317-4483  
Email: [sragland@summitig.com](mailto:sragland@summitig.com)

**Prince William County Service Authority**

4 County Complex Court  
Woodbridge, Virginia 22192  
Mr. Edward Kovalchuk – Project Engineer II  
Office: (703) 335-7944  
Email: [ekovalchuk@pwcsa.org](mailto:ekovalchuk@pwcsa.org)

The Design-Builder shall provide all utility owners with roadway design plans as soon as the plans have reached a level of completeness adequate to allow them to fully understand the Project 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, there shall be a concurrence box on the plans where the utility owner signs and accepts the relocation plans as shown.

The Design-Builder shall coordinate and conduct a preliminary utility review meeting with all affected utility owner to assess and explain the impact of the Project. VDOT’s Project Manager and VDOT’s Regional Utilities Manager/Design Build Projects Utility Coordinator (or designee) shall be included in this meeting.

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. The Design-Builder shall prepare and submit to VDOT a Preliminary Utility Status Report within one hundred and twenty (120) days from the Date of Notice to Proceed that includes a listing of all utilities located within the Project limits and a conflict evaluation and cost responsibility determination for each utility. This report shall include copies of existing easements, As-Built plans or other supporting documentation that substantiates any compensable rights of the utility owner.

The Design-Builder shall obtain the following from each utility owner that has a utility located within the Project limits: relocation plans including letter of "no cost" where the utility owner does not have a compensable right; utility agreements including cost estimate and relocation plans where the utility owner has a compensable right; or letters of "no conflict" where the utility owner's facilities will not be impacted by the Project.

The Design-Builder shall review all relocation plans to ensure that relocations comply with the current editions of the VDOT Utilities Manual of Instruction, the Utility Relocation Policies and Procedures and the VDOT Land Use Permit Manual. 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 to VDOT all relocation plans. The Design-Builder is expected to assemble the information included in the relocation plans in a final and complete form and in such a manner that VDOT may approve the submittals with minimal review. The Design-Builder shall meet with VDOT's Regional Utilities Manager/Design Build Projects Utility Coordinator (or designee) within forty-five (45) days from the date of Notice to Proceed to gain a full understanding of what is required with each submittal. The Design-Builder shall receive written approvals from VDOT prior to authorizing utilities to commence relocation construction. 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.

The Design-Builder shall be responsible for ensuring that each utility owner that is subject to the requirements of Section 313 of Title 23 United States Code, MAP-21 S.1518 Buy America as described in Part 5, Exhibit 102.05(g.1) provides written certification to the Design-Builder that they are in compliance with this requirement. If the Design-Builder or its subcontractors are installing the utility relocations then the Design-Builder shall provide the certification pre-installation, along with any other Contractor installed items for the Project; if the utility owner/company is installing the utility relocation then the certification shall be provided post-installation. Compliance documentation must be furnished for the Design-Builder to be reimbursed for the Work. For any utility betterments where Project funds are being applied, the Work must meet the Buy America requirements.

At the time the Design-Builder notifies VDOT that the Design-Builder deems the Project to have reached Final Completion, the Design-Builder shall certify to VDOT that all utilities have been identified and conflicts have been resolved and that those utility owners with compensable rights or other claims related to relocation or coordination with the Project have had their facilities relocated and their claims and compensable rights satisfied or will be satisfied by the Design-Builder.

The Design-Builder shall ensure the utility owners submit As-Built drawings upon completion of their relocation and/or adjustments. VDOT will issue an as-built permit to the utility owners after receipt of the permit application and the As-Built drawings. The Design-Builder shall accurately show the final location of all utilities on the As-Built drawings for the Project in accordance with Part 2, Section 2.15.9 of the RFP.

## 2.13 Quality Assurance / Quality Control (QA/QC)

The Design-Builder shall submit its Quality Assurance/Quality Control (QA/QC) for both design and construction to VDOT at the meeting held after the Date of Commencement as set forth in Part 4 General Conditions under Section 2.1.2. Along with the QA/QC Plan submittal, the Design Manager and Quality Assurance Manager (QAM) shall provide a presentation of the QA/QC Plan for both design and construction utilizing Project related scenarios. Project scenarios shall include, but not be limited to:

- A walkthrough of the QC and QA process for one design phase submittal, including the names of the individuals that will be performing the design and those providing the reviews. Discuss how the QC and QA process will be documented to confirm that it was completed per the QA/QC Plan and steps that will be taken to ensure that the QC and QA reviews are independent;
- Preparatory Inspection Meeting requirements, including incorporation of at least one each, Witness and Hold Point, as set forth in Sections 5.3 and 5.14 of the Department’s guidance document for Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects, January 2012 (January 2012 QA/QC Guide);
- At least one (1) material which VDOT retains responsibility for testing as identified in Table 5-2, January 2012 QA/QC Guide;
- Situation arising requiring the issuance of a Non-Conformance Report and subsequent review of the report, including completion of corrective measures and the issuance of a Notice of Correction of non-conformance work with proper log entries and proper interface with auditing and recovery requirements as set forth in Sections 5.10 and 5.11 of the January 2012 QA/QC Guide for non-conforming work resulting from:
  - defective equipment
  - construction activities/materials which fail to conform as specified;
- Inspection documentation capturing requirements as set forth in Section 5.20 and 5.21 of the January 2012 QA/QC Guide; as well as inspection of foundation and pavement subgrades that are to be performed and certified by the Design-Builder’s licensed geotechnical engineer in accordance with the Contract requirements;
- Preparation of an application for payment. Discuss the process for identifying an initiated Work Package and a completed Work Package on the application for payment, including the work element and associated documentation that is required and verified by the Quality Assurance Manager. Discuss DBE and EEO documentation that may be required prior to submitting payment applications for approval;

- Measures that will be implemented to ensure compliance with Buy America requirements on the Project.
- Detail two (2) sample entries in Materials Notebook showing completion of Form C-25, including subsequent submission and review by Department Project Manager as set forth in Section 5.21. Refer to Section 803.73 of VDOT’s Manual of Instruction for Materials Division, Form TL-142S, for an example of a completed Materials Notebook and VDOT Materials Division Memorandum Number MD299-07 for Materials Acceptance – October 4, 2007.
- Review the Document Management System that will be utilized to track and organize project documentation. Discuss the access that various project team members will have to the system. List the documentation that will be available prior to the submission of each application of payment.

### **2.13.1 Design Management**

The Design-Builder is responsible for design quality in accordance with VDOT’s Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects, January 2012 (January 2012 QA/QC Guide). The Design-Builder’s 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 report directly to the Design-Builder’s Project Manager, and is responsible for all of the design, inclusive of QA and QC activities. Members of the Design QA and 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 Documents. 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 VDOT assurance that the design plans and submittals will meet all contract requirements. The QAM shall verify that all design related Work Packages submitted for payment have been certified by the Design Manager as being in conformance with the Contract Documents and the Design QA/QC Plan.

Appendix 2 of the January 2012 QA/QC Guide provides minimum requirements that shall be met for development of the Design QA/QC Plan.

### **2.13.2 Construction Management**

The Design-Builder shall develop, execute, and maintain a Construction QA/QC Plan for the full duration of the Contract in accordance with VDOT’s January 2012 QA/QC Guide. The Design-Builder shall have the overall responsibility for both the QA and 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/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 (2) independent, AMRL certified testing laboratories will be required, one for QA testing and one for QC testing.

The Quality Assurance Manager (QAM) shall have the authority to enforce the Contract requirements when deficient materials or unsatisfactory finished products fail to conform to Contract requirements. The QAM, in accordance with his/her assignment, shall be responsible to observe the construction in progress and to ensure the QA and QC testing and inspection is being performed in accordance with the Contract requirements. The Design-Builder shall establish and maintain a Quality Assurance Auditing and Nonconformance Recovery Plan (AR Plan) for uniform reporting, controlling, correction and disposition and resolution of nonconformance (including disputed nonconforming items) issues that may arise on the Project. The Design-Builder's AR Plan shall establish a process for review and disposition of nonconforming 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. A Non-Conformance Report (NCR) referenced by a unique number, shall be forwarded to the Design-Builder and VDOT within 24 hours of discovery of the Non-Conformance. Non-conformance procedures are provided in Section 5.10.5 of the January 2012 QA/QC Guide. In the event that VDOT determines that materials fail to meet the tolerances in the VDOT 2016 Road and Bridge specifications, a NCR will be issued by the VDOT Project Manager and addressed to the Design-Builder's QAM for resolution. The use of "as is" or repaired nonconforming work requires specific written approval by VDOT and may be subject to a reduced price and/ or additional warranty at the sole discretion of VDOT.

The Design-Builder also shall be responsible for providing QA and QC testing for all materials manufactured off-site, excluding the items listed below:

- Pipe (concrete, steel, aluminum, and high density polyethylene) for culverts, storm drains, and underdrains
- Precast Concrete Structures
- Asphalt Concrete Mixtures
- Aggregate (dense and open graded mixes)
- Metal Traffic Signal and Light Poles and Arms

VDOT will provide plant QA and plant QC inspection and/or testing of these items. In the event that VDOT determines that materials fail to meet the tolerances in the 2016 VDOT Road and Bridge Specifications, a NCR will be issued by the VDOT Project Manager and addressed to the Design-Builder's QAM for resolution. The Design-Builder is required to submit documentation of the source of materials, including the source of each material to be incorporated into the Project and the acceptance method that will be used for the material. A VDOT Form C-25 may be used to meet this requirement; however, the Design-Builder is required to submit a VDOT Form C-25, for all materials that VDOT retains responsibility for testing. The source of materials, C-25 is for informational purposes only and will not be approved or rejected by VDOT since it is the Design-Builder's responsibility to obtain materials

that meet the contractual requirements. The Design-Builder will be responsible for providing QA and QC testing of all off-site materials that are not identified above, including materials obtained from off-site soil borrow pits.

The Design-Builder's QAM shall report directly to the Design-Builder's Project Manager and be independent of the Design-Builder's physical construction operations. The QAM shall establish quantities prior to commencing construction, and provide VDOT a total number of QC, QA (Independent Assurance (IA) and Independent Verification Sampling and Testing (IVST)), Owner's (the Department) 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 January 2012 QA/QC Guide. VDOT will provide all OIA and OVST tests and, therefore, final determination of the actual number of OIA and OVST tests to be performed will be made by VDOT based on these quantities.

The QAM shall be responsible for the QA inspection and testing of all materials used and work performed on the Project to include observing the Contractor's QC activities, maintaining the Materials Notebook (including adherence to the Special Provision for Design-Build Tracking (DBT) numbers included in the RFP Information Package), documentation of all materials, sources of materials and method of verification used to demonstrate compliance with the Contract requirements. This includes all materials where QA testing is to be performed by VDOT. The QAM shall be vested with the authority and responsibility to stop any work not being performed according to the Contract requirements. The construction QA and QC inspection personnel shall perform all of the construction inspection and sampling and testing work in accordance with the Contract requirements. This includes the documentation of construction activities and acceptance of manufactured materials. The Design-Builder's Quality Assurance firm shall have a presence on-site during any and all construction operations to ensure all construction work and QC activities are being performed in accordance with the Contract requirements. The QAM shall assign a Lead QA Inspector to the Project prior to the start of construction. This individual, who must be on the site full-time for the duration of all construction of the Project, shall be responsible for verifying that all construction activities performed by the Design-Builder were done so in accordance with the Contract requirements and were observed by the quality assurance firm. This includes observation of all QC activities to ensure inspection and testing, and the observation of any approved corrective action for any non-conformities of the Work. The Lead QA Inspector 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 shall report directly to the QAM. The QAM or a QA inspector shall be certified as a VDEQ ESC Inspector. The QAM or the Quality Assurance Firm's inspector shall be responsible for certifying the Project's compliance with the SWPPP and the VPDES Construction Permit on the Construction Runoff Control Inspection Form (C-107 Part 1) as prescribed in Part 2, Section 2.7.3.

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 by the Department at its sole discretion. 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.

All construction QA and QC personnel shall hold current VDOT materials certifications for the types of materials testing that they are assigned to perform in accordance with Section 3.6 of the January 2012 QA/QC Guide, and for the safety and use of nuclear testing equipment as required by the 2016 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 Construction Manager. Substitution of Construction Manager and the QAM shall require VDOT approval. In addition, VDOT shall have the right to order the removal of any construction QA and QC personnel, including the QAM and the Construction Manager for poor performance at the sole discretion of the VDOT Project Manager. The QA/QC plan shall include rapid reporting of non-compliance to the VDOT Project Manager, and shall include the remedial actions to be taken as discussed in Sections 5.10 and 5.11 of the January 2012 QA/QC Guide.

The Design-Builder shall provide, prior to Final Application for Payment, a complete set of Project records that include, but are not limited to the following:

- Project correspondence
- Project diaries
- Test reports
- Invoices
- Materials books
- Certified survey records
- DBE/EEO records
- Warranties
- As-Built drawings
- Special tools

## **2.14 Project Documentation**

The Design-Builder shall maintain all project documentation electronically in an online location that is accessible to all personnel associated with the Project (to include contractor personnel, QC personnel, QA personnel, design personnel, right of way personnel, and VDOT personnel) at all times for the entire duration of the Project. Project personnel may have different read and write privileges as deemed appropriate by the VDOT Project Manager. The online document management filing structure for the project will follow the File Index identified in Attachment 2.14.3. For this Project, the online location shall be the project's OutsideVDOT SharePoint website. The purpose of the online document management system is for maintaining project documents; it does not replace any submission requirements, including but not limited to providing hard copies of plans, calculations, and reports, and uploading applicable documentation into VDOT's FALCON system.

To obtain access to the VDOT OutsideVDOT SharePoint site, each member of the Design-Builder’s team who is responsible for uploading or editing documents on the site shall complete and submit the following forms:

- ITD-35E – External User Network Access Request Form
- ITD-36E – VDOT Information Security Agreement

Prior to submitting each monthly Application for Payment, the Design-Builder is responsible for uploading all pertinent project documentation associated with the work performed that month onto the online document management system. This includes all applicable QC and QA daily work reports, and QC and QA test reports. DBE/EEO documentation shall be sent directly to NOVA District Civil Rights Section. Work packages will not be considered complete until all required QC and QA reports and materials documentation has been provided.

Prior to submitting the Semi-Final Application for Payment, the Design-Builder is responsible for uploading all project documentation identified in Attachment 2.14.3 onto the online document management system. Final Payment will not be processed until all applicable documentation has been provided.

## **2.15 Plan Preparation**

### **2.15.1 GEOPAK and MicroStation**

When the Design-Builder is given the Date of Commencement, they will be furnished with the following software and files which run in Windows7P or Windows10 only: GEOPAK/OpenRoads (current version used by VDOT), MicroStation (current version used by VDOT) and VDOT Standard Resources Files, and all the design files used to develop the RFP Conceptual Roadway and Bridge Plans including aerial images, if available, and survey files.

### **2.15.2 Software License Requirements**

VDOT shall furnish a License Access Key for all the software products VDOT makes available to the Design-Builder. The License Access Key will be supplied upon request by the Design-Builder, based on the data provided on a completed Software License Form, LD-893, and subsequently reviewed and approved by the VDOT Project Manager.

The License Access Key is provided for use on the Project detailed on the request only for the duration specified for that Project. Any adjustment made to the Project schedule will be taken into consideration in adjusting the time the License Access Key is available. Justification for the number of license(s) requested **MUST** include the estimated number of total computer hours for the task of design, detailing, relating Project management and other computer based engineering functions requiring the software requested.

The appropriate use of the License Access Key provided to the Design-Builder will become the responsibility of the Design-Builder regardless of who on the team uses the License Access Key. The Design-Builder will be responsible for keeping track of the License Access Key provided to them or a team member and, upon completion of the Project, the prompt notification to the VDOT CADD Support Section of Project Completion and removal of the software from any system used solely for the Project for which it was obtained.

### **2.15.3 Drafting Standards**

All plans shall be prepared in U.S. customary units and in accordance with the most recent version of the VDOT's Road Design Manual, Vol. I, VDOT's CADD Manual and VDOT's I&IMs and VDOT's Manual of Structure and Bridge Division – Part 2.

### **2.15.4 Electronic Files**

The Design-Builder shall submit all plans in accordance with the VDOT's policies and procedures (Right of Way and/or Construction submittals, Released for Construction, and As-Built) in electronic format using the provided CADD software. Files shall be submitted in both Microstation DGN and Adobe PDF formats, by way of VDOT's Falcon Consultant environment and in coordination with VDOT's CADD support group. The Design-Builder will complete and submit the following forms for access to the Falcon Consultant environment:

- LD-443 – Request for Access to the Location And Design Division Falcon Web Site
- ITD-36E –VDOT Information Security Agreement, and
- LD-894 – Consultant Falcon Access Request Form

VDOT will furnish electronic files of all applicable standard detail sheets upon request by Design-Builder. The files will use standard VDOT cell libraries, level structures, line types, text fonts, and naming conventions as described in the most recent version of the VDOT CADD Manual and the VDOT Manual of the Structure and Bridge Division - Part 2. Files furnished to Design-Builder in electronic format shall be returned to VDOT and removed from Design-Builder and its designer's computer equipment upon completion of this Project.

### **2.15.5 Plan Submittals**

In addition to electronic files as described in Part 2, Section 2.15.4 above, the Design-Builder shall prepare and distribute hard copy paper plans in the quantities as specified below, for each of the following deliverables (at a minimum, as other submittals and/or work packages may be necessary or desired):

- Right of Way Plans
- Released for Construction Plans
- Right of Way and/or Construction Revisions
- Record Plans (As-Built)

- Approved Shop Drawings
- Design Calculations

The Right of Way and/or Construction plans may be submitted for approval in logical subsections (such as entrance roadway, Park & Ride lot) or consisting of work packages such as: 1) clearing and grubbing along with erosion and siltation control, 2) grading and drainage, 3) final roadway, and 4) traffic control. A submittal schedule and planned breakdown of work packages shall be submitted to VDOT for review and approval as part of the planned Project Baseline schedule.

Right of Way and/or Construction Plans shall be accompanied by 1) a VDOT LD-436 checklist filled out as appropriate for the specific submittal, and 2) a written notice signed by the Design-Build Design Manager that includes the following:

- The logical subsections or work packages for which review and approval is being requested.
- Confirmation that the submittal has been checked and reviewed in accordance with the Design-Builder's approved QA/QC plan.
- Confirmation that the submittal either meets all requirements of the Contract Documents and Reference Documents or that any deviations from the Contract Documents and Reference Documents have been identified and previously approved by VDOT.

The Design-Builder shall submit all Right of Way and/or Construction plans to VDOT for review and approval. VDOT shall receive two (2) full-size sets and ten (10) half-size sets of each submission, with the exception of the Released for Construction Plans (see Part 2, Section 2.15.8 below). The plan submissions shall be delivered to the following addresses:

Virginia Department of Transportation  
Attention - Mark Gibney, P.E., PMP  
Northern Virginia District Office  
4975 Alliance Drive,  
Fairfax, VA 22030

VDOT shall have the right to review all Right of Way and Construction Plans and provide comments regarding compliance with the requirements of the Contract Documents and Reference Documents. The Design-Builder shall be responsible for satisfying all such comments. Formal responses to VDOT comments shall be provided in subsequent submittals.

VDOT has the right to disapprove any design approach that is not in compliance with the requirements of the Contract Documents and Referenced Documents. VDOT's written approval of any deviations from requirements of the Contract Documents and Reference Documents shall be attached to the plans submitted for review.

### **2.15.6 Right of Way Plans**

Right of Way Plans and any associated Design Calculations shall be submitted to VDOT for review. The timeframe for plan review and approval shall be in accordance with the requirements of the Contract Documents. All VDOT comments must be addressed to the satisfaction of the reviewer before the Right of Way Plans will be approved. Notice to Commence Right of Way Acquisition will be granted in accordance with Part 2, Section 2.11 above. The Design-Builder shall be responsible for the design details and ensuring that the design and right of way acquisition work are properly coordinated.

### **2.15.7 Construction Plans**

Construction Plans, and any associated Design Calculations, shall be submitted to VDOT for review. The timeframe for plan review and approval shall be in accordance the requirements of the Contract Documents. All VDOT comments must be addressed to the satisfaction of the reviewer before Construction Plans are recommended for approval to the Chief Engineer. This plan milestone includes plans that may be submitted as soon as sufficient information is available to develop Construction Plans for certain portions or elements of the Project (or work packages). The Design-Builder shall meet commitments for review and approval by other entities/agencies as specified in other portions of the RFP and its attachments. The Design-Builder shall be responsible for the design details and ensuring that the design and construction work are properly coordinated.

### **2.15.8 Released for Construction Plans**

*Released for Construction Plans* are those that are issued for construction after approval by VDOT's Chief Engineer. Notice to Commence Construction will only be issued by the VDOT Project Manager upon approval of the Construction Plans (or Work Packages) by the Chief Engineer.

VDOT shall receive one (1) full-size set and five (5) half-size sets of Released for Construction Plans, along with all electronic files. The plans shall be delivered to:

Virginia Department of Transportation  
Attention - Mark Gibney, P.E., PMP  
Northern Virginia District Office  
4975 Alliance Drive,  
Fairfax, VA 22030

### **2.15.9 Record (As-Built) Plans**

The final plan milestone is Record (As-Built) Plans. As-Built Plans shall be prepared, signed and sealed by a Professional Engineer licensed in Virginia, and submitted to VDOT with the final application for payment. These plans will show all adjustments and revisions to the

Construction Plans made during construction and serve as a permanent record of the actual location of all constructed elements.

## **2.16 Virginia Occupational Safety and Health Standards**

The Project shall comply with Virginia Occupational Safety and Health Standards in accordance with Section 107.17 of the Division I Amendments to the Standard Specifications.

At a minimum, all Design-Builder personnel shall comply with the following, unless otherwise determined unsafe or inappropriate in accordance with OSHA regulations:

- Hard hats shall be worn while participating in or observing all types of field work when outside of a building or outside of the cab of a vehicle, and exposed to, participating in or supervising construction.
- 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 the employee is protected by engineering controls.
- Adequate eye protection 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.
- Approved high visibility Safety apparel shall be worn by all exposed to vehicular traffic and construction equipment.
- Standards and guidelines of the current Virginia Work Area Protection Manual shall be used when setting, reviewing, maintaining, and removing traffic controls.
- Flaggers shall be certified in accordance with the Virginia Flagger Certification Program.
- 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 a safety bar or blocking.
- Explosives shall be purchased, transported, stored, used and disposed of by a Virginia State Certified Blaster in possession of a current criminal history record check and a commercial driver's license with hazardous materials endorsement and a valid medical examiner's certificate. All Federal, State and local regulations pertaining to explosives shall be strictly followed.
- 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.

- No person shall enter a confined space without training, permits and authorization.
- Fall protection is required whenever an employee is exposed to a fall six (6) feet or greater.

### **3.0 ATTACHMENTS**

The following attachments are specifically made a part of, and incorporated by reference into, these Technical Information & Requirements:

ATTACHMENT 2.2 -- ROADWAY MAJOR DESIGN CRITERIA

ATTACHMENT 2.7.3 -- NUTRIENT CREDIT ASSIGNMENT AGREEMENT

ATTACHMENT 2.14.3 -- DESIGN-BUILD PROJECT FILE INDEX

All additional information is included in the RFP Information Package – referred to in Part 1, Section 2.5 of this RFP.

### **END OF PART 2 - TECHNICAL INFORMATION & REQUIREMENTS**