

ATTACHMENT 3.4

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION**

RFP NO. C00103318DB71
PROJECT NO.: (NFO) 0620-029-017,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 February 25, 2014– RFP
(Date)
2. Cover letter of Addendum #1- April 8, 2014
(Date)
3. Cover letter of _____
(Date)

SIGNATURE

DATE

ATTACHMENT 4.0.1.2

**DESIGN-BUILD PRICE PROPOSAL
CHECKLIST**

**Project Name: Braddock Road (Route 620) and Pleasant Valley Road
(Route 609) Intersection Improvement in Fairfax County, Virginia
Contract ID Number: C00103318DB71**

➤ Contents of Price Proposal:

- Proposal Price, in both numbers and words (Attachment 4.3.1)
 - ~~Schedule of Items itemized in accordance with Part 1, Section 4.4.6, including material quantities and costs of each proposed work package Addendum #1- April 8, 2014~~
 - ~~Proposed Monthly Payment Schedule showing the anticipated schedule on which funds will be required and associated value of work in accordance with Part 1, Section 4.4.7 Addendum #1- April 8, 2014~~
 - Price Adjustment Information and Forms for Fuel, Asphalt and Steel, including identification of pay items and associated quantities eligible for adjustment (Part 3, Section 6.3, Attachments 6.3)
 - Proposal Guaranty (C-24) required by Section 102.07 of Part 5, Division I Amendments to the Standard Specifications
 - Sworn Statement Forms (C-104, C-105, Attachments 4.3.4(a) and 4.3.4(b))
 - CD-ROM containing the entire Price Proposal in a single cohesive Adobe PDF file
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TABLE OF CONTENTS

1.0	DESIGN-BUILDER’S SCOPE OF WORK.....	3
1.1	Project Description.....	3
1.2	Anticipated Scope of Work.....	3
1.3	Anticipated Design Services.....	4
1.4	Anticipated Environmental Services.....	4
1.5	Anticipated Right of Way and Utilities	5
1.6	Anticipated Construction Services.....	5
1.7	Coordination with Active Construction Projects	6
2.0	PROJECT TECHNICAL INFORMATION & REQUIREMENTS	6
2.1	References and Information.....	6
2.1.1	Standards and Reference Documents.....	6
2.1.2	RFP Information Package	13
2.1.3	Design Exceptions and Design Waivers	14
2.2	Roadway Improvements	15
2.2.1	Roundabout.....	16
2.2.2	Entrances.....	17
2.3	Environmental.....	17
2.3.1	Environmental Document	17
2.3.2	Cultural Resources	18
2.3.3	Section 4(f) Resources	19
2.3.4	Agricultural and Forestal Districts.....	20
2.3.5	Water Quality Permits and Compensatory Mitigation.....	20
2.3.6	Threatened and Endangered Species	22
2.3.7	Hazardous Materials	22
2.3.8	Air Quality	23
2.3.9	Noise Mitigation	23
2.3.10	Environmental Compliance	23
2.4	Survey	24
2.5	Geotechnical Work	25
2.5.1	Minimum Pavement Sections	27
2.5.2	Geotechnical Requirements	29
2.5.3	Unsuitable Materials	30
2.5.4	Control of Rock Blasting	31
2.5.5	Pipe Installation Methods	32
2.6	Hydraulics.....	32
2.6.1	Drainage.....	32
2.6.2	Post-Construction SWM, SWPPP and ESC Plans.....	33
2.6.3	Post-Construction Stormwater Management	35
2.6.4	Other Drainage Requirements.....	36
2.7	Landscape	36
2.8	Traffic Control Devices	37
2.8.1	Signs.....	37
2.8.2	Guardrail	38
2.8.4	Pavement Markings/Markers	39

2.8.5	Project Lighting	39
2.9	Transportation Management Plan	40
2.9.1	Maintenance of Traffic	40
2.9.2	Lane and Road Closure Restrictions	41
2.9.3	Use of Virginia State Police.....	42
2.9.4	Portable Changeable Message Signs	42
2.9.5	Cox Farm Events.....	42
2.10	Public Involvement / Public Relations.....	43
2.11	Right of Way.....	44
2.11.1	Fairfax County Park Authority Property	44
2.11.2	Right of Way	44
2.12	Utilities.....	50
2.13	Quality Assurance / Quality Control (QA/QC)	53
2.13.1	Design Management	54
2.13.2	Construction Management	54
2.14	Field Office-Not Used.....	57
2.15	Plan Preparation	57
2.15.1	GEOPAK and MicroStation	57
2.15.2	Software License Requirements	57
2.15.3	Drafting Standards	58
2.15.4	Electronic Files	58
2.15.5	Plan Submittals	58
2.15.6	Right of Way Plans	59
2.15.7	Construction Plans	60
2.15.8	Released for Construction Plans	60
2.15.9	Record (As-Built) Plans.....	60
2.16	Virginia Occupational Safety and Health Standards	60
3.0	ATTACHMENTS.....	62

PART 2

TECHNICAL INFORMATION & REQUIREMENTS

1.0 DESIGN-BUILDER'S SCOPE OF WORK

1.1 Project Description

The Project is located in Fairfax County, Virginia, and involves the design and construction of improvements to both Braddock Road (Route 620) and Pleasant Valley Road (Route 609) and the installation of a roundabout at the intersection. The limits of the Project are from approximately 0.17 miles west of Pleasant Valley Road (Route 609) to approximately 0.08 miles east of Pleasant Valley Road (Route 609) for Braddock Road (Route 620) for a length of approximately 0.24 miles and 0.32 miles south of Braddock Road (Route 620) to approximately 0.14 miles north of Braddock Road (Route 620) for Pleasant Valley Road (Route 609) for a length of approximately 0.47 miles. It is noted that the description and length are approximate only and are based on the RFP Conceptual Plans shown 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 made available for public review via a Design Public Hearing held on October 9, 2013. The major design features of the Project were approved by the Chief Engineer on February 12, 2014. The RFP Conceptual Plans included in the RFP Information Package reflects a basic line, grade, roundabout, splitter island and median layout, typical sections, major cross drainage pipes and storm sewer system, outfall ditch, lighting and landscaping. These elements are considered to be the basic Project configuration. The Design- Builder is responsible for final design in accordance with the Contract Documents.

1.2 Anticipated Scope of Work

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

- Survey
- Developing and completing the design
- Acquiring the necessary environmental permits
- Acquiring rights of way
- Coordinating and performing, or causing to be performed, required utility relocations, additions, and adjustments
- Roadway and roundabout construction
- Milling and overlaying and/or building up of existing pavement
- Signs, sign structures, and foundations
- Lighting

- Traffic maintenance and management during all phases of construction
- Pavement markers and markings
- Storm drainage
- Storm water management
- Quality Assurance and Quality Control for design and construction
- Overall Project management

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, 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 2.3) and stormwater management 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)/Section 4(f) *de minimis* Impact Finding, dated January 31, 2014, the Plans, the Specifications, and Estimates (PS&E) Re-evaluation Authorization (EQ-200); and the Environmental Certification/Commitments Checklist (EQ-103). 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 2.3.

The Design-Builder shall provide the necessary environmental services to obtain remaining necessary environmental clearances, permits, and approvals required to accomplish the work as noted in Part 4 (General Conditions of Contract), Article 2.6. The Design-Builder shall acquire all water quality permits for the Project in the Design-Builder's name (i.e. the Design-Builder will be the "Permitee") and shall provide for any necessary stream and/or wetland compensation required by permits to accomplish the work. Other environmental services anticipated to be undertaken by the Design-Builder for this Project may include but are not limited to: required compensatory mitigation for wetlands impacts and plant/tree species habitat assessment. Additional services may include supplementary environmental studies to support NEPA document re-evaluations associated with Design-Builder's design changes.

The Design-Builder shall be responsible for compliance with pre-construction and construction-related environmental commitments and will 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 will 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 will 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 their cost. VDOT will 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 studies and analysis 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 Design-Builder's final design shall also be contained within the right of way limits shown on the RFP Conceptual Plans, with the exception of temporary construction, permanent drainage, and utility easements and where minor adjustments are required during the final design process, and only after approval by VDOT. Any stormwater management facilities (if required) shall be wholly contained within the right of way limits shown on the RFP Conceptual Plans. 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 in accordance with Part 1, Sections 2.8 and 2.9.

The Design-Builder's services shall include all work necessary for right-of-way acquisitions 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 fee simple land and permanent and temporary easements) 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. Betterments must be requested by and/or approved by the affected 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, roadway, the demolition and removal of portions of the existing pavements, milling and overlaying or building up of existing pavement, drainage, utility relocations/adjustments and coordination, 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 of this RFP. The Design-Builder shall provide construction engineering inspection and management, quality assurance and quality control, including plant quality assurance inspection and testing, but 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 Braddock Road and Pleasant Valley Road Intersection Improvement in accordance with Section 3.6 of Part 4. The Design-Builder shall organize and conduct joint meetings (to which VDOT shall be invited) with other Contractor(s) on a quarterly basis at a minimum, or as requested by VDOT. The purpose of these meetings is to facilitate plans to adequately maintain traffic flow in the vicinity of both projects.

Route 50 Widening

From: VA Route 742 (Poland Rd)

To: VA Route 28 (Sully Rd)

Project No.: (NFO) 0050-96A-101, P101, R201, C501 (UPC # 68757)

Status: Under Construction; Completion in late 2015

VDOT Contact: Larry Tomlinson (703) 259-2304

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 2.8 and 2.9.

The Design-Builder's final design shall meet or exceed all requirements included in the Contract Documents, except under the following conditions. 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 Addenda. The Design-Builder must meet or exceed the minimum roadway design standards and criteria.

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 VDOT 2007 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 which 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
- 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, and 1998 Supplement
- AASHTO Guide for Roadway Lighting Design, 6th Edition, 2005
- AASHTO Guide for the Development of Bicycle Facilities, 2012
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2004
- AASHTO Manual for Assessing Safety Hardware, First Edition, 2009
- AASHTO Roadside Design Guide, 4th Edition, 2011 (including errata)
- AASHTO Standard Specifications for Structural Supports of Highway Signs, Luminaires, and Traffic Signals, 2009 Edition, with 2010 and 2011 Interim Revisions
- Americans with Disabilities Act Accessibility Guidelines for State and Local Government Facilities
- Corps of Engineers EM-1110-2-1906, Laboratory Soils Testing, 1986
- DCR Virginia Erosion and Sediment Control Handbook, Third Edition, 1992
- DCR Virginia Stormwater Management Handbook, Vol. 1 and Vol. 2, First Edition, 1999
- DCR Virginia Stormwater Management Program Technical Bulletin 1 (See <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/TechBulletin1.pdf>)
- Engineering Properties of Clay Shales, Report 1 by W. Heley and B. N. McIver
- FHWA 23CFR752 Landscaping and Roadside Development
- 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
- Guideline for Context Sensitive Solutions/Design, February 25, 2004
- IEEE National Electric Safety Code (NESC) Standards
- IES RP-08-00, American National Standard for Roadway Lighting
- IES RP-19-01, Roadway Sign Lighting
- Manual of Uniform Traffic Control Devices (MUTCD), 2009 Edition and latest updates as of date of release of RFP or applicable addenda
- 2011 Virginia Supplement to 2009 MUTCD
- NCHRP Report 350 Recommended Procedures for the Safety Performance Evaluation of Highway Features
- NCHRP Report 672, Roundabouts: An Informational Guide, Second Edition
- Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way, July 2011
- Transportation Research Board Highway Capacity Manual, 2010 Edition
- VDOT Appraisal Guidelines
- VDOT Asbestos Inspection Procedures, May 14, 2004
- VDOT Asbestos Project Monitoring and Clearance Air Monitoring Procedures, May 14, 2004
- VDOT CADD Manual, 2012 (including all revisions)
- VDOT Construction Inspection Manual, April 2008
- VDOT Construction Manual, 2005 (including July 2008 revisions)
- VDOT Drainage Manual, Revised July 2012 (including current Errata Sheet)
- VDOT Guardrail Installation Training Manual (GRIT), March 2012
- VDOT Instructional & Information Memorandums (I&IM), All Divisions
- VDOT Current Land Use Permit Manual
- VDOT Land Use Permit Regulations, 24 VAC 30-151, March 17, 2010
- VDOT Manual of Instruction for Material Division, including current revisions
- VDOT Manual of Structure and Bridge Division, Vol. V
- VDOT Materials Division Approved List, dated June 2013
- VDOT Materials Division Memorandum Number MD299-07 for Materials Acceptance, October 4, 2007
- VDOT Policy for Integrating Bicycle and Pedestrian Accommodations
- VDOT Policy Manual for Public Participation in Transportation Projects, updated August 2011
- VDOT Post Construction Manual, May 2011 Edition
- VDOT Right of Way Manual of Instruction (January 2011, including July 2011 revisions)
- VDOT Road and Bridge Specifications, 2007 (all except Section 100), including all revisions
- VDOT Road and Bridge Standards, Vol. 1 and Vol. 2, 2008, including all revisions
- VDOT Road Design Manual, Vol. I, copyrighted 2005, including all revisions
- VDOT Survey Manual, 2013 Edition, including all revisions
- VDOT Traffic Engineering Design Manual, 2011

- VDOT Traffic Engineering Division Numbered Memoranda (Traffic Engineering (TE) and Mobility Management (MM))
- VDOT Utilities Manual of Instruction (January 2011, including February 2011 revisions)
- VDOT Virginia Work Area Protection Manual, 2011 Edition (including all revisions)
- VDOT's Minimum Requirements for Quality Assurance & Quality Control on Design Build and Public-Private Transportation Act Projects, January 2012
- VDOT's Project Management Policy PMO-Policy-2011-1 (July 1, 2011)
- VDOT's Stormwater Program Advisory 12-01, dated April 5, 2012
- VDOT's Stormwater Program Advisory 12-02, dated April 26, 2012
- VDOT's Stormwater Program Advisory 12-04, dated October 19, 2012

(b) Reference Manuals

- AASHTO's Highway Safety Manual, 1st Edition, Vol. 1-3, 2010
- American National Standards Institute (ANSI)/Insulated Cable Engineers Association (ICEA) S-87-640-2006 requirements
- American Water Works Associations Standards
- American Welding Society Standards
- Bellcore/Telcordia Standards
- Bridge Welding Code: AASHTO/AWS-D1.5M/D1.5: 6th Edition, with 2011 AASHTO Interim Revision
- DCR Water Quality Criteria - Technical Bulletin No. 4 (See <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/TechBulletin4.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 HDS-6, HEC-11, HEC-14, HEC-15, HEC-18, HEC-20, HEC-22, and HEC-23
- gINT[®] Manual
- Institute of Electrical and Electronics Engineer (IEEE) Standards
- International Mechanical Code
- International Telecommunication Union (ITU) Requirements
- ISEE Blasters Handbook (Current Edition)
- National Electric Code (NEC)
- National Electric Safety Code (NESC) Standards
- National Electrical Manufacturers Association (NEMA) Standards
- National Transportation Communications for ITS Protocol (NTCIP)
- Society for Protective Coatings (SSPC) Standards
- Telecommunications Industry Association (TIA) and Electronic Industries Alliance (EIA) Standards and Specifications
- U.S. Department of Agriculture Rural Utilities Service (RUS) 7 CFR 1755.900
- Underwriters Laboratories (UL) Standards

- VA Statewide Fire Prevention Code (referenced in Special Provision for Section 107.11 - Use of Explosives)
- Virginia Calibration Methods, June 2011
- Virginia State Noise Abatement Policy, July 13, 2011
- Virginia Test Methods Manual, September 2013
- Virginia Uniform Statewide Building Code

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

Division 1: General Provisions

- SPCN c100ai03 General Project Requirements, Supplemental Specifications (SSs), Special Provisions (SPs) and Special Provisions Copied Notes (SPCNs), December 1, 2011
- SS52200 Supplemental Section 522—Partnering Design-Build Projects, June 1, 2012
- Special Provision for Project Communication and Decision Making for Design-Build Projects, January 3, 2005c, Reissued August 2009
- Special Provision for Section 105.02 – Plans and Working Drawings, June 13, 2007
- Special Provision for Volatile Organic Compounds (VOC) Emissions Control Areas (S107E02-0910), August 12, 2010
- S107G01-0309 Storm Water Pollution Prevention Plan (SWPPP) General Permit for the Discharge of Stormwater from Construction Activities Contractor and Subcontractor Certification Statement, February 19, 2009
- Special Provision for Work Zone Traffic Control Management for Design-Build, revised November, 2009
- Special Provision for Personnel Requirements for Work Zone Traffic Control, June 11, 2009

Division 2: Materials

- SPCN Polymer Modified (PG 76-22 and PG 70-28) Asphalt Cement Adjustment Design-Build Projects, August 9, 2013
- SPCN c211gg0-0609 Warm Mix Asphalt Pavement, December 7, 2009
- SPCN c211hg0-1209 Polishing Aggregate in Asphalt Concrete, October 7, 2009
- Supplement Section 200 – General, September 28, 2012
- Supplemental Section 207 –Select Material (SS20701-1210), December 3, 2009
- Supplemental Section 208 – Subbase and Aggregate Base Material, May 7, 2010
- Supplemental Section 211 – Asphalt Concrete, December 18, 2012
- Supplemental Section 212 – Joint Materials, June 28, 2011
- Supplemental Section 214 – Hydraulic Cement, January 28, 2008
- Supplemental Section 215 – Hydraulic Cement Concrete Admixtures, January 28, 2008
- Supplemental Section 217 – Hydraulic Cement Concrete, January 27, 2011
- Supplemental Section 221 – Guardrail, January 6, 2012
- Supplemental Section 232 – Pipe and Pipe Arches, May 17, 2012

- Supplemental Section 245 - Geosynthetics, April 30, 2013
- Supplemental Section 247 – Reflective Sheeting, February 10, 2011
- Supplemental Section 248 – Stone Matrix Asphalt Concrete, September 28, 2012
- Special Provision for Design-Build Tracking (DBT) Numbers Design-Build Projects, December 8, 2009
- Special Provision For Elastic Inclusion Design-Build Projects, November 24, 2009
- Special Provision for Lime Modification of Soils Design-Build Projects, November 23, 2009
- Special Provision for Low Permeability Concretes For Design-Build Projects, September 6, 2009
- Special Provision for Reflection Cracking Retardant Material, February 2, 2010
- Special Provision for Section 210 – Thin Hot Mix Asphalt Concrete, June 1, 2007
- Special Provision for Section 244 – Roadside Development Materials, January 29, 2013
- Special Provision for Reclaimed Asphalt Shingles (RAS) Tear-Offs in Asphalt Concrete, November 8, 2011
- Special Provision for Reclaimed Asphalt Shingles (RAS) Tabs in Asphalt Concrete, July 19, 2011

Division 3: Roadway Construction

- SPCN c302h00-0708 Precast Drainage Structures, January 14, 2008
- SPCN c315gg0-0609 Warm Mix Asphalt Pavement, December 7, 2009
- Supplemental Section 302 – Drainage Structures, March 14, 2013
- Supplemental Section 303 – Earthwork, May 20, 2011
- Supplemental Section 304 – Constructing Density Control Strips, April 27, 2011
- Supplemental Section 315 – Asphalt Concrete Placement, October 22, 2012
- Supplemental Section 317 – Stone Matrix Asphalt Concrete Placement, September 28, 2012
- Special Provision for Section 301 – Clearing and Grubbing, November 15, 2006
- Special Provision for Section 302.03(a)1- Jack and Bore for Design-Build Projects, October 13, 2009
- Special Provision for Section 302.03(a)3- Micro Tunneling for Design-Build Projects, September 14, 2009
- Special Provision for Flowable Backfill (S302G02-0610), March 11, 2010
- Special Provision for Section 315 – Asphalt Concrete Pavement Design Build Projects, November 25, 2009
- Special Provision for Restoring Existing Pavement, January 14, 2008c
- Special Provision for Nontracking Tack Coat, October 5, 2010
- Special Provision for Rideability of Stone Matrix Asphalt Concrete Pavement, May 26, 2010
- Special Provision for Pipe Rehabilitation, dated March 4, 2013.
- Special Provision for Pipe Replacement, dated February 28, 2013.
- Special Provision for Right of Way Monumentation and Final Boundary Stakeout, December 2, 2009a

- Special Provision for Sealing Cracks in Asphalt Concrete Surfaces or Hydraulic Cement Concrete Pavement, dated August 1, 2010
- Special Provision for Placement of Asphalt Concrete Overlays, dated September 27, 2011
- Special Provision for Limits of Mainline Overlay at Intersections to Paved Roads, dated July 28, 2010
- Special Provision for BM-25.0D with Increased Asphalt Content, dated July 19, 2011
- Special Provision for Stabilized and Paved Shoulder Overlay, dated July 12, 2010

Division 4: Bridges and Structures- Not Used

Division 5: Incidental Construction

- SPCN cu512003a Uniformed Flaggers, September 29, 2008a
- Supplemental Section 501 – Underdrains, January 25, 2010
- Supplemental Section 512 – Maintaining Traffic Design-Build Projects, December 2, 2009
- Supplemental Section 515, Planing or Milling Pavement, September 27, 2011
- Supplemental Section 522—Partnering Design-Build Projects, December 2, 2009, revised June 1, 2012
- Special Provision for Cold Planing (Milling) Asphalt Concrete Operations, October 1, 2012.
- Special Provision (512) for Work Zone Traffic Control Management Design-Build Projects, January 14, 2008, revised November, 2009

Division 6: Roadside Development

- Special Provision for Section 605 - Planting One Year Establishment Period, January 9, 2014

Division 7: Traffic Control Devices

- Supplemental Section 700 – General (Traffic Control Devices), June 9, 2008
- Supplemental Section 701 – Traffic Signs, January 22, 2009
- Supplemental Section 704 – Pavement Markings and Markers, October 14, 2011
- Special Provision for Type B, Class VI Pavement Line Marking Tape (S704E02-1211), October 21, 2011
- Special Provision for Preformed Thermoplastic Pavement Markings, November 29, 2011
- Special Provision for Replacement of Pavement Line Markings, Pavement Markers and Loop Detectors (S704GM2-1211), September 27, 2011
- Special Provision for Temporary Construction and Permanent Pavement Markings (S704M03-1012), September 28, 2012
- Special Provision for Transitory Pavement Markers (TPM) (S704F01-1209), December 14, 2009

- Special Provision for CG-12 Detectable Warning Surface (S504B00-0708), February 12, 2003ccc, Reissued July 2008c

Other: Landscaping

- Special Provision for Clean and Stain Concrete Medians, May 10, 2013

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 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. The RFP Information Package includes the following:

- Special Provisions List: Special Provisions, Special Provision Copied Notes and Supplemental Specifications
- RFP Conceptual Plans including electronic reference files [\(Revised with Addendum #1- April 7, 2014\)](#)
- Survey Files
- Environmental Documents
 - Categorical Exclusion, dated January 31, 2014
 - Categorical Exclusion approval and de minimis Impact Finding, dated January 31, 2014
 - Section 4(f) de minimis Impact Finding Checklist and Fairfax County Park Authority with FHWA Section 4(f) Applicability Criteria for Temporary Occupancy and de

- minimis Impacts to the Mountain Road District Park, Elklick Preserve and Rock Hill District Park, dated January 24, 2014
- Re-evaluations for Right of Way (RW) Authorization (EQ-201) dated February 19, 2014
 - Plans, Specifications and Estimates (PS&E) Authorization (EQ-200) dated February 19, 2014
 - Environmental Certification/Commitments Checklist (EQ-103) dated February 6, 2014
 - Cultural Resource Summary Report dated May 30, 2013
 - Preliminary Permit determination dated February 15, 2013
 - Preliminary Jurisdictional Determination dated October 7, 2013
 - Fish, Plant, and Wildlife Resources Form dated February 15, 2013
 - Project Review Certification Letter from the US Fish and Wildlife Service dated April 30, 2013
 - Air Form (Quality Analysis Report) dated November 13, 2013
 - Noise Form (Noise Scoping Decision) dated April 12, 2013
 - Hazardous Material Summary Report dated May 6, 2013
 - Technical Advisory for AFD Notice/Report to County Government
- Geotechnical Engineering Data Report dated September 30, 2013
 - Drainage Calculations Booklet dated February 1, 2012, last revised November 14, 2013
 - Traffic Engineering
 - Braddock Road/ Pleasant Valley Road Alternatives Analysis dated June 2013
 - Braddock Road/Pleasant Valley Road RFP Design – Sensitivity Analysis dated November 22, 2013

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 will be required for any element of the design among the fourteen controlling criteria that do not meet AASHTO minimum design standards. Design Waivers 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 fourteen controlling criteria that do not meet AASHTO minimum design standards. The Design-Builder will be required to follow the process as described in the latest version of I&IM LD-227, S&B 70 regarding Design Exceptions and Design Waivers.

VDOT has not identified Design Exceptions or Design Waivers, with respect to the RFP Conceptual Plans. The Offeror's design concept shall not include Design Exceptions and/or Waivers not identified herein in accordance with RFP Part 1, Section 4.2.8.

If, during further development of the final design, the Design-Builder identifies additional substandard features, the Design-Builder is required to either eliminate them through design improvements or apply for the appropriate Design Exceptions and/or Waivers. The costs for preparation of Design Waivers or Exceptions and any information needed to support these documents is the responsibility of the Design-Builder. Any schedule delays as a result of the approval process are the responsibility of the Design-Builder.

2.2 Roadway Improvements

The roadway inventory information and major design criteria are summarized in the Design Criteria Table (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 roadways and the roundabout. 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.

Functional Classification

Both Braddock Road (Route 620) and Pleasant Valley Road (Route 609) are functionally classified as Urban Minor Arterials. The VDOT geometric design standard that will be utilized for both Braddock Road (Route 620) and Pleasant Valley Road (Route 609) will be GS-6 in rolling terrain with a minimum design speed of 35 mph. The superelevation standard that should be applied to the proposed road design is TC-5.11 ULS. Typical sections for Braddock Road and Pleasant Valley Road are provided in the RFP Conceptual Plans.

The report "Braddock Road/ Pleasant Valley Road Alternatives Analysis" was completed by Kittelson & Associates, Inc. in June 2013. Based on the findings, a single-lane roundabout is the preferred alternative and recommended intersection improvement. A single-lane roundabout shall be the only option considered for this intersection. Specific information related to the roundabout design is included in Part 2, Section 2.2.1 of this document.

Braddock Road improvement limits are from approximately 0.12 miles west of Pleasant Valley Road to approximately 0.08 miles east of Pleasant Valley Road. West of Pleasant Valley Road, curb and gutter will be added to Braddock Road and the road will be widened to accommodate a taper and left turn lane to an entrance into Cox Farm. East of Pleasant Valley Road, curb and gutter will be added to Braddock Road. The curb and gutter will transition to a paved shoulder to the extent of the Project. In the areas both west and east of Pleasant Valley

Road, a raised median will extend from the roundabout approaches. Existing pavement along Braddock Road will be milled and overlaid or demolished to accommodate the improvements.

Pleasant Valley Road improvement limits are from approximately 0.32 miles south of Braddock Road to approximately 0.10 miles north of Braddock Road. Improvements from approximately 0.32 miles south of Braddock Road to 0.09 miles south of Braddock Road will include milling and overlay of existing pavement. Note at the area of the proposed culvert crossing, full depth pavement shall be installed if the existing road is demolished to install the culvert crossing. The remaining improvements south of Braddock include the installation of curb and gutter or paved shoulder depending on the location. A taper and right turn lane will be added for the transition to the roundabout bypass lane. North of Pleasant Valley Road, curb and gutter or a paved shoulder will be installed. In the areas both north and south of Braddock Road, a raised median will extend from the roundabout approaches. Existing pavement along Braddock Road will be milled and overlaid or demolished to accommodate the improvements. Private entrances will be required as shown on the RFP Conceptual Plans and as described in Part 2, Section 2.2.2 of this document.

2.2.1 Roundabout

The Design-Builder shall construct the pavement of the 100' inscribed circle single lane roundabout at the intersection of Braddock Road (Route 620) and Pleasant Valley Road (Route 609) in conformance with the RFP Conceptual Plans and NCHRP Report 672, Roundabouts: An Informational Guide, Second Edition. Pavement markings, signing and channelization devices shall be employed to provide positive lane control through the roundabout in accordance with the 2009 MUTCD. These devices shall be approved by VDOT prior to installation.

The proposed improvements shall also include a yield-controlled bypass lane for the northbound Pleasant Valley Road (Route 609) to the eastbound Braddock Road (Route 620) movement. This movement shall be configured in accordance with the requirements below:

- The bypass lane shall be designed assuming yield control at the roundabout.
- The bypass lane shall be configured such that it is physically separated from the roundabout by a physical channelization device as defined above or by a separation of pavements. The channelization device should provide the minimum pedestrian refuge area as described in NCHRP Report 672, Roundabouts: An Informational Guide, Second Edition.

The roundabout shall be designed to the standards required for a AASHTO WB-40 design vehicle but shall allow for the passage of a AASHTO WB-62 vehicle in the through movements of the intersection.

Medians shall be designed to allow for accessible pedestrian passage as shown on the RFP Conceptual Plan. No utility poles or guy wires are permitted in any median or island.

The northbound lane of Pleasant Valley Road (Route 609) shall be configured and signed to direct traffic heading eastbound on Braddock Road (Route 620) to use the by-pass lane.

Lighting shall be provided at the proposed roundabout as described in Part 2, Section 2.8.5.

Landscaping shall be provided at the proposed roundabout as described in Part 2, Section 2.7.

2.2.2 Entrances

The Design-Builder shall construct entrances to adjacent properties in conformance with the RFP Conceptual Plans. The entrances will be located in the following approximate locations:

- 40' CG-11 entrance at Braddock Road (Route 620) station 101+62 (left) and associated paved right turn lane serving the Fairfax County Park Authority (parcel 003)
- 40' CG-11 entrance at Braddock Road (Route 620) station 106+08 (right) serving Cox-Richard Family Farm LLC. (parcel 002)
- 40' CG-11 entrance at Pleasant Valley Road (Route 609) station 228+87 (left) serving the Fairfax County Park Authority (parcel 003)

~~As described in Part 2, Section 2.1.3, the entrances at Pleasant Valley Road (Route 609) station 228+87 and Braddock Road (620) 106+08 will require a design waivers for spacing between entrances and the roundabout.~~

2.3 Environmental

2.3.1 Environmental Document

FHWA has approved NEPA for the Project. A copy of the Categorical Exclusion (CE) dated January 31, 2014 is included in the RFP Information Package. VDOT has also completed preliminary document Re-evaluations for Right of Way (RW) Authorization (EQ-201) dated February 19, 2014; Plans, Specifications and Estimates (PS&E) Authorization (EQ-200) dated February 19, 2014; and a preliminary Environmental Certification/Commitments Checklist (EQ-103) dated February 6, 2014; which are included in the RFP Information Package. VDOT shall complete a final document Re-evaluation for RW Authorization (EQ-201) prior to RW authorization and a final document Re-evaluation for PS&E Authorization (EQ-200) and final Environmental Certification/Commitments Checklist (EQ-103) prior to the VDOT Project Manager releasing the Project for 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 RW Re-evaluation, the PS&E Re-evaluation, and the Environmental Certification forms. 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 will 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 will 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.

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 and no time extensions will be granted. All costs associated with complying with these requirements shall be included in the Offeror's Price Proposal.

2.3.2 Cultural Resources

VDOT, in accordance with the efficiencies of quarterly reporting provided by Stipulation 2 of the 1999 Programmatic Agreement between VDOT and Virginia Department of Historic Resources (VDHR) for determinations, has determined that there are no historic properties present or affected by the Project as proposed in the RFP Conceptual Plans.

Please note that any changes to the design, alignment, right of way limits, or easements shown on the RFP Conceptual Plans may require review by VDOT and could require additional cultural resources studies and/or coordination with the VA State Historic Preservation Office (SHPO). The Design-Builder is responsible for conducting all cultural resources studies necessitated by the proposed changes, while the VDOT is responsible for coordinating both the studies and the proposed changes with the VA SHPO. The Design-Builder shall then carry out any additional cultural resources commitments that result from such coordination at its sole expense and at no additional cost to the Project.

On May 20, 2013, the VA SHPO determined the Project would have No Effect on historic resources. Copies of the Cultural Resource Summary Report are contained in the RFP Information Package.

The Design-Builder should consider historic properties to be design constraints and avoid impacting them beyond what is shown on the RFP Conceptual Plans. In addition, the Design-Builder shall avoid any other Project-related activities on or within the viewshed of these historic properties, including but not limited to staging, borrow/disposal, and any temporary or permanent easements. Please note that any changes to the design, alignment, right-of-way limits, or easements shown on the RFP Conceptual Plans 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, while the VDOT is responsible for coordinating both the studies and the proposed changes with the VA SHPO. The Design-Builder shall then carry out any additional

cultural resources commitments that result from such coordination at its sole expense and at no additional cost to the Project.

2.3.3 Section 4(f) Resources

The proposed Project includes use of land from three Section 4(f) resources:

<u>Section 4(f) Resource</u>	<u>Parcel No.</u>
Mountain Road District Park	003
Rock Hill District Park	004
Elklick Preserve	005

The parcel numbers of these Section 4(f) resources are identified in the RFP Conceptual Plans.

FHWA has made a *de minimis* Impact Finding dated January 31, 2014 to the use of land protected by Section 4(f) legislation, and the RFP Conceptual Plans represent the minimization and mitigation measures negotiated with the local park authority to minimize harm resulting from the use of land from these resources. An enhancement measure to provide commercial entrances for their planned development of Mountain Road District Park has been included in the RFP Conceptual Plans. The Design-Builder shall perform the necessary drainage analysis to demonstrate that the wetlands in Rock Hill District Park are not adversely affected. The Design-Builder shall be responsible for further coordination with the land owner to ensure that conversion of park property incorporates the specified minimization and mitigation measures, and is consistent with the conclusions reached for the *de minimis* Impact Finding. Such measures may include conducting a preliminary plant/tree survey within proposed easements on park property for potential mitigation of impacts. VDOT will provide for an allowance up to \$10,000 for mitigation plantings. Copies of the FHWA's Section 4(f) *de minimis* Impact Finding and a Section 4(f) *de minimis* Impact Finding Checklist are included in the RFP Information Package.

The negotiated acreage of each Section 4(f) resource listed above for conversion to transportation use represents anticipated right of way and easement acquisition needs. The Design-Builder should consider 4(f) resources to be design constraints and avoid any impacts to them beyond the acres of use identified in this section. In addition, the Design-Builder shall avoid any other Project-related activities on these resources, including but not limited to staging, borrow/disposal, and temporary or permanent easements.

Any changes proposed by the Design-Builder requiring additional acreage of land from these Section 4(f) resources will require the Design-Builder to coordinate with the land owner for their concurrence that the additional use of parkland will not adversely affect the features and attributes that qualify each park for protection under Section 4(f). The Design-Builder will be responsible for notifying VDOT of plan revisions, right of way/easement changes, and providing any required studies and other necessary information to support VDOT's completion and re-evaluation of the Section 4(f) resource impacts. VDOT will be responsible for the coordination of any 4(f) documentation with FHWA to re-confirm *de minimis* Impact Finding. The Design-

Builder shall then carry out any additional commitments that result from such coordination with the land owner at its sole expense and no additional cost and/or time delays to the Project.

2.3.4 Agricultural and Forestal Districts

The Project includes conversion of property within the Cox Farm Agricultural and Forestal District (AFD) which is identified as Parcel No. 002 on the RFP Conceptual Plans. Based on preliminary studies undertaken by the Department, the Project as presently designed is anticipated to require less than an acre of AFD property for conversion to transportation use (i.e., proposed right of way and/or easement acquisition). In accordance with §15.2-4313 of the Code of Virginia, the County Board must approve acquisition of more than one acre of an individual farming or forestry operation. Any changes to the right of way or easements affecting the AFD proposed by the Design-Builder, and acceptable to VDOT, will require the Design-Builder to prepare Notice of Intent and detailed AFD Report for VDOT review and approval. The Design-Builder should refer to the *Technical Advisory for AFD Notice/Report to County Government* in the RFP Information Package. The Design-Builder is solely responsible for any costs or schedule delays related to the AFD impacts exceeding one acre.

2.3.5 Water Quality Permits and Compensatory Mitigation

The Design-Builder will obtain all necessary environmental clearances, permits, and approvals required to accomplish the work as noted in Part 4 (General Conditions of Contract), Article 2.6. The Design-Builder will be responsible for performing necessary design and fieldwork to support the acquisition of necessary water quality permits independently and directly from the regulatory agencies. The Design-Builder will be the Permittee.

VDOT completed a preliminary Permit Determination, dated February 15, 2013 concluding that water quality permits are required for this Project based on the RFP Conceptual Plans. The Offeror should note that the preliminary Permit Determination and wetland delineations are provided for informational purposes only. The Design-Builder will 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.

The Design-Builder shall determine the applicability of water quality permits for the Project (to include utilities to be relocated by the Design-Builder for the Project). Should it be determined that Water Quality Permits are required, the Design-Builder shall conduct the necessary technical studies required by regulatory agencies as a condition of the permit acquisition process. The Design-Builder shall also determine the required sequencing methodology to limit Project impacts to wetland systems. VDOT has completed a wetlands delineation of the Project area and has obtained a preliminary jurisdictional determination from the US Army Corp of Engineers dated October 7, 2013; the Design-Builder shall utilize this information to obtain required permits.

If the Design-Builder determines water quality permits are not required based on information generated, the Design-Builder shall notify the VDOT Project Manager in writing, so

that VDOT can authorize the Design-Builder to execute the work. Any deviations that the Design-Builder makes to the Project footprint and/or scope may render the permit determination invalid and will require additional consideration.

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

The Design-Builder shall note that avoidance, minimization, and mitigation measures associated with permit acquisition will require close coordination between the Design-Builder and VDOT. If permit issuance is delayed or permits are denied, the Design-Builder will be responsible for any schedule delays and/or associated costs.

Should the Design-Builder propose design changes acceptable to VDOT, permitting requirements may also change; the Design-Builder remains responsible for obtaining all necessary water quality permits and permit modifications required by the regulatory agencies to accommodate the design changes.

The Design-Builder shall ensure that Project schedules accommodate any Special Provisions, Time of Year Restrictions (TOYR), and the duration of permit acquisition from the regulatory agencies. The Design-Builder shall be responsible for adhering to permit conditions and Special Provisions, as identified in the permit authorizations including but not limited to TOYR, avoidance and minimization recommendations, restoration of temporary impact areas, and countersinking culverts.

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 permits, documentation, and correspondence with regulatory agencies. Construction activities shall not impact regulated areas within the Project limits until all applicable water quality permits have been issued to the Design-Builder. 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 14 days prior to beginning work in the jurisdictional areas covered by the water quality permits.

The Design-Builder shall allow environmental compliance inspections by VDOT, and/or regulatory agencies as required by permits and/or to facilitate any interim compliance reviews/assessments.

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.

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 the Project; additionally the Design-Builder will be responsible for any schedule delays and associated costs.

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

2.3.6 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 state and federally listed species or critical habitat. A copy of VDOT's preliminary Fish, Plant, and Wildlife Resources Form dated February 15, 2013 and the Project Review Certification Letter from the US Fish and Wildlife Service dated April 30, 2013 are 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 will 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 will be responsible. The Design-Builder is responsible for ensuring that all T&E species are correctly identified and impacts assessed, noting that more or less 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.

2.3.7 Hazardous Materials

VDOT reviewed the Project to determine there is no potential for hazardous materials and/or contamination within the Project area.

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

2.3.8 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 Form (Air Quality Analysis Report), dated November 13, 2013, 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, an Annual Fine Particulate Matter (PM_{2.5}) Nonattainment area, and a volatile organic compounds (VOC) and nitrogen oxides (NO_x) emission control area. As such, all reasonable precautions should be taken to limit the emissions of VOC, NO_x, and particulate matter during construction of the Project. In addition, the following VDEQ air pollution regulations must 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 will be required to adhere to the limitations outlined in the Special Provision for Volatile Organic Compound Emissions Control Areas.

Construction activities will be performed in accordance with VDOT's current "Road and Bridge Specifications" and the Contract Documents. The specifications conform to the State Implementation Plan and require compliance with all applicable local, state, and federal regulations.

2.3.9 Noise Mitigation

The Noise Scoping Decision for this Project concluded that this is a Type III project and that a Noise study is not required. A copy of the Noise Form dated April 12, 2013 is included in the RFP Information Package.

2.3.10 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 has the authority to suspend work, in whole or in part, until such time as the deficiencies or non-compliant items have been corrected. Should any non-compliant item(s) be identified during construction, immediate and continuous corrective action shall be taken by the Design-Builder to bring the item(s) back into compliance.

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.

2.4 Survey

VDOT has completed a field survey according to VDOT Survey Manual, conforming to VDOT Standards, between Pleasant Valley Road (Route 609) Station 203+00 and Station 230+00 and Braddock Road (Route 620) between Station 100+00 and Station 115+00 including, but not limited to the following:

- Horizontal control
- Vertical control
- Notification of property owners*
- Post photography control
- Photogrammetry
- Field data
- Topography
- Property data
- Utilities
- Levels
- Digital Terrain Model

*The Virginia Code 33.1-94 requires that Notice of Intent letter (RUMS Forms I1, I2, I3, and I4) “shall be sent to the owner at the address recorded in the tax records, or delivered by guaranteed overnight courier or otherwise delivered to the owner in person with proof of delivery **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 earlier of the date of mailing, if mailed, or on the date delivered.” The notice shall include the anticipated date/dates 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 for forwarding to the District Survey Manager as soon as they become available.

The Design-Builder is advised that such survey is not represented to be complete for purposes of designing the Project, and that Design-Builder's scope of work shall include performing all additional surveying and utility designation that is necessary to supplement the above-referenced survey as required for design purposes.

The Design-Builder shall be responsible for obtaining any additional survey data, including all right-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, limited access revisions, and construction of the Project. Additionally, the Design-Builder will be responsible for any update (property owner changes, subdivisions, etc.) that may occur; updates need to be reflected on the plans in order to acquire right of way and complete the final design. Any additional survey changes will be verified and certified, and submitted in final documentation.

The Design-Builder will be responsible to reset or relocate and 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 Project Manager.

Prior to Project completion, the Design-Builder shall provide and set final VDOT RW-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 Survey Manual.

2.5 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 September 30, 2013, 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); the current AASHTO LRFD *Bridge Design Specifications*, 6th Edition, 2012 and VDOT Modifications; and Section 700.04 (c) of the Road and Bridge Specifications.

The Design-Builder shall collect appropriate data for geotechnical evaluation of pavements, embankments, soil and rock cuts, culverts, storm water management facilities, minor structures including drainage pipes, and any other earth-supported or earth-retaining structures or 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 Engineering Data Report, dated September 30, 2013, 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 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.

2.5.1 Minimum Pavement Sections

Minimum pavement sections (noted in this section) and anticipated locations for these sections shall be utilized for Proposal preparation purposes only. For the anticipated locations for new pavement, mill and overlay, and demolish and replace areas are provided on the RFP Conceptual Plans included in the RFP Information Package. The Design-Builder shall be required to validate the adequacy of the minimum pavement sections and to notify the Department of its findings. If the Design-Builder confirms that the minimum pavement sections and locations of these sections are inadequate for actual design/construction conditions, it shall notify VDOT during the Scope Validation Period of the necessary changes and proposed price adjustments, if any. 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 2.5.1 shall be approved 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 photographically document the existing condition of all pavements within and adjacent to the Project limits prior to the Design-Builder's submission of final construction plans for VDOT approval and provide all photos to the VDOT Project Manager. Photos shall be color digital images in .jpg format with 4 megapixels (approximately 2400 pixels wide x 1600 pixels high) or greater resolution. The Design-Builder shall be responsible for full-depth replacement of all pavement damaged resulting from Project construction activities, regardless of the method or location of the pavement damage.

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. Underdrain requirements are identified in the Geotechnical Engineering Data Report, which governs over the location of underdrains shown in the RFP Conceptual Plans. The minimum pavement sections are as follows:

Braddock Road (Route 620) and Pleasant Valley Road (Route 609)

Where widening existing pavement, the pavement shall be saw cut full depth 1 foot inside the edge of mainline (full depth) pavement, demolished and reconstructed with the pavement section identified below. The existing pavement of Route 620 shall be demolished and reconstructed between station 108+00 and station 112+00 both east bound and west bound. The existing pavement of Route 609 shall be demolished and reconstructed between station 219+75 and station 226+00 both north bound and south bound. In areas not identified for demolition and reconstruction, the existing pavement shall be milled to a minimum depth of 1.5" and built-up as necessary to achieve the final design grade. All pavement areas disturbed by eradication of temporary or permanent pavement markings shall be milled to a minimum depth of 1.5" and resurfaced with 1.5" Asphalt Concrete, Type SM-9.5D (estimated at 182 lbs/yd²).

New Pavement and Pavement Widening

Surface – 1.5” Asphalt Concrete, Type SM-9.5D (estimated at 182 lbs/ yd²)

Intermediate – 2” Asphalt Concrete Type IM-19.0D (estimated at 244 lbs/ yd²)

Base – 6” Asphalt Concrete, Type BM-25.0A

Subbase No.1 – 6” Aggregate Base Material, Type I, Size No. 21B, connected to a standard UD-4 edgedrain beneath the curb and gutter or beneath the paved shoulder.

Subbase No.2 – 18” Aggregate Base Material, Type I, Size No. 21A pugmill mixed with 4% hydraulic cement by weight extended 12” beyond the edge of pavement.

Note: When widening on the high side of an existing cross slope or superelevated pavement, aggregate base material, Type I, Size No. 21A, pugmill mixed with 4% hydraulic cement shall be substituted for Aggregate Base Material, Type I, Size No. 21B.

Paved Shoulders

For paved shoulders use the surface and intermediate courses specified above over 12” of Plain Aggregate, Type I, Size No. 21B, connected to a UD-4 edgedrain, located beneath the shoulder or extended to daylight through the shoulder. Paved shoulders 3 feet in width or narrower, shall be constructed using the mainline pavement section for ease of construction.

Roundabout Truck Apron

Surface – 8” Class A3 Hydraulic Cement Concrete Pavement per standard PR-2

Base – 6” Aggregate Base Material, Type I, Size No. 21B.

- Note:
1. The aggregate subbase (21B) for the truck apron and the roundabout pavement shall be continuous to facilitate pavement drainage.
 2. A standard UD-4 underdrain shall be provided below the inside edge of the truck apron to collect water from the roundabout island.
 3. A joint plan shall be provided for the concrete pavement showing contraction joints, expansion joints, and isolation joints as necessary. The maximum slab dimension for unreinforced concrete pavement shall be no greater 1.25 times the smaller slab dimension.

Milling and Resurfacing

Where indicated on the RFP Conceptual Plans, the existing pavement shall be milled to a minimum depth of 1.5” and resurfaced with 1.5” Asphalt Concrete, Type SM-9.5D (estimated at 182 lbs/ yd²).

Curbs, and Curb and Gutter

Curbs, and Curb and Gutter shall be placed on a minimum 6” thickness of aggregate base material Type I, Size No. 21B extended 12” behind the curb.

Temporary Pavement

The Design-Builder shall be responsible for any temporary pavement design. Temporary pavements shall be designed in accordance with the AASHTO Guide for the Design of Pavement Structures (1993 edition) and the VDOT Materials Division’s Manual of Instructions. All temporary pavement designs shall be submitted to the Department for

review. All temporary pavement shall be completely removed once it is no longer in service. All temporary pavement design pavements shall have a minimum 5 inches of asphalt concrete. All temporary pavement designs shall meet the following minimum design criteria:

- Design Life – 6 months minimum or more as required by MOT phasing
- Reliability – eighty-five percent (85%) minimum
- Initial Serviceability – 4.2 minimum
- Terminal Serviceability – 2.8 minimum
- Standard Deviation – 0.49 minimum
- CBR value for subgrade soils determined laboratory tests

Sidewalk and Shared Use Path, as required

Sidewalk

Surface – 4” Hydraulic Cement Concrete, Class A3

Base – 4” Aggregate Base Material, Type I, Size No. 21B, extended 4” on either side of the surface.

Shared Use Path (extension to existing path from the roundabout)

Surface – 2” Asphalt Concrete, Type SM-9.5A estimated at 242 lbs/ yd²

Base – 6” Plain Aggregate, Type I, Size No. 21B, extended 6” on either side of the surface.

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. Surface water and ground water shall be controlled to prevent saturation of the pavement subgrade and the pavement subbase materials.

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 Road and Bridge 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 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, and at the lower end of undercut areas.

2.5.2 Geotechnical Requirements

Embankments and certain aspects of retaining wall design are not addressed by LRFD. Embankments and cut slopes shall be designed in accordance with Section 305 of the VDOT Materials 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, including those retained by structures.

All retaining walls shall be designed in accordance with applicable VDOT and AASHTO requirements, including Soil Design Parameters for Sound Barrier Walls, Retaining Walls and Non-Critical Slopes included in the RFP Information Package. If the Design-Builder elects to use mechanically stabilized earth (MSE) walls, the fill material used in the reinforced zone shall be a crushed aggregate with properties in accordance with VDOT's Special Provisions for approved proprietary MSE walls. The Design-Builder shall provide both global and external stability analysis utilizing a computer program acceptable to VDOT and submit the results of the analysis, including boring logs, laboratory data, and any other applicable data, to VDOT geotechnical engineers for review. The wall supplier shall provide to the Design-Builder, for submittal to VDOT, an internal stability analysis that validates the design of the wall. Retaining walls shall be designed to control settlements within tolerances identified by VDOT Guidelines for Preparation of Alternate Retaining Wall Plans.

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 list in 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.

2.5.3 Unsuitable Materials

Unsuitable Material is defined as material used as embankment fill, and in cut areas to a depth of at least 3 feet below subgrade directly beneath pavements and at least 2 feet beneath the bedding of minor structures and laterally at least 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 5 percent by weight organic matter; exhibits a swell greater than 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. All materials within the uppermost 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 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 12 inches.

Chemical drying of highly plastic CLAY (CH) will not be permitted for this Project. Where this material is present below subgrade the material shall be removed to weathered rock or a minimum depth of 1 foot below subgrade and 3 feet beyond the edge of pavement or behind curbs and replaced with aggregate base material, Type I, size No. 21A pugmill mixed with 4% hydraulic cement by weight.

2.5.4 Control of Rock Blasting

.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 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 blasting consultant shall review the blasting plans used by the blasting contractor to verify it includes the results of blasting on a test section. The blasting consultant shall make regular visits to the site as excavation progresses to verify that the blasting 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 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. The Design-Builder shall provide results from test blast program to VDOT prior to production blasting.

.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.

.4 Coordination and Review by Project Geotechnical Engineer

The Project 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.

2.5.5 Pipe Installation Methods

Culverts or utility pipes shall be installed by either conventional methods in accordance with Section 302.03 of VDOT's Road and Bridge Specifications, or Jack and Bore and/or by Micro-tunneling in accordance with the applicable Special Provisions contained in the RFP Information Package. Trenchless technology other than these methods of installation is not permitted unless otherwise approved by VDOT. The Design-Builder's Design Engineer shall determine 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. The design tolerance may be more stringent than what is called for in the both the Jack and Bore and Micro-Tunneling Special Provisions; however, under no circumstances shall the design tolerances used in design of either culverts or utility pipes exceed those specified in the VDOT Road and Bridge Specifications and the applicable Special Provisions. Performance requirements and tolerances stipulated in the Special Provisions shall also apply to conventional tunneling methods. 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 VDOT Road and Bridge Specifications and the Special Provisions for Jack and Bore and/or Micro-Tunneling, as applicable.

2.6 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.

2.6.1 Drainage

The drainage work shall include the design and construction of culverts, open channels, storm sewer systems, underdrains, adequate outfall analysis, 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 & Stormwater Management Programs. 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.

For the purposes of developing the Price Proposal, the Offeror shall assume that the existing drainage pipes and culverts within the project limits and which are a functional element of the proposed drainage design, are unserviceable and are to be plugged and abandoned in accordance with VDOT Road and Bridge Standard PP-1, removed, or replaced with adequate structures designed and constructed in support of the Design-Builder's final drainage design. The Offerors should note that none of the existing pipes and culverts within the project limits have been surveyed for structural and functional deficiencies. If after award the Design-Builder investigates the serviceability and functionality of the affected existing pipes and culverts, and as a result proposes use (or repair) of some or all, then it shall be done only with VDOT's approval. The Design-Builder shall assess the serviceability of the structure by performing a visual/video inspection of the existing pipes and culverts utilizing the assessment criteria for Post Installation Inspections presented in VDOT Supplemental Specification 30204. The Design-Builder will provide VDOT with an inspection report documenting the assessment as prescribed in the supplemental specification. Drainage pipes and box culverts deemed repairable shall be rehabilitated in accordance with VDOT's guidelines including, but not limited to those methods outlined in the latest version of IIM-LD-244 and Special Provisions SU3020001A Pipe Rehabilitation and SU3020002A Pipe Replacement.

Underdrain outfall locations are not shown in the plan set included 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 2008 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.

2.6.2 Post-Construction SWM, SWPPP and ESC Plans

An Erosion and Sediment Control (ESC) Plan and Narrative, Stormwater Pollution Prevention Plan (SWPPP), 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 Program (VSMP) Law and Regulations.

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 Department of Environmental Quality (DEQ) (previously Department of Conservation and Recreation) 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 through the District Drainage Engineer in accordance with the latest versions of IIM-LD-11 and IIM-LD-195.

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, SWPPP 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 adequate outfall requirements of the VSMP Regulations for each location where stormwater is discharged from the Project.

The land-disturbing activity for the Project is equal to or greater than 2,500 square feet and coverage under the VSMP General Construction Permit For The Discharges From Construction Activities (VSMP Construction Permit) is required. The Design-Builder shall coordinate and submit the required permit coverage application information to the VDOT Project Manager. The Design-Builder shall complete the applicable sections of the VSMP Construction Permit Registration form (LD-445), VSMP Construction Permit Contact Information (LD-445A), VSMP Construction Permit Fee Registration form (LD-445B). These forms along with the completed ESC and SWM Plan Certification form (LD-445C) shall be submitted 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 VSMP Construction Permit in accordance with VDOT's guidelines as outlined in the latest version of IIM-LD-242.3. 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. The Design-Builder will be the Permittee and shall be responsible for all permitting fees.

A working conceptual ESC and post construction SWM Plan and SWPPP for the entire Project must be submitted for review and approval with the initial application for permit coverage. This initial conceptual Plan submittal shall include the proposed total expected Land Disturbance Area and Land Development Area, including any off-site facilities, for the entire Project. Where the Project will be constructed in segments, the Design-Builder shall submit a finalized ESC Plan, a post construction SWM Plan and a SWPPP, including the expected Land Disturbance Area, for the proposed initial work segment in addition to the conceptual plan for the entire project. It is expected that the individual work segment submittals will be self-sustaining and not incur a deficit in post construction SWM design requirements requiring mitigation on future work segments. Subsequent work segment submittals shall include required modifications to the Land Disturbance Area value. However, these modifications, in total, shall not exceed the initially submitted Land Development Area value. 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. It is noted that permit coverage, and subsequent release of work, can take up to 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 as built 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 and sign the VSMP 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 DCR Inspector Certification, a DCR Responsible Land Disturber (RLD) Certification and a VDOT Erosion and Sediment Control Contractor Certification (ESCCC) to ensure compliance with all DCR and VDOT erosion and sediment control plan implementation requirements.

Effective July 1, 2013 the administration of the Virginia Erosion and Sediment Control and Stormwater Management regulatory programs was transferred from the Virginia Department of Conservation and Recreation (DCR) to the Virginia Department of Environmental Quality (DEQ). References and links to DCR manuals and documents contained herein may no longer be correct as these programs are being transferred between the State agencies. The erosion and sediment control certification requirements shall still apply, but with the DEQ having oversight over the certification program beginning July 1, 2013.

2.6.3 Post-Construction Stormwater Management

The Design-Builder shall be responsible for the design and construction of stormwater management Best Management Practices (BMPs) as required for the Project in accordance with the latest version of IIM-LD-195, and the other standards and reference documents listed in Part 2, Section 2.1 including the Virginia Stormwater Management Program Law and Regulations, and shall comply with the minimum geotechnical requirements contained therein.

Preliminary calculations prepared by VDOT indicating the stormwater management analysis are presented in the Drainage Calculations Booklet included in the RFP Information Package. The preliminary calculations show stormwater management requirements to achieve a minimum phosphorus removal rate of 1.75 pounds per year within the proposed right of way limits. The Design-Builder, as part of their final design, shall validate the preliminary calculations and develop a final post construction stormwater management plan. VDOT has identified potential purchase of nutrient offsite credits as per IIM-251 for post construction stormwater management as part of the RFP. The Design-Builder, as part of their final design, shall evaluate SWM design and validate phosphorus removal rate of 1.75 pounds per year, and if found acceptable, develop a final post construction stormwater management plan. Any

deviations from phosphorus removal rate of 1.75 pounds per year shall be addressed by Design-Builder and cost included in their Price Proposal.

2.6.4 Other Drainage Requirements

All drainage facilities (existing and newly constructed) within the project area 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. Accumulated debris resulting from 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.

2.7 Landscape

The Design-Builder shall provide a landscape plan for the roundabout area of the Project based on the preliminary design shown in the RFP Conceptual Plans as described in this section. Landscaping shall be provided to mitigate impacts from the Project on the community and adjacent property owners. Landscaping shall be provided in the following locations:

- The central island and splitter islands of the roundabout
- The area surrounding the roundabout

The central island of the roundabouts shall be landscaped to prevent excessive intersection sight distance in accordance with Chapter 9 of the NCHRP Report 672, Roundabouts: An Informational Guide, Second Edition. Landscaping shall also be provided in the area surrounding the roundabouts and in the unpaved areas of the medians and splitter islands. Design-Builder shall provide documentation that no more than 10% above the minimum required intersection sight distance (Chapter 6 of the NCHRP Report 672) on each approach is provided.

The landscape plans shall be developed by the Design-Builder and approved by VDOT. A final Planting Plan for the Project shall be prepared by a licensed Landscape Architect and shall be submitted to the VDOT Project Manager for review and approval.

All landscaping shall be in accordance with the Memo for Guidance for Planting in the Clear Zone and Landscaping for VDOT Projects, dated November 2, 2000, Guidelines for Context Sensitive Solutions/Design, dated February 25, 2004, and FHWA 23 CFR 752 Landscaping and Roadside Development and the attached Special Provisions for Section 605 and 244 of the VDOT Road and Bridge Standards. A majority of the plant materials should be native or indigenous to the area and is able to adapt and survive in roadside environments.

The planting plans shall be designed and constructed to require minimal maintenance and be compatible with the existing landscape adjacent to the Projects and may reflect historic and cultural features of the area.

The landscape plans shall include at a minimum, the number of Plants (3 trees; 301 shrubs or small flowering trees) shown on the Conceptual Landscape Plans. The species and the varieties of plants may be changed with the approval of the VDOT Landscape Architect.

Landscaped areas shall be planted with the following plant sizes and maximum spacing when planted: shade trees should be 2” in caliper and spaced 20 to 30 feet on center, flowering trees 6 to 8 feet in height and spaced 10 to 15 feet on center, evergreen trees 7 feet in height and spaced 15 to 25 feet on center, shrubs 2 to 4 feet in height and spaced 3 to 5 feet on center, depending on the species. All plants should conform to the American Standard for Nursery Stock (ANSI-Z60.1-2004), and be container grown or balled and burlaped.

The roadside development sheet should not include tall fescue. It shall include native and low-growing grasses and groundcovers both for erosion and sediment control and permanent seeding.

The concrete sections of the medians and splitter islands should be constructed with stamped and colored concrete in a cobblestone pattern in accordance with the Special Provision for Stamped Concrete.

2.8 Traffic Control Devices

The Project shall include all Traffic Control Devices (TCD), including temporary and permanent installation of the following: signage, pavement markings/markers, and delineation. 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.

All existing TCD impacted by the Project shall be modified, upgraded, or replaced by the Design-Builder to meet current VDOT standards.

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. The final lines of sight and sight distances must be considered in the placement of all Project signage.

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 sign structures and non-salvageable signs removed during construction should 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.

.1 Limits of Project Signing

The Design-Builder shall replace all existing ground mounted signage and install new signing within the Project limits. 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.

.2 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, MUTCD or Virginia Supplement 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 shall be shown on the signing plans. The signing plans also shall include the location and type of delineation devices (including pavement markings.)

.3 Design of Sign Panels and Locations

Proposed and replaced sign panels shall be in accordance with the VDOT 2007 Road & Bridge Specifications and other references in Part 2, Section 2.1. 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 MUTCD, the 2011 Virginia Supplement to the 2009 MUTCD, and all applicable Traffic Engineering Division Numbered memoranda.

The Design-Builder shall use Standard VDOT sign structures for new VDOT owned signs. 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 Guardrail

The Design-Builder shall ensure that the clear zone within the Project limits is free from hazards and fixed objects. In the event that removal or relocation of hazard and fixed objects from the clear zone is not feasible, the Design-Builder shall design and install an approved guardrail barrier system and end treatments, where appropriate, for protection in accordance with

NCHRP 350 or AASHTO Manual for Assessing Safety Hardware, First Edition. The same clear zone requirement applies to existing conditions affected by this Project where guardrail upgrade will be required. Existing sub-standard guardrail within the Project Limits must be upgraded by the Design-Builder to meet current standards per I&IM 220. This may require the upgrade of guardrail to the nearest logical termination point beyond the current Project limits.

Fourteen (14) days prior to installation of guardrail the Design-Builder shall request VDOT field verification of the proposed layout. Accompanied by the Design-Builder, VDOT representative will inspect the locations and advise on any necessary adjustments. Additionally, the Design-Builder shall provide a copy of the manufacturer's recommendations for installation of all guardrail terminals to the VDOT Project Manager before the installation of any guardrail end treatment of terminating device.

2.8.4 Pavement Markings/Markers

The Design-Builder shall include all required pavement markings, markers, and delineators. Pavement markings, markers, and delineators shall conform to the requirements of the MUTCD, the 2011 Virginia Supplement to the 2009 MUTCD, and applicable special provisions (included in the RFP Information Package). All pavement marking plans shall be in accordance with VDOT Traffic Engineering Design Manual, dated 2011.

2.8.5 Project Lighting

The Design-Builder shall be responsible for all work necessary to design and construct a continuous lighting system at the Braddock Road, Route 620 and Pleasant Valley Road, Route 609 Roundabout.

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-8-00 & IES DG-19-08) 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.

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 High Pressure Sodium (HPS) 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.

2.9 Transportation Management Plan

The Design-Builder shall prepare a Transportation Management Plan (TMP) in accordance with I&IM-241/TE-351 for all proposed work associated with the Project. The TMP shall document how traffic shall be managed during the construction of the Project. This Project is classified as a Type B, Category III in terms of the TMP. 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 this Part 2, Section 2.10.

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 also address safe and efficient operation of adjacent public transportation facilities and State Highways. The plan shall also include coordination with local agencies and other contractors performing work in the vicinity of the Braddock Road and Pleasant Valley Road intersection. This plan shall 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. The phases in the Design-Builder's suggested sequence of construction that accompany an approved work package 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.

If additional traffic counts are required, it will be the responsibility of the Design-Builder to collect such data. The Design-Builder shall note that any proposed detour utilizing local neighborhood streets that are maintained by Fairfax County and Loudon County will require the coordination with the applicable locality, as appropriate and are subject to the terms and conditions of VDOT's approval.

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.

2.9.2 Lane and Road Closure Restrictions

~~The Design Builder shall follow the Northern Virginia District Administrators memo regarding Lane Closures in Nova District dated March 2012 for all lane closures.~~

For the purposes of the Offerors' Price Proposal, it can be assumed that lane closures (with flagger service or temporary signal with alternating one way traffic operations) will be permitted during the following hours:

<u>Sunday through Thursday nights</u>	<u>9:30 P.M. to 5:00 A.M.</u>
<u>Friday and Saturday nights</u>	<u>10:00 P.M. to 6:00 A.M.</u>

Detour plans will be required for any proposed total road closures exceeding ~~20~~15 minutes and any proposed daytime lane closures, and are subject to VDOT review and approval as part of the Design-Builder's TMP. In addition to addressing the traffic analysis requirements in I&IM 241, the Design-Builder shall demonstrate in its detour plan(s) efforts to minimize impacts to the community (including noise, access, additional travel time, etc.), and address geometry, safety (including accident analysis along the detour route), capacity, and existing roadway conditions.

The Design-Builder shall submit all lane and/or shoulder closure requests to the VDOT TOC and VDOT Project Manager for coordination purposes (for determination of conflicts with other projects, for instance) at least seven (7) days in advance of the proposed lane and/or shoulder closure and 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 and/or shoulder 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 is responsible for providing advance notification via variable message and required static signing for lane and/or shoulder and complete road 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 and/or shoulder 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 Project 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 48 hours prior to the event.

2.9.3 Use of Virginia State Police

The Design-Builder shall be responsible for coordinating through VDOT for Virginia State Police (VSP) service during Temporary Traffic Control operations involving lane closures, and any other operation as covered in Appendix C of the Virginia Work Area Protection Manual. VDOT shall be responsible for all costs incurred by VSP specific to the Project.

All lane closures shall be identified in the TMP and in accordance with Traffic Engineering Memorandum TE-352.

2.9.4 Portable Changeable Message Signs

Portable Changeable Message Signs (PCMS's) shall be used in advance of the work zone when detouring traffic, closing or shifting lanes within the Project limits. The Design-Builder shall provide at least a minimum of four PCMS's along Braddock Road and Pleasant Valley Road (one on each approach to the intersection); ~~each PCMS is to be placed four in advance of the Project in each direction. PCMS's shall also be used to provide en-route travel information about planned construction, delays or other sudden changes in travel conditions throughout the Project's duration. The PCMS shall be placed in a semi-permanent location, protected from traffic but highly visible to the public.~~ The Design-Builder shall coordinate the implementation of PCMS's with VDOT. The use of PCMS's shall not replace any traffic control device otherwise required per the MUTCD or the Virginia Work Area Protection Manual.

2.9.5 Cox Farm Events

- Each year, the Cox Farm property has a fall festival in mid-September and has special events around Christmas. The Design-Builder shall coordinate with Cox Farm to limit the impact to traffic conditions and ensure there is full access to the Cox Farm property during these events. The Design-Builder shall contact the Cox Farm representative, Eric Cox ((703) 401-0473) to coordinate these efforts.

2.10 Public Involvement / Public Relations

The Design-Builder shall be responsible for providing a point of contact and phone number for the public to use to request information or express concerns for the duration of the Project. All information to be released to the public shall be approved by VDOT. All information for press releases should be sent to VDOT's Project Manager and VDOT Public Affairs for dissemination to media).

During the design and construction phases, the Design-Builder shall:

- Hold informal meetings with affected stakeholders as necessary and as directed by VDOT. A list of affected stakeholders (including, but not limited to, community associations, 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 holding any meetings. All stakeholders shall be informed of meetings.

Concurrent with the first plan submittal and at intervals deemed necessary by VDOT, provide to VDOT's Project Manager and VDOT Public Affairs written information about the Project suitable for posting by VDOT on its Website, including any significant changes that affect the public. Such information will include a Project overview, plan of work, overall Project schedule and progress, potential impacts to traffic on all roadways within the project limits (i.e., temporary lane closures, shoulder closures, ramp reconstruction, milling operations, etc.), up-to-date Project photos, and contact information.

During the Construction Phase, the Design-Builder shall:

- Operate as a liaison between VDOT, Fairfax County, and the Design-Builder's Construction Manager to ensure compliance with applicable local ordinances and provide appropriate notification to affected property owners.
- Provide to the VDOT Project Manager and VDOT Public Affairs information for 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.
- 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&IM-241.

- 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.

A public hearing was held for this Project on October 9, 2013 at Ormond Stone Middle School, 5500 Sully Park Drive, Centreville, VA. Applicable Public Hearing comments have been compiled and have been incorporated into the plans as deemed necessary by VDOT. Any meetings held will be conducted in accordance with the VDOT Policy Manual for Public Participation in Transportation Projects, revised August 2011.

2.11 Right of Way

2.11.1 Fairfax County Park Authority Property

Fairfax County Park Authority is the owner of Parcel 003, 004 and 005 adjacent to the Braddock Road and Pleasant Valley Road intersection improvement area. VDOT shall be responsible for the acquisition costs and services for proposed easements and right-of-way of Parcel 003, 004 and 005, as shown on the RFP Conceptual Plans provided in the RFP Information Package. The Design-Builder shall not propose further impacts to the remainder of Parcel 005. Parcel 005, in its entirety, is subject to a conservation easement held by the Fairfax County Board of Supervisors. To the extent this conservation easement is impacted by this Project, it may need to be replaced outside of the Project construction limits by agreement between Fairfax County Park Authority and the Board of Supervisors. If replacement is required, the Design-Builder will not be responsible for facilitating the conservation easement's reestablishment. If replacement is not required, compensation will be provided to the Board by VDOT.

2.11.2 Right of Way

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, with the exception of temporary construction, permanent drainage, and utility easements (other than permanent drainage easements for stormwater management facilities). Stormwater management facilities shall be wholly contained within the right of way limits shown on the RFP Conceptual Plans. 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, Section 2.8 and 2.9.

The Design-Builder's final design shall also be contained within the right of way limits shown on the RFP Conceptual Plans, with the exception of temporary construction, permanent drainage, and utility easements (other than permanent drainage easements for stormwater management facilities) and where minor adjustments are required during final design process, and only after approval from VDOT. If the Design-Builder proposes significant changes 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. As discussed herein, the Design-Builder shall be responsible for any time and/or cost impacts and any NEPA document re-evaluation associated with Design-Builder's design changes that extends beyond the right of way limits reflected in the RFP Conceptual Plans and approved by VDOT.

The Design-Builder, acting as an agent on behalf of the Commonwealth of Virginia ("Commonwealth"), shall provide all right of way acquisition services for the Project's acquisition of fee right of way and permanent, temporary and utility easements. Right of way acquisition services shall include certified title reports, appraisal, appraisal review, negotiations, relocation assistance services and parcel closings, to include an attorney's final certification of title. The Design-Builder's lead right of way acquisition consultant shall be a member of VDOT's prequalified right of way contracting consultants (listed on VDOT's website) and the Design-Builder's right of way team shall include VDOT prequalified appraisers and review appraisers (also listed on VDOT's website). VDOT will retain authority for approving the scope of the appraisal and the appraiser, just compensation, relocation benefits, and settlements. VDOT must issue a Notice to Commence Right of Way Acquisition to the Design-Builder prior to any offers being made to acquire the property. This represents a hold point in the Design-Builder's Baseline Schedule. VDOT must also issue a Notice to Commence Construction to the Design-Builder once the property has been acquired and prior to commencing construction on the property. This also represents a hold point in the Design-Builder's Baseline Schedule. The Design-Builder will **NOT** be responsible for the right of way acquisition costs. As used in this RFP, the term "right of way acquisition costs" means the actual purchase price paid to a landowner for right of way, including fee, any and all easements, and miscellaneous fees associated with closings as part of the Project. All right of way acquisition costs will be paid by VDOT, and shall not be included in the Offeror's Price Proposal. Notwithstanding the foregoing provision, should additional right of way (whether fee or easements) be required to accommodate Design-Builder's unique solution and/or Contractor's means, methods and resources used during construction above and beyond the right of way limits depicted on the conceptual plans included in the RFP Information Package, then all right of way acquisition costs for such additional fee or easements shall be paid by the Design-Builder. These costs would include (but not be limited to) the costs of any public hearings that may be required, actual payments to property owners and all expenses related to the additional acquisitions and associated legal costs as well as any additional monies paid the landowners to reach a settlement or to pay for a court award. In the event additional right of way is needed as a result of an approved scope change request by the Design-Builder, the Design-Builder shall follow the procedures indicated in the "Right of Way Acquisition Guidelines" (Chapter 5 of VDOT's Right of Way Manual of Instructions; <http://www.virginiadot.org/business/row-default.asp>). Additionally, the Design-Builder is solely responsible for any schedule delays due to additional right of way acquisition associated with the Design-Builder's design changes and no time extensions shall be granted.

The following responsibilities shall be carried out by either the Design-Builder or VDOT as specified in each bulleted item below:

- The Design-Builder shall acquire property in accordance with all Federal and State laws and regulations, including but not limited to the Uniform Relocation Assistance and Real

Property Acquisition Policies Act of 1970, as amended (the “Uniform Act”) and Titles 25.1 and 33.1 of the 1950 Code of Virginia, as amended. The acquisition of property shall follow the guidelines as established by VDOT and other State and Federal guidelines that are required and the VDOT Right of Way Manual of Instructions and the VDOT Utility Manual of Instructions, as well as I&IM-LD-243 and Chapter 12 of the VDOT Survey Manual. All conveyance documents for the acquisition of any property interest shall be accompanied by properly marked plan sheets and profile sheets.

- The Design-Builder may not employ the use of Rights of Entries until the property owner has been made a bona fide offer to acquire the property.
- If the Design-Builder and/or the Right of Way sub-consultant does not follow 49 CFR Part 24 Uniform Relocation and Real Property Acquisition Act of 1970 (The Uniform Act) in the performance of the acquisition and/or relocation processes, or fails to obtain or create any mandatory written documentation in their right of way parcel file, the Design-Builder shall be responsible for any and all expenses determined to be ineligible for reimbursement of federal funding.
- VDOT shall designate a hearing officer to hear any Relocation Assistance appeals. VDOT agrees to assist with any out of state relocation by persons displaced within the rights of way by arranging with such other state(s) for verification of the relocation assistance claim.
- VDOT will entertain the use of relocation incentive plans on projects with significant numbers or critical relocations. Such incentive plans shall be presented to VDOT for approval. If VDOT approves the incentive plan, it will seek Federal Highway Administration approval. Any relocation incentive plan shall be uniformly administered so that all landowners and displaces of a similar occupancy receive fair and equitable treatment. Under no circumstances is a relocation incentive to be used without VDOT’s prior approvals.
- VDOT will entertain the use of protective leasing to ensure the availability of housing or apartments for relocation purposes. Such protective leasing plans must be presented to VDOT for approval prior to their implementation.
- Section 33.1-134 of the Code of Virginia, 1950, as amended, provides that the Commissioner of Highways may acquire lands on which graves are located through either voluntary conveyance or condemnation. In the course of relocating such graves, the Commissioner of Highways, through the Office of the Attorney General, will appoint an attorney to prepare the Order and Petition for the exhumation and re-interment of the graves. The Design-Builder shall be responsible for verifying the number of graves, locating next of kin if possible, acquiring new grave sites and managing the grave relocations as outlined in Chapter 3.4.7 of the Right of Way Manual of Instructions dated January 1, 2011.

- The Design-Builder shall submit a Project specific Acquisition and Relocation Plan to VDOT for VDOT Right of Way approval prior to commencing right of way activities. No offers to acquire property shall be made prior to the Acquisition and Relocation Plan approval and a Notice to Commence Acquisition. This represents a hold point in the Offeror's CPM Schedule. The Acquisition and Relocation Plan shall describe the Offeror's methods, including the appropriate steps and workflow required for title examinations, appraisals, review of appraisals, negotiations, acquisition, and relocation, and shall contain the proposed schedule of right of way activities including the specific parcels to be acquired and all relocations. The schedule shall include activities and time associated with VDOT's review and approval of just compensation, relocation benefits and administrative settlements. The plan shall allow for the orderly relocation of displaced persons based on time frames not less than those provided by the "Uniform Act." This plan shall be updated as necessary during the life of the Project and all updates must be submitted to VDOT for approval. The plan approval is based on the Plan providing a reasonable and orderly workflow and the plan being provided to the VDOT Representative as completed.
- A VDOT Representative will be available to make timely decisions concerning the review and approval of just compensation, approval of relocation benefits, approval of administrative settlements and approval of closing or condemnation packages on behalf of VDOT. The VDOT Representative is committed to issuing decisions on approval requests within twenty-one (21) days. This commitment is based on the plan providing a reasonable and orderly workflow and the work being provided to the VDOT representative as complete. Submission of documents requiring VDOT approval shall contain the necessary language and certifications as shown on the examples provided in the Appendix to Chapter 10, "Special Projects", of the Right of Way Manual.
- The Design-Builder shall obtain access to and use VDOT's Right of Way and Utilities Management System (RUMS) to manage and track the acquisition process. RUMS will be used for Project status reporting; therefore, entries in RUMS shall be made at least weekly to accurately reflect current Project status. VDOT standard forms and documents, as found in RUMS, will be used to the extent possible. Training in the use of RUMS and technical assistance will be provided by VDOT.
- The Design-Builder shall provide a current title examination (no older than sixty (60) days) for each parcel at the time of the initial offer to the landowner. Each title examination report shall be prepared by a VDOT approved attorney or Title Company. If any title examination report has an effective date that is older than sixty (60) days, an update is required prior to making an initial offer to the landowner. A Title Insurance Policy in favor of the Commonwealth of Virginia in form and substance satisfactory to the VDOT shall be provided by the Design-Builder, for every parcel acquired by voluntary conveyance.
- The Design-Builder shall submit a scope of work detailing the type of appraisal to be prepared for each parcel and the name of the proposed appraiser for VDOT review and

approval in writing prior to commencing the individual parcel appraisal. The proposed appraiser shall be of an appropriate qualification level to match the complexity of the appraisal scope. The Design-Builder shall prepare appraisals in accordance with VDOT's Appraisal Guidelines. The review appraiser shall be on VDOT's approved fee review appraiser list. Alternatively, the Design-Builder may submit an exception request to use a review appraiser who is not on VDOT's approved review appraisal list for VDOT's approval. VDOT shall issue a final approval of all appraisals.

- Payment documentation is to be prepared and submitted to VDOT with the Acquisition Report (RW-24). VDOT will process vouchers and issue State Warrants\checks for all payments and send to the Design-Builder, who will be responsible for disbursement and providing indefeasible title to VDOT. The Design-Builder shall make payments of benefits to property owners for negotiated settlements, relocation benefits, and payments to be deposited with the court.
- The Design-Builder shall prepare, obtain execution of, and record documents conveying title to such properties to the Commonwealth of Virginia and deliver all executed and recorded general warranty deeds to VDOT. Prior to the recordation of any instrument, VDOT shall review and approve the document. For all property purchased in conjunction with the Project, title will be acquired in fee simple (except that VDOT may, in its sole discretion, direct the acquisition of a right of way easement with respect to any portion of the right of way) and shall be conveyed to the "Commonwealth of Virginia, Grantee" by a VDOT-approved general warranty deed, free and clear of all liens and encumbrances, except encumbrances expressly permitted by VDOT in writing in advance of deed recordation. All easements, except for private utility company easements shall be acquired in the name of "Commonwealth of Virginia, Grantee". Private utility company easements will be acquired in the name of each utility company when the private utility company has prior recorded easements.
- Because these acquisitions are being made on behalf of the Commonwealth, VDOT shall make the ultimate determination in each case as to whether settlement is appropriate or whether the filing of an eminent domain action is necessary, taking into consideration the recommendations of the Design-Builder. When VDOT authorizes the filing of a certificate, the Design-Builder shall prepare a Notice of Filing of Certificate and the certificate assembly. All required documents necessary to file a certificate shall be forwarded along with a prepared certificate to the VDOT Project Manager. Once reviewed, the certificate will be forwarded to Central Office for review and approval. VDOT will execute the certificate, provide the money as appropriate and will return the assembly to the Design-Builder. The Design-Builder shall update the title examination and shall file the certificate.
- When VDOT determines that it is appropriate, the Design-Builder shall be responsible for continuing further negotiations for a maximum of sixty (60) days, in order to reach settlement after the filing of certificate. After that time the case will be assigned an outside attorney appointed by VDOT and the Office of the Attorney General. When

requested, the Design-Builder shall provide the necessary staff and resources to work with VDOT and its attorney throughout the entire condemnation process until the property is acquired by entry of a final non-appealable order, by deed, or by an Agreement After Certificate executed and approved by VDOT and the appropriate court. The Design-Builder will provide updated appraisals (*i.e.*, appraisal reports effective as of the date of taking) and expert testimony supporting condemnation proceedings upon request by VDOT. Services performed by the Design-Builder or its consultants after an eminent domain action is assigned to an outside attorney will be paid, if and when necessary, under a Work Order in accordance with Article 9 of Part 4 (General Conditions of Contract).

- The Design-Builder will be responsible for all contacts with landowners for rights of way or construction items.
- The Design-Builder shall maintain access at all times to properties during construction.
- The Design-Builder shall use reasonable care in determining whether there is reason to believe that property to be acquired for rights of way may contain concealed or hidden wastes or other materials or hazards requiring remedial action or treatment. When there is reason to believe that such materials may be present, the Design-Builder shall notify VDOT within three (3) calendar days. The Design-Builder shall not proceed with acquiring such property until they receive written notification from VDOT.
- During the acquisition process and for a period of three years from either (1) the date each owner of a property and each person displaced from the property receives the final payment or (2) from the date the State receives Federal reimbursement of the final payment made to each owner of a property and to each person displaced from a property, whichever is later, and until the Commonwealth of Virginia has indefeasible title to the property, all Project documents and records not previously delivered to VDOT, including but not limited to design and engineering costs, construction costs, costs of acquisition of rights of way, and all documents and records necessary to determine compliance with the laws relating to the acquisition of rights of way and the costs of relocation of utilities, shall be maintained and made available to VDOT for inspection and/or audit. This also would apply to the Federal Highway Administration on projects with federal funding. Throughout the design, acquisition and construction phases of the Project, copies of all documents/correspondence shall be submitted to both the Central Office and respective Regional Right of Way Office.
- Prior to Project completion the Design-Builder shall provide and set VDOT RW-2 right of way monuments with the Project limits.
- Any existing VDOT fencing impacted by the Design-Builder's design and construction activities shall be restored or replaced in the same configuration relative to the improvements as the existing fencing. Any new VDOT fencing shall be Std. FE-CL.

- The Design-Builder must notify VDOT of any and all encroachments (temporary or permanent) within the right of way prior to final acceptance.

2.12 Utilities

The Design-Builder shall be responsible for coordination of the Project construction with all utilities 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 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. All cost for utility relocations shall be included in the Offeror's Price Proposal. Any 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. The Offeror shall contact each utility owner prior to submitting bids to determine the scope of each utility owner's relocation.

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 is responsible for all necessary utility relocations, adjustments, and betterments to occur in accordance with the accepted Baseline Schedule. All efforts and cost 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.

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 initiate early coordination with all utilities located within the Project limits. 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.

The Design-Builder shall provide all utility companies 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 companies will use the Design-Builder's design plan for preparing relocation plans and estimates. If a party other than the utility prepares relocation plans, there shall be a concurrence box on the plans where the utility signs and accepts the relocation plans as shown.

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

The Design-Builder shall verify the prior rights of each utility'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 120 days of the Date of Commencement 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 utilities.

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

The Design-Builder shall review all relocation plans to ensure that relocations comply with the VDOT Utilities Manual of Instruction, Utility Relocation Policies and Procedures and VDOT's 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'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 is expected to meet with VDOT's Regional Utilities Office within 45 days of the Date of Commencement 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 utilities 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's relocation plan.

At the time that 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 utilities with compensable rights or other claims related to relocation or coordination with the Project have been relocated and their claims and compensable rights satisfied or will be satisfied by the Design-Builder.

The Design-Builder shall accurately show the final location of all utilities on the as-built drawings for the Project. The Design-Builder will ensure the utility companies submit as-built drawings upon completion of their relocation and/or adjustments. VDOT shall issue an as-built permit to the utility companies after receipt of permit application and as-built drawings.

It is the Design-Builder's responsibility to verify whether other utility owners exist within the Project limits and coordinate with them. Known utility owners and their respective contact numbers are identified below for reference only and may not be limited to the following:

Water

Fairfax Water Authority
8570 Executive Park Ave.
Fairfax, Virginia 22031
Contact: Mr. Michael Jenkins
Telephone: (703) 698-5600

Telephone

Verizon Va.
22001 Loudon County Parkway
Ashburn, VA 20147
Contact: Mr. Rick Boswell
Telephone: ~~(703) 886-6481~~
(540)829-2709 or (540)520-1001

Verizon Business
12379 Sunrise Valley Drive
Reston, VA 20191
Contact: Mr. Dave Fisher
(703) 350-8463

Level (3) Communications, LLC
1025 Eldorado Blvd, 33A-516
Broomfield, CO 80021
Contact: Megan Sturdevant
(720) 888-3860

FiberLight LLC
950 Herndon Parkway
Herndon, VA 20170
Contact: Wayne Haithcox
Telephone: (540) 522-3776

Qwest Government Services (QGS)
dba CenturyLink Government Programs
2950 Towerview Rd. Suite 150
Herndon, Virginia 20171
Telephone: (703) 464-7529

Electric

NOVEC
5399 Wellington Road
Gainesville, Virginia 20155
Contact: Mr. Mark Bell
Telephone: (703) 754-6732
Telephone: (757) 879-2218

Cable Television:

Cox Cable
Mr. Quincy Henderson
3080 Centreville Road
Herndon, VA 20171
Telephone: (703) 480-7860

Gas:

Washington Gas
6801 Industrial Road
Springfield, VA
Telephone: (703) 750-1000

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:

1. 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);
2. At least one (1) material which VDOT retains responsibility for testing as identified in Table 5-2, January 2012 QA/QC Guide;
3. 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:
 - a. defective equipment
 - b. construction activities/materials which fail to conform as specified;

4. 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;
5. Application for payment for Work Package which includes work element, including review and approval by Quality Assurance Manager; and
6. Measures that will be implemented to ensure compliance with Buy America requirements on the Project.
7. 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.

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.

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, operate, and maintain a Construction QA/QC Plan 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 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 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 Contractor 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.

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

- Prestressed Concrete Structural Elements (beams, girders (VDOT adopted Bulb-T sections), and piles)
- Structural Steel Elements (beams, girders, and sign structures)
- 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 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 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 construction of the Project, shall be responsible to observe construction as it is being performed, to include all QC activities to ensure inspection and testing, and correction of any non-conformities of the Work are being performed in accordance with the Contract requirements. If needed, the Lead QA Inspector shall be supported by other QA inspectors under his/her direction to ensure all construction work and QC activities are being observed. The Lead QA Inspector shall report directly to the QAM.

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 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 Field Office-Not Used

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 WindowsXP or Windows7 only: GEOPAK (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 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 Keys are 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, Vol. V, Part 2, Design Aids and Typical Details.

2.15.4 Electronic Files

The Design-Builder shall submit all plans in accordance with the Department's policies and procedures (Right of Way and/or Construction submittals, Released for Construction, and As-Builts) 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 or FTP Server. The Design-Builder will complete form LD-443, the Falcon System Access and Security Agreement and form LD-894, the Falcon Access Request Form, for access to the Falcon Consultant environment. 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 VDOT's Manual of the Structure and Bridge Division, Vol. V - Part 2, Design Aids and Typical Details. 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 (if applicable)
- 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 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 address:

Virginia Department of Transportation
Attention - Amir Salahshoor, P.E.
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 time frame for plan review and approval shall be in accordance with the requirements of the Contract Documents. All VDOT comments must be adequately addressed 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 time frame 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 commentator 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.

The Released for Construction Plans shall be distributed simultaneously to VDOT and FHWA. 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 the following address:

Virginia Department of Transportation
Attention - Amir Salahshoor, P.E.
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 Contractor 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 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 INVENTORY AND MAJOR DESIGN CRITERIA

All additional information is included in the RFP Information Package – referred to in Part 1, Section 2.6 of this RFP.

END OF PART 2 - TECHNICAL INFORMATION & REQUIREMENTS