3.2 LETTER OF SUBMITTAL

WAGMAN

BRIDGING GENERATIONS · SINCE 1902

August 28, 2014

Mr. John Daoulas, PE
Alternate Project Delivery Office
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

RE: Letter of Submittal - Design-Build Project for Route 29 Solutions, Albemarle County, VA
State Project Nos.: 0029-002-091, 0029-002-135, and 9999-002-900
Contract ID Number: C00077383DB80

Dear Mr. Daoulas:

G.A. & F.C. Wagman, Inc. (Wagman), is pleased to submit one (1) original paper version of our statement of qualifications (SOQ), including one (1) CD-ROM containing the entire SOQ and ten (10) abbreviated copies for the Virginia Department of Transportation (VDOT) for the Design-Build Project for Route 29 Solutions. In preparing this proposal, Wagman has carefully reviewed the request for qualifications (RFQ); acknowledged and reviewed Questions and Answers, dated 8/13/14, and Addendum #1, dated 8/15/14; attended the project information meeting; and visited the project site.

3.2.1 – This submittal is signed in ink by an authorized representative of Wagman, the legal entity that will execute the contract with VDOT and that submits the following.

3.2.2 Point of Contact	3.2.3 Principal Officer
David W. Lyle, VP, Division Manager G.A. & F.C. Wagman, Inc. 5911 Nena Grove Lane, Chester, VA 23831-3715 *T* 804-778-4444/*F* 804-778-4929/*M* 804-731-3707 dwlyle@wagman.com	**Gregory M. Andricos, PE, Executive VP/Principal** G.A. & F.C. Wagman, Inc. 3290 N. Susquehanna Trail, York, PA 17406-9754 *T* 717-764-8521x292/*F* 717-764-2799/*M* 717-825-8688 gmandricos@wagman.com

3.2.4 – G.A. & F.C. Wagman, Inc. is an active, registered corporation (SCC Corp ID: F019898-8) in the Commonwealth of Virginia and will take financial responsibility for this project. A single 100 percent performance bond and payment bond will be provided for the total contract value and time period. There are no liability limitations on behalf of G.A. & F.C. Wagman, Inc.

3.2.5 – Lead Contractor: G.A. & F.C. Wagman, Inc. / **Lead Designer:** Parsons Transportation Group Inc.

3.2.6 – Affiliated and/or Subsidiary Companies Table (Attachment 3.2.6) is in the Appendix.

3.2.7 – Certification Regarding Debarment Forms (Attachments 3.2.7(a) and **3.2.7[b])** are in the Appendix.

3.2.8 – VDOT Prequalification Certificate evidence (W002-Active) is included in the Appendix.

3.2.9 – A **Surety Letter** is included in the Appendix.

3.2.10 – SCC and DPOR information is listed in **Attachment 3.2.10,** with supporting documentation in the Appendix.

3.2.11 – Wagman is committed to achieving a 13 percent disadvantaged business enterprise participation goal for the entire value of the contract.

We present to you a design-build team equipped with the experience, knowledge, and resources to partner with VDOT in successfully delivering the Design-Build Project for Route 29 Solutions.

Sincerely,

G.A. & F.C. Wagman, Inc.

David W. Lyle, Vice President, Division Manager

G.A. & F.C. WAGMAN, INC.
3290 N. Susquehanna Trail | Phone: 717-764-8521
York, PA 17406-9574 | Fax: 717-767-5457
WWW.WAGMAN.COM
EQUAL OPPORTUNITY EMPLOYER

3.3 OFFEROR'S TEAM STRUCTURE

3.3 Offeror's Team Structure

G.A. & F.C. Wagman, Inc. (Wagman) will be the lead contractor and is the offeror that will have the overall authority on the Design-Build Project for Route 29 Solutions. Wagman is an experienced design-build (DB) contractor that has partnered to complete the design and construction of more than $1 billion of transportation projects in the Mid-Atlantic Region. Wagman, founded in 1902, continues today as a fourth-generation, private, family-owned general contracting business, headquartered in York, Pennsylvania. Wagman, a heavy civil contractor with offices in Virginia, specializes in transportation infrastructure and has grown to become a nationally recognized leader within the industry. We will provide VDOT with an experienced and integrated team for Route 29 Solutions. As the overall project lead, Wagman will oversee a construction team that includes Quinn Consulting Services, Inc. (QCS); General Excavation, Inc.; and Utility Professional Services, Inc. (Utility Pros). In 2013, Wagman acquired Key Construction Company, Inc. (Key) and D.W. Lyle Corporation (D.W. Lyle). These acquisitions provided Wagman with an additional 20 years of heavy construction experience in Virginia and the Culpeper District. Wagman retained the key personnel from these acquisitions, whose knowledge, resources, and experience strengthen the our team.

Wagman has selected **Parsons Transportation Group Inc. (Parsons)** as our lead designer to provide all engineering services for this project. For over 36 years, Parsons has been a respected provider of transportation design services to VDOT, Albemarle County and other clients in the Commonwealth. Their key personnel have delivered design services for dozens of projects, including Virginia's busiest roadways. With over 125 local professionals, Parsons has demonstrated superior engineering on complex transportation improvement projects, including widening and extensions of major state highways, local roads, and utilities and designed MOT phasing and traffic controls for the highest level of service throughout construction.

3.3.1 Identity of and Qualifications of Key Personnel

The Wagman/Parsons Design-Build Team (DB Team) has assembled a highly-qualified and experienced team of individuals and structured them for optimal performance. Our key staff and firms come together with a shared history of successful projects and established working relationships. These strengths will minimize VDOT's risks and staffing requirements on this project. The following table introduces our key and value-added personnel, with the key staff resumes in the Appendix (Attachment 3.3.1).

KEY PERSONNEL

Design-Build Project Manager	Anthony Bednarik, DBIA – Wagman
Quality Assurance Manager	Richard Allen, PE – QCS
Design Manager	Josh Wade, PE – Parsons
Construction Manager	Scott Miller – Wagman
Lead Structural Engineer	Amir Arab, PE – Parsons
Lead Traffic Engineer	Amy Morris, PE, PTOE – T3 Design Corporation
Lead Geotechnical Engineer	Paul Burkart, PE – GeoConcepts
Lead Utility Coordination Manager	Jason Hershey, DBIA, CPE – Wagman
Public Relations Manager	Marie Travesky – Travesky & Associates, Inc.

VALUE ADDED PERSONNEL

Environmental Documentation	Stuart Tyler, PE – Parsons
Environmental Permitting and Design	Brian Hawley – Stantec
Dry Utility Coordinator	David Nelson – Utility Professional Services
Cultural Resource Specialist	Susan Bupp – Parsons
Dam Hydraulics Specialist	Edward Kent, PhD, PE – Parsons
Design-Build Coordinator	Mike Mansfield, PE – Wagman
Safety Manager	Wayne Johnson – Wagman
Highway/Segment Leads	Amir Ahamdzadeh, PE Dhimant Sojitra, PE, Piyush Radadiya, PE – Parsons
MOT Specialist	Barry Erlandson, PE – Parsons
Lead Utility Engineer	Brian Smith, PE – Parsons
Lead Tunnel Engineer	Ralph Trapani, PE – Parsons

3.3.1.1 Design-Build Project Manager Anthony Bednarik, DBIA, of Wagman, will serve as the Design-Build Project Manager (DBPM) and will oversee the project, including design, construction, construction quality management, and contract administration. Mr. Bednarik has more than 27 years of construction experience and is the Vice President, Business Development and Estimating, for Wagman.

VDOT Virginia Department of Transportation

THIRD-PARTY STAKEHOLDERS

- Albemarle County
- Business Owners City of Charlottesville
- Property Owners
- Regional Traffic Management Center
- Rivanna River Basin Commission
- Rivanna Water and Sewer Authority
- Route 29 Project Delivery Advisory Panel
- Traveling Public
- University of Virginia Utility Owners
- US Army Corps of Engineers
- Virginia Department of Game and Inland Fisheries

DESIGN-BUILD PROJECT MANAGER

Anthony Bednarik, DBIA[1] (C1) (D1) ◉

EXECUTIVE COMMITTEE

David Lyle[1] (C2) ◉
Gregory M. Andricos, PE[1] ◉ ▣
Mark Fialkowski, PE*[2]

PUBLIC RELATIONS MANAGER

Marie Travesky[12] (C2) (D1)

ROW ACQUISITION

ROW Manager
Tim Copeland[10]

Review Appraiser

Fee Appraiser

DESIGN

Design Manager
Josh Wade, PE[2] (D1) (D2) (D3) (C1)

Lead Structural Engineer
Amir Arab, PE[2]

Lead Traffic Engineer
Amy Morris, PE, PTOE[11]

Lead Geotechnical Engineer
Paul Burkart, PE[8]

Environmental Documentation, Analysis and Conformance Manager
Stuart Tyler, PE [2] (C2) (D3)

Lead Permitting and Environmental Design
Brian Hawley, PWS[10]

Lead Cultural Resource Specialist
Susan Bupp[2] (C2) (D3)

Landscape Architect
Craig Richardson, RLA[2] (C1) (D1) (D2) (D3)

H&H Lead
Brian Smith, PE[2] (C3)

Route 29 Widening Highway Lead
Piyush Radadiya, PE*[2]

Berkmar Extension Highway Lead
Dhimant Sojitra, PE[2] (D1) (D2)

Rio Road Highway Lead
Amir Ahmadzadeh, PE[2]

Utilities Lead
Brian Smith, PE[2] (C3)

MOT Lead
Barry Erlandson, PE*[2] (D1)

ITS Lead
Sajjad Alam, PE*[2] (C1) (D1)

Lighting/Signals Lead
Azim Mohammed, PE*[2] (C1) (D1) (D2)

Noise Analysis
Areg Gharabegian, PE*[2] (C1) (D1)

Dam/Hydraulic Specialist
Edward Kent, PhD, PE*[2]

Lead Tunnel Engineer
Ralph Trapani, PE*[2]

DESIGN QA/QC

Quality Assurance Manager
Greg Anderson, PE*[2] (C1) (D1) (D2) (D3)

Structural Design QC
Nick Nicholson, PE[2] (C2) (D3)

Roadway Design QC
Cliff Roberts, PE[2] (D3)

DESIGN-BUILD COORDINATOR

Mike Mansfield, PE[1] (C2) ◉ ▣ ▼

DOCUMENT CONTROL MANAGER

Bob Rosencrance[1]

CONSTRUCTION

Construction Manager
Scott Miller[1] (C3) (D3) ◉

Route 29 Widening Lead Superintendent
Paul Phillips[1] ◉ ▣

Berkmar Extension Lead Superintendent
Allen Shifflet[7]

Rio Road Lead Superintendent and Overall Structural Superintendent
Mike Dugan[1] (C1)

Utility Superintendent
Carl Tillotson[1]

Lead Utility Coordination Manager
Jason Hershey, DBIA, CPE[1] ◉

Utility Coordinator
David Nelson[13]

Geotechnical Manager
Charles Carey, PE[1]

ECS Manager
Brad McClung[1] ◉ ▣ ▼

Traffic/MOT Manager
Ricky Allen[1] ▼ ▣

CONSTRUCTION QUALITY CONTROL

Quality Control Manager
Avtar Singh, PE[5]

QC Inspectors
Ned Madhi[5]
Mohsen Naoui[5]
Nadew Hailu[5]
Nathan Young[5]

SAFETY MANAGER

Wayne Johnson[1]

QUALITY ASSURANCE MANAGER

Quality Assurance Manager
Richard Allen, PE[9]

QA Lead Inspector
(US 29 and Rio Road Intersection Element)
Craig Clatterback[9]

QA Lead Inspector
(US 29 Widening Element)
Bob Knight[9]

QA Lead Inspector
(Berkmar Drive Extension Element)
Syd Tiffany[9]

LEGEND I

- ▼ VDOT Work Zone Traffic Control Certification
- ◉ RLD Certification
- ▣ ESCCC Certification

(C1) Served on ICC Contract A (See Page A72 for more information)
(C2) Served on I-495 Hot Lanes (See Page A74 for more information)
(C3) Served on I-95/I-695 Hot Lanes (See Page A76 for more information)

(D1) Served on ICC Contract B (See Page A78 for more information)
(D2) Served on I-64/Route 15 Zion Crossroads (See Page A80 for more information)
(D3) Served on Woodrow Wilson Bridge (See Page A82 for more information)

LEGEND II

[1] **G.A. & F.C. Wagman, Inc.**
Lead Contractor

[2] **Parsons Transportation Group Inc.**
Lead Designer

[3] **Accompong Engineering Group, LLC** µ
MOT, Traffic, Utilities, and Drainage Design

[4] **Athavale, Lystad and Associates, Inc.** µ
Drainage and Structural Design

[5] **CES Consulting, LLC** µ
Construction Quality Control

[6] **Endesco, Inc.** µ
Drainage, H&H, E&SC, and Permits

[7] **General Excacation, Inc.**
General Construction

[8] **GeoConcepts Engineering, Inc.** µ
Geotechnical, Pavement, and Dam Engineering

[9] **Quinn Consulting Services, Inc.** µ
Quality Assurance

[10] **Stantec Consulting Services, Inc.**
ROW, Utilities, and Environmental

[11] **T3 Design Corporation** µ
Traffic, Signals, Lighting, and ITS

[12] **Travesky and Associates** µ
Public Relations

[13] **Utility Professional Services, Inc.** µ
Utilities

[14] **Woolpert, Inc.**
Survey

Key Personnel µ *DBE*
*Licensed in a state other than Virginia
Construction Subconsultants
Design Subconsultants
QA/QC Subconsultants

····· Line of Communication
——— Direct Reporting Line

Recently, he served as Wagman's lead on the Intercounty Connector (ICC) Contracts A ($464M) and B ($570M) (see Work History Forms for more information on these projects), where he worked with Parsons to complete two of the most extensive and environmentally sensitive sections of these successful DB projects. His most recent achievements, as the assistant DBPM on the ICC Contract B, provide proof of his qualifications and experiences and clearly illustrate his ability to deliver a large, fast-tracked project on time while maintaining high quality. The six-plus years of joint experience between our DBPM, Mr. Bednarik, of Wagman, and our Design Manager (DM), Mr. Wade, of Parsons, on the ICC projects will allow for the DB Team to perform as a fully integrated team from the very beginning.

As DBPM, Mr. Bednarik will report directly to VDOT at an executive level for all project activities, including contract administration, scheduling, design, construction, and quality. He will directly manage the key personnel: Richard Allen, PE (Quality Assurance Manager [QAM]); Josh Wade, PE (DM); and Scott Miller (Construction Manager [CM]). Also reporting to Mr. Bednarik will be additional personnel whose roles are instrumental to the project's success.

3.3.1.2 Quality Assurance Manager Richard Allen, PE, of QCS, will serve as the QAM on the project. In this role, Mr. Allen will be independent of the contractor quality control (QC) team and will be responsible for delivering a quality product to VDOT through overseeing compliance with the approved project-specific quality assurance/quality control (QA/QC) plan, as well as the VDOT Minimum Standards for Design-Build and Public-Private Transportation Act (PPTA) projects. As the QAM, Mr. Allen will have the authority to stop work on the project, should it be necessary for compliance with the QA/QC plan and will be responsible for periodic QA reports.

On this project, Mr. Allen's responsibilities will include holding preparatory meetings before the start of each new contractor activity. In addition, he will oversee QA inspection staff, ensure that the minimum testing and inspection frequencies as defined in the tables of the Minimum Standards for DB projects are met for both QA and QC, and review and sign monthly contractor pay estimates. He will develop and follow through on the successful resolution of project NCRs and deficiencies, and ensure that all project QA/QC records are kept up to date.

3.3.1.3 Design Manager Josh Wade, PE, of Parsons, is a registered, licensed PE in the Commonwealth and reports to the DBPM. Bringing more than 20 years of experience, Mr. Wade will provide a quality product and input into the schedule, meet design milestones and interfaces, and oversee the design QA/QC team. He will manage the design and assign resources; oversee design subconsultants; coordinate design and review schedules; develop and implement corrective measures, if necessary; and integrate environmental compliance measures into the design. Mr. Wade will remain involved once construction starts to oversee any plan modifications and shop drawings and review construction progress with the CM. He recently completed the I-64/Route 15 Zion Crossroads Interchange Improvement DB project (see Work History Forms for more information on this project). This project is within the Culpeper District and gives the best proof possible of his qualifications, success record, and ability to seamlessly work with District staff to design and construct an innovative and first-of-its-kind solution. Mr. Wade also has a strong belief in the value of collaboration and partnering to ensure the success of DB projects such as this. His commitment to this project approach led to the ICC Contract B winning the prestigious MdQI Silver Partnering Award in 2012 (see Work History Forms for more information on this project).

Mr. Wade also has experience in the Route 29 corridor, having led the engineering aspects of the Route 29 Corridor Development Study that took a big-picture look at improving operations and access along the entire Route 29 corridor. Mr. Wade's experience working side-by-side with Mr. Bednarik on the fast-track ICC DB projects will allow the team to hit the ground running.

3.3.1.4 Construction Manager Scott Miller, of Wagman, with more than 26 years of experience, has been the project manager, CM, or superintendent for many fast-track and award-winning projects. Mr. Miller has extensive experience in complicated highway projects that include major utility relocations, environmental compliance, QA/QC, complicated maintenance-of-traffic (MOT) schemes, public outreach, and large coordination efforts. He has embraced the partnering process as a tool to eliminate delays, claims, and disputes while enhancing client relations with the owner and third-party stakeholders. Mr. Miller's management skills include a keen knowledge of the project schedule and hands-on management of people, equipment, and subcontractors. He will report directly to the DBPM and will work with him to oversee the coordination between the design and construction forces in regard to design, utilities, right of way (ROW), QC, and MOT. Mr. Miller will manage

the efforts of the on-site construction team, including the QC team, safety manager, superintendents, and project scheduling. Mr. Miller will play a key role in the constructability review for all aspects of the design. He will coordinate the lead superintendents for each of the three project elements to ensure overall project coordination and uniformity. Along with his staff, he will focus on ensuring the construction is performed safely and, along with our quality control manager (QCM), will make sure all material and work are in accordance with the approved plans and contract documents. Mr. Miller will be assigned to this project and be on site full time for the duration of construction. Mr. Miller has his Responsible Land Disturber certification (#42692) and will obtain his Erosion and Sediment Control Contractor Certification (ESCCC) prior to the commencement of construction activities. Mr. Miller and Mr. Bednarik have worked together on many projects over the past 15 years.

3.3.1.5 Lead Structural Engineer Amir Arab, PE, of Parsons, is an award-winning and published structural engineer. He has 18 years of experience in structural engineering. Mr. Arab's areas of professional expertise include the analysis, design, and rehabilitation of structures for seismic events and other extreme loadings (e.g., barge impact and hurricane surcharge), using finite element methods and performance-based design principles; the design and rehabilitation of post-tensioned concrete structures, including segmental bridges; and nonlinear finite element modeling and analysis. Mr. Arab will assist DM Mr. Wade with all structural efforts, ensuring they are completed per VDOT expectations and requirements.

3.3.1.6 Lead Traffic Engineer Amy Morris, PE, PTOE, of T3 Design Corporation (T3), has more than 14 years of traffic engineering and planning experience and 10 years of operations management. She has expertise in traffic and pedestrian data collection, traffic signal design, site studies, traffic signal timing and intersection capacity analysis, and traffic impact and safety studies. Ms. Morris has extensive experience with and will be responsible for developing, implementing and monitoring the Transportation Management Plan (TMP) which will detail all phases of work to ensure safe and efficient operation in the project work zones and all impacted transportation facilities during the construction of the project.

Ms. Morris has led the efforts for many similar projects, including the widening of Route 606 in Loudoun County, in which she led the efforts to develop traffic engineering to widen the roadway from two to four lanes and improve operations at 12 intersections. She also served as the project manager for the Southeast Connector project in Harrisonburg and developed plans to construct a new 3.1-mile roadway that included upgrades to intersections and accommodations for future improvements.

3.3.1.7 Lead Geotechnical Engineer Paul Burkart, PE, of GeoConcepts, has more than 29 years of experience managing geotechnical engineering design and materials testing services for transportation projects. In the past 10 years alone, Mr. Burkart has been responsible for geotechnical services on 37 VDOT projects, 20 of which were DBs, including the Fairfax County Parkway Phase III and the Charlottesville Bridge Replacement projects. His expertise includes land stability studies; ground improvement studies; subdrainage systems; the preloading of soft soils; special in situ testing programs, including dynamic testing; and stabilization programs using geosynthetics.

3.3.1.8 Lead Utility Coordination Manager Jason Hershey, DBIA, CPE, of Wagman, has been a deputy DBPM and a lead utility coordination manager. He has also served a key role in large DB projects for more than 15 years. Mr. Hershey will manage and coordinate all utility interaction during design and construction. He will employ the partnering process with all private and government utilities to ensure proper communication among all parties involved. He will oversee the maintenance and monitoring of the utility tracking logs (including VDOT RUMS) and will actively engage the utility companies to ensure their work is in agreement with the needs of the project and in accordance with the required VDOT and request for proposal (RFP) requirements. Mr. Hershey will also meet regularly with the utilities and their designers to keep abreast of any schedule or cost issues that may arise. He will also maintain a close relationship with Brian Smith, PE, of the design team to ensure the proper coordination of the wet utilities that are designed by the DB Team. Mr. Hershey's involvement with the project will commence immediately upon award. He will be active through the design process, will attend all pertinent project meetings, and will keep abreast of the overall project schedule and communicate it to the utilities as necessary. Mr. Hershey will also develop and manage a utility task force group that will include DB Team design leads and Utility Pros, a prominent Virginia utility consultant firm that has been included as part of the DB Team. The utility task force, overseen by Mr. Hershey, will be responsible for the timely and accurate completion and submission of VDOT's required utility relocation submittals, including UT-4s, UT-9s, UT-11s, and other required documents as required

by VDOT's Utility Manual of Instructions – Utility Relocation Policies & Procedures. Mr. Hershey, along with Utility Pros, has recently coordinated with 11 utility companies to relocate several major utilities on the Route 1 Fort Belvoir Reconstruction project, in Fairfax County, Virginia. He has effectively fostered relationships with VDOT's utility managers, as well as many of the same utility companies that will require relocation for Route 29 Solutions. Please refer to page 13 for further details regarding the management of the utility relocations.

3.3.1.9 Public Relations Manager Marie Travesky, of Travesky & Associates (Travesky), offers more than 20 years of experience in developing/implementing/participating in communication programs for transportation projects. Ms. Travesky managed the public involvement program on the ICC Contract B (see Work History Forms for more information on this project), in Maryland, where Wagman was a lead contractor and Parsons was the lead designer. She will report to the DBPM.

Value-Added Staff

In addition to the key personnel, the DB Team appoints the following value-added staff:

Lead Environmental Documentation and Conformance Manager Stuart Tyler, PE, of Parsons, has more than 36 years of experience in the management and preparation of environmental analyses and the completion of environmental documents in compliance with the National Environmental Policy Act (NEPA), including serving as VDOT's Environmental Documentation On-Call Manager for the past 19 years. Mr. Tyler's experience includes coordinating with federal, state, and local agencies; participating in public meetings and hearings; preparing air quality, noise, and energy studies; assessing social and natural resource impacts; evaluating historic and archaeological resources; and preparing technical reports and environmental impact statements (EISs). Mr. Tyler has managed all levels of NEPA, Section 4(f), and Section 106 compliance documents for a wide variety of multimodal transportation project types in a wide variety of settings, from heavily developed urban corridors to predominantly undeveloped agricultural areas, including the environmental documentation for the Route 29 Bypass Study.

Lead Permitting and Environmental Design Brian Hawley, PWS, of Stantec, has more than 18 years of experience in the fields of stream and wetlands science, water resources engineering, regulatory permitting, stream and wetland compensatory mitigation, and compliance monitoring. Mr. Hawley is responsible for field compliance monitoring, regulatory permitting, and environmental design efforts. Prior to working with Stantec (previously WEG), Mr. Hawley worked for VDOT, where he managed the water quality permitting program for the Fredericksburg District. Mr. Hawley is currently managing Stantec's open-end contract with VDOT for Statewide Maintenance and Monitoring for its stream and wetland mitigation sites.

Lead Cultural Resource Specialist Susan Bupp, of Parsons, has extensive experience in all phases of prehistoric and historical archaeological projects, including compliance with sections 106 and 110 of the National Historic Preservation Act (NHPA) and NEPA. Her responsibilities have included project management; the coordination of Section 106 compliance with the the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), VDOT, National Park Service (NPS), Virginia Department of Resources (VDHR), and the Advisory Council on Historic Preservation (ACHP); grave site research, analysis and relocation; the design, direction, organization, and implementation of large-scale archaeological and architectural survey and evaluation projects, including artifact analysis; site interpretation; and report preparation. Ms. Bupp will lead the effort in developing plans to handle known and unknown/discovered cultural resources. This effort will include the development of training and protection plans to help train on-site staff what to look for, avoid, and do in case of unintended discoveries, as well as the clear marking and fencing off of known or discovered resources. In particular, prior to construction, she will develop an unanticipated-finds plan that will define exact steps to take in case of discoveries.

Assistant Utility Coordinator David Nelson, of Utility Professional Services, Inc., will report to the Lead Utility Coordination Manager, Mr. Hershey. Mr. Nelson has more than 44 years of experience performing utility relocations and utility-related work. He provides telecommunication and distribution consulting services and will assist the DB Team in developing best-practice designs for the relocation of the affected utilities. Mr. Nelson has extensive experience with Dominion Virginia Power and various communication providers. He will participate on the utility task force and will focus on the extensive utility relocations required for the Rio Road grade-separated intersection. Mr. Nelson is well-versed in the VDOT utility field inspection (UFI) process and the preparation of the UT documents and will participate in both.

Dam Hydraulic Specialist Edward Kent, PhD, PE, of Parsons, earned his Master of Science and PhD from the University of Virginia (UVA) and has more than 38 years of experience in watershed studies; water supply development; hydraulic structure design; and the hydrologic, hydraulic, and water quality modeling of rivers and tidal waters. He has also led extreme event modeling and scour evaluations of more than 1,000 hydraulic structures, including dams, encompassing the assessment of fluvial geomorphology of streams, the hydrologic and hydraulic modeling of peak flows in streams, and dam-break hydraulic analyses. Mr. Kent will review the existing information on the Rivanna Reservoir Dam and develop all necessary analyses and reports to allow for the design of the Berkmar Drive crossing of the Rivanna River downstream of the dam.

Design-Build Coordinator Mike Mansfield, PE, of Wagman, has more than 15 years of bridge and roadway construction experience. Mr. Mansfield will provide critical constructability input during the design phase. He has developed a keen understanding of design and construction that will aid coordination efforts, including QA/QC, critical path method (CPM) schedule development, planning and coordinating traffic control, and the planning and scheduling of project staff. Mr. Mansfield has worked on a number of DB projects in Virginia, including Route 61 over the New River, Virginia Capital Trails over Route 895, I-495 HOT Lanes and DAT/DTR Interchange (see Work History Forms for more information on this project), James Madison Highway (Route 15) Improvements, Watkins Center Parkway (Route 60) Improvements, and Route 288 PPTA DB.

Construction QC Manager Avtar Singh, PE, of CES Consulting, LLC (CES), reports to the CM. He will manage and coordinate QC activities independent from but coordinated with the QA team. Mr. Singh will coordinate the third-party QC testing lab and testing technicians, coordinate with the QAM during QC program development, attend two-week look-ahead meetings, and keep abreast of the schedule to coordinate inspection staff. Mr. Singh is authorized to stop specific work that does not meet QC requirements.

Lead Tunnel Engineer Ralph Trapani, PE, of Parsons, will report to the DM and has more than 30 years of tunnel analysis and engineering experience. As a member of the Transportation Research Board (TRB) Committee on Tunnel and Underground Structures, FWHA Virtual Team for Road Tunnels (VTRT) and National Fire Protection Association (NFPA), Mr. Trapani has a detailed knowledge of the criteria used to determine the classification of tunnels and deck-overs and the requirements associated with each classification such as those set by NFPA that can require fire protection systems, lighting, ventilation and other safety elements. This type of analysis will be needed for the Rio Road Intersection and is very similar to what Parsons did on the ICC Contract A and the Colorado State Highway 82 deck-overs where Parsons was able to avoid the need for additional expensive systems.

Safety Manager Wayne Johnson, of Wagman, reports to the CM. He will provide regular oversight of plans and field activities to provide a safe environment for VDOT, construction workers, and motorists. Mr. Johnson has the authority to stop work that does not meet our strict safety requirements.

Lead Highway/Segment Design Leads will handle the coordination needed for each of the three distinct elements: the Rio Road intersection, the US 29 widening, and the Berkmar Drive extension. This will allow a single, experienced designer to concentrate on the needs of the separate portions of the project, allowing for the continual progress of all three simultaneously. **Amir Ahmadzadeh, PE, of Parsons,** will coordinate the design efforts for the Rio Road intersection. His many years of experience with utilities and intersection improvements will help ensure a smooth and successful completion to the complex utility relocations and grade separation of the intersection. **Dhimant Sojitra, PE, of Parsons,** has 25 years of experience in key roles on VDOT projects, including the 8.2 miles of the Route 7 Widening and Route 28 National Air and Space Museum Parkway, in Fairfax, and the ICC Contract B, with Wagman, in Maryland. This extensive experience will serve the team well as he coordinates the overall design efforts of the Berkmar extension. **Piyush Radadiya, PE, of Parsons,** will bring his many years of experience to bear in coordinating the design efforts of the Route 29 widening element of the project.

Traffic Management Plan/MOT/TCD Specialist Barry Erlandson, PE, of Parsons, has more than 23 years of experience in public-sector consulting as a transportation and highway design engineer. He specializes in innovative construction staging solutions, value engineering, cost/risk assessment, and design/construction integration for complex urban interstate reconstruction projects. Barry's experience includes construction sequencing and MOT, highway feasibility studies, roadway geometric design, drainage/detention design, highway signing and striping, and roadside design safety considerations. Two recent, award-winning examples of urban

corridor improvements are the kcICON DB project, in Kansas City, and The New I-64 DB project, in St. Louis. Both of these DB projects included massive MOT efforts through business districts, and Parsons' MOT concepts played key parts in the team selection and overall success of the projects.

Utility Design Engineer Brian Smith, PE, of Parsons, reports to the DM. He has more than 15 years of utility design experience in direct support of transportation facilities, including DB and design-bid-build (DBB) projects throughout the Commonwealth, with improvements to highways, bridges, railroads, and park-and-ride lots. Brian has coordinated relocation design with utility entities responsible for water, sewer, gas, telecommunication (underground and overhead), electric (underground and overhead), and fuel.

3.3.2 ORGANIZATIONAL CHART

The DB Team organizational chart, on Page 3, illustrates our chain of command and notes key personnel team members. Solid lines identify the reporting relationships of our team members in managing, designing, and constructing the project and illustrate clear reporting lines from the DBPM to the design and construction team. Dashed lines represent indirect reporting and obligations to the owner and/or corporate management. The chart also shows that a clear separation exists between QA and construction QC inspection and field/laboratory testing.

Functional Relationships and Communication

Design-Build Team

DB projects unite the contractor and designer more than just contractually. It integrates innovative design and construction techniques that benefit schedule and cost, which lead to client satisfaction. Mike Mansfield, PE, (DB Coordinator) will ensure interface between Wagman's field crews and the designers, in particular the segment leads for each distinct element, occurs during design and construction in a timely manner, with concerns openly discussed. Having a dedicated DB coordinator during the design stages ensures timely constructability reviews, eliminates subsequent delays or rework, streamlines reviews, and eliminates potential construction field issues, thereby guaranteeing a superior project on time and on budget. Through our DBPM and CM, we will create a firm relationship that sets the foundation to interact and partner with VDOT and third-party stakeholders. Other integration strategies include the following:

- Interdisciplinary, environmental, constructability, and VDOT and stakeholder over-the-shoulder reviews
- Weekly schedule meetings to review the previous week and develop look-ahead schedules
- Monthly scheduling meetings
- Weekly foreman meetings to discuss the schedule
- Morning huddles with the crews to set daily safety and production goals
- Weekly progress meetings with VDOT to review and discuss submittals and progress
- Bi-weekly contractor coordination meetings with adjacent contracts, Emergency Management Services (EMS), police, etc.
- Monthly partnering meetings with stakeholders to identify and resolve issues

VDOT

The Department will coordinate directly with our DBPM, Mr. Bednarik, as the primary contact for all aspects of design and construction oversight of the project. Bi-weekly design and weekly construction progress meetings will include discussions on contract administration; safety; schedule updates; conflict resolution; stakeholder concerns; and progress updates for design, construction, and ROW acquisition. Open lines of communication between the QAM and VDOT will assist with monitoring QA oversight.

Our public relations manager (PRM) will conduct the "pardon our dust" meeting and any open houses and other outreach efforts in accordance with RFP requirements to update the public on progress, schedule, what to expect, and to allow the public to view plans and discuss concerns through the design and construction process. The DBPM, DM, and CM will be present to answer questions and address possible concerns. We anticipate VDOT's oversight and support in our coordination efforts with project stakeholders. Our PRM will facilitate informal meetings and outreach to stakeholders to minimize VDOT's direct efforts associated with public outreach.

Public relations are a critical element of this project (additional details can be found on page 17 of Section 3.5) and Ms. Travesky, of Travesky & Associates, will be our assigned stakeholder liaison.

Although our DBPM is not the point of contact through procurement, he will serve as VDOT's single point of contact for all design- and construction-related issues upon contract execution. Reporting to the DBPM are the primary positions of the QAM, DM, CM, ROW

acquisition manager, safety manager, DB coordinator, and PRM. This structure, combined with our DBPM's maintenance of an action item log for potential issues and three-month look-ahead schedule, will ensure the project remains on schedule and in conformance with VDOT commitments.

The QAM will report to our DBPM, with independent oversight by VDOT. QA inspectors and labs will report through the QAM. Our QAM will also monitor the construction QC program to ensure all work and materials, testing, and sampling is performed in accordance with the contract requirements and the "approved for construction" plans and specs. The QAM will have the authority to stop work not in conformance with safety standards or contract documents.

Design

Our DM will report to the DBPM and coordinate with the CM to develop an efficient and constructible design. He will work with the CM during construction to confirm field conditions meet design assumptions and reevaluate these assumptions if necessary. The design QA/QC manager will report to the DM and independently monitor the design QA/QC process. Due to the project having three distinct elements, the Rio Road Intersection, the Route 29 Widening, and the Berkmar Road Extension, an element-specific highway designer will be assigned to coordinate the design phase activities needed for the completion of the design packages of the individual elements. These three design leads will coordinate directly with their superintendent counterparts who coordinate the construction for each of the distinct project elements. These design and superintendent leads will also manage the review process, including VDOT and stakeholder over-the-shoulder reviews. This structure will ensure concurrent development of the packages and effective and efficient design management.

Coordination between the design and construction staff will start during the preparation of the technical proposal and continue throughout the project to incorporate means and methods into the design. Meetings will also include design interdisciplinary, environmental, and constructability reviews; over-the-shoulder reviews; and comment-resolution meetings.

Construction

The CM will report to the DBPM and communicate directly with the QAM/DM/PRM and VDOT's field personnel to provide construction progress updates and verify conformance with the contract documents. He will also communicate with the DM during both to ensure construction is consistent with the project design. The LUCM, Mr. Hershey, will report to the CM and, as part of his overall duties, coordinate with the utilities in determining potential conflicts with improvements; investigate with the lead utilities designer, Brian Smith, potential avoidance opportunities; and, when needed, develop relocation plans. Our CM will be on-site for the duration of construction operations and will personally oversee the entire construction team. Construction leads have been identified for bridges, grading, utilities, MOT coordination, construction QC, and safety — all reporting to the CM.

Coordination meetings between the CM, LUCM, senior inspectors, and VDOT's representative will facilitate communication regarding the construction progress. Weekly planning and schedule meetings will include the QA and QC team, VDOT representatives, and design team members as necessary. Before each shift, field supervisors will review safety and performance with their crews to establish protocols in upcoming work.

Wayne Johnson, the DB Team's Safety Manager, will be involved early in the project and participate in design package reviews to ensure safety plans and to become intimately knowledgeable of the project ahead of construction activities. He will have the authority to stop work activities deemed unsafe until the condition is rectified.

Executive Committee

The executive committee will establish a resolution hierarchy to ensure that innovative solutions are developed and coordinated with additional oversight and with the full lessons learned and knowledge of our combined companies. Issues will be tracked through the use of a resolution matrix and will be reported to the DBPM for his acceptance and implementation. The fast-track schedule will be continually tracked. And if more resources are needed, these executives will ensure that the required resources are delivered and incentives achieved. David Lyle, Vice Chairman and longstanding member of the Virginia Transportation Construction Alliance (VTCA's) Structures and Bridge Subcommittee, will assist during design and construction as a value-added position and lead the executive committee. Mark Fialkowski, of Parsons, served in a similar role on the ICC DB projects, where he worked with Wagman executives.

3.4 EXPERIENCE OF OFFEROR'S TEAM

3.4 Experience of Offeror's Team

Wagman and Parsons have successfully teamed on more than $1 billion of local DB projects. Team members already know each other and have trust and effective working relationships in place. This experience is supported by key personnel who successfully managed similar risks on the projects included as Work History Forms in the Appendix.

G.A. & F.C. Wagman, Inc. (Wagman), the offeror, legal entity, and prime/general contractor for this project will be responsible for overall project management and will self-perform the majority of construction as the general contractor. Our local resources and knowledge of the area (which are enhanced through the acquisition of D.W. Lyle Corporation and Key Constructors, Inc.) allow us to be a valuable resource and provide competitive advantages as the lead contractor. Wagman has 40 years of extensive DB experience in the Mid-Atlantic Region, including:

- ICC Contract A and B with Parsons
- Route 895 PPTA
- Route 288 PPTA
- James Madison Highway (Route 15) PPTA
- Route 60 over Route 288
- Route 895 Airport Connector
- I-495 HOT Lanes
- Route 61 over New River

To further ensure the success of the project, Wagman has teamed with General Excavation, Inc., as a dedicated subconsultant. General Excavation is a full-service contractor specializing in heavy highway and utility construction. Since incorporation, General Excavation has successfully delivered nearly $500M of utility and transportation improvements throughout Virginia, including more than $200M since 2007. General Excavation's portfolio includes numerous projects for the City of Charlottesville, including the $21M Route 250 Bypass Interchange at McIntire Road and the $2M Pacific Boulevard Widening DB project in Loudoun County. General Excavation will be utilized on Route 29 Solutions and is currently planned to be the lead for the Berkmar Drive Extension.

Parsons Transportation Group Inc. (Parsons) is an *Engineering News Record* Top 15 Design Firm and has helped deliver over one-third of the top 75 design-build projects in North America.

Parsons' project experience includes many of the Commonwealth's highest-profile projects including several recently highlighted at VTCA and Design-Build Institute of America (DBIA) conferences, such as the VDOT DB projects I-64/Route 15 (Zion Crossroads) Interchange Improvements, and the I-395 HOV and Aux Ramp Widening, as well as other DB projects in the region, such as the ICC Contracts A and B in Maryland (both with Wagman).

Parsons has extensive dam experience, having worked on dozens of dam and reservoir projects across the country, many requiring dam break analyses. We thoroughly understand what is needed to design a structure crossing the outfall river downstream of an existing dam and have the specialists needed to do this quickly and efficiently. Some of our recent experience includes the Rocky Pen Run Dam and Reservoir in Stafford County, Virginia.

Parsons is a world leader in tunnels including deck-overs, having recently completed more than 60 projects worldwide. We have experience analyzing and developing options that work with AASHTO and NFPA 502 requirements to minimize the need for expensive systems such as lighting and ventilation. Recently we performed similar design services for both the ICC Contract A deck-over and in Colorado on State Highway 82 where each client wanted to maximize the length of the deck-over while avoiding the additional costs associated with a tunnel classification.

Our team is made up of firms with which we have long-standing relationships and is detailed in the organization chart on Page 3.

Delivering Multiple Projects Concurrently on Fast Track Schedule

Wagman has a long and productive history of delivering multiple fast-track projects concurrently. The company is structured to allow for the concurrent performance of multiple large projects and has the resources to perform multiple projects, such as equipment, direct labor, supervisory and management labor, and financial capital. The concurrent project list below illustrates Wagman's capabilities to perform multiple fast-track projects concurrently:

- **Woodrow Wilson Bridge/ICC Contract A/ ICC Contract B and I-95/I-695 Interchange** – The $267M Woodrow Wilson Bridge (WWB) project, consisting of five overlapping contacts, was completed in conjunction with the $464M ICC Contract A, the $560M ICC Contract B project, and the $217M I-95/I-695 Interchange (Section 100), which were all worked concurrently. The total value of the concurrent contracts was more than $1.5B and required corporate resource management controls, all of which are still in place today and

will be utilized on the Route 29 Solutions. These highly-visible projects were fast-tracked with multiple milestone dates and incentives, all of which Wagman achieved.

- Wagman performed two contracts on the Salisbury Bypass, $9.6M Phase I and $6.7M Phase II concurrently. Phase I involved the widening and reconstruction of approximately 1.5 miles of road. Phase II involved the construction of a steel girder dual bridge across the Wicomico River.
- Wagman constructed the $39M SR 80 Reconstruction project in Northumberland County, Pennsylvania, which was an A+B contract for the Pennsylvania Department of Transportation (PennDOT). Part B of the proposal was divided into two completion durations, and Wagman was able to obtain the award due to the Part B portion of the proposal. The schedule was restricted to working only between March and November for two consecutive years due to snow-removal conflicts with the temporary barrier, adding to the urgency of the work. During construction, Wagman was able to beat both Part B durations to receive incentives valued at $10,000 per day.

Delivering Projects in Developed Urban Corridors

Wagman has successfully completed projects with extremely difficult MOT requirements and very high average daily traffic (ADT) volumes. We will take this invaluable experience, personnel, and innovative methods and combine that with the experience of Parsons to introduce and maintain a seamless, easily navigable travelway through the project during construction. Some examples of projects completed in developed urban corridors include the following:

- WWB Project (five contracts) on I-95, I-495, and I-295 in Washington, D.C.
- I-695/I-95 Interchange (Section 100)
- ICC Contract A – Had a 1.5-mile section of I-370 that was reconstructed and had numerous other urban interchanges including a single-point urban interchange (SPUI) with MD-97/Georgia Avenue
- ICC Contract B – Had numerous urban interchanges that were constructed including a SPUI interchange with MD-650/Connecticut Avenue
- Susquehanna River Bridge – Constructed on the Pennsylvania Turnpike in Harrisburg, Pennsylvania
- Harvey Taylor Bridge – Main artery into Harrisburg
- I-95 and I-695 latex overlay projects
- Route 1 Improvements at Fort Belvoir, Virginia
- Danville Cut and Cover Tunnel – A cut-and-cover tunnel through downtown Danville, Pennsylvania

Parsons was the designer for many projects within urban corridors, including the following award-winning DB projects:

- **The New I-64** – Reconstructed 10 miles of I-64 through St. Louis and won more than 20 awards, including the 2011 Grand Award, Engineering Excellence Competition, from the American Council of Engineering Companies (ACEC).
- **I-15 Pioneer Crossing** – The cover feature for Road & Bridges magazine (August 2010).

Use of Innovative Design Solutions and Construction Techniques

The DB Team has a long history of using innovative design and construction techniques. These innovations often lead to reduced costs, impacts, and maintenance, and improved operations and safety. Examples of these techniques can be found in our Work History Forms in the Appendix.

Previous Design-Build Experience

Wagman has completed five major DB projects within the past 15 years with a total value of $1.05B. Wagman is also currently constructing the Route 1 Ft. Belvoir Improvements DB project, worth $70M. In addition to DB work, Wagman has participated in the design and construction of alternative bridge concepts on PennDOT work since the 1970s, in which the contractor takes the risk to propose a re-design of the contractually prescribed bridge design in order to reduce costs and construction duration. DB projects completed by Wagman include:

- ICC Contract A (with Parsons) – $464M
- ICC Contract B (with Parsons) – $560M
- Route 15 Millcreek – $10M
- Twin Bridge Replacement SR 1015 over I-78 – $6M
- Raymondskill Bridge Replacement – $2.6M
- Route 1 at Ft. Belvoir Roadway Improvements – $70M (in progress)

Limiting Impacts to the Traveling Public and Affected Businesses and Communities, Including Commitments to Effective Strategies to Minimize Congestion During Construction

One of the primary goals of any DB project is to limit the impacts to the traveling public, businesses, and nearby communities. As mentioned above, Wagman

and Parsons have recent experience together where we were able to design and construct the interchange at MD 650 on ICC Contract B in halves, allowing for the uninterrupted operations of the through lanes; removing the need for a temporary structure; and reducing the impacts to the nearby communities, including maintaining access to the nearby businesses. One very important ingredient to limiting the impacts to the traveling public, businesses, and nearby communities is effective and timely communication. This is discussed in more detail in Section 3.5

Developing and Managing Effective Communication Strategies with Business Owners and Other Key Stakeholders

Both Wagman and Parsons have extensive experience developing and following through with detailed communication plans. However, due to the critical nature of stakeholder communication on this project, we have enhanced our already strong capabilities with Ms. Travesky, who has has led the communications efforts for many of the Commonwealth's largest transportation projects. Additional information on this can be found on page 17 of Section 3.5 and Ms. Travesky's resume, on page A70.

Previous Success in Taking and Managing Calculated Risks and Realizing Incentives

Wagman is willing to take a calculated risk if it is deemed to be beneficial from a cost and scheduling standpoint and can be done with no adverse impact to Wagman's or the client's reputation. A few highlighted projects are listed below:

- **US 360 and US 58, Halifax County, VDOT** – Wagman (as Key Construction Company, acquired by Wagman) took the risk to value-engineer (VE) the traffic phasing and sequencing of construction for the construction of twin 2,100-plus-linear-foot bridges in order to provide a more efficient construction process. This VE contributed to project completion seven months prior to contract completion requirements.
- **I-95/I-495/I-295/MD 210 Interchanges (Woodrow Wilson Memorial Bridge), MDSHA** – During construction, Wagman worked with the designer to VE proposals to reduce cost and schedule. Despite the additional risk assumed by Wagman for the redesign of the approach fill using geofoam, the owner realized savings of more than $2M.
- **Route 604 (Genito Road) Improvements, Chesterfield County, VDOT** – Wagman (as Key Construction Company, acquired by Wagman) performed this A+B contract for VDOT and finished ahead of schedule to earn an early-completion incentive from VDOT. Realizing the importance of the incentive/disincentive, and also due to the complicated nature of the project, we assigned our most seasoned project staff to the project to ensure that the project schedule was properly adhered to.

Previous Success in the Coordination of Complex Utility Relocation

Wagman has an exemplary track record of coordinating complex utility relocations for transportation projects. Our utility team was specifically chosen based on its established relationships with the utility companies anticipated for Route 29 Solutions and as a result of past performance, particularly for VDOT. Previous projects with utility relocations include the following:

- **US Route 1 Improvements at Fort Belvoir** – This 3.5-mile project involved utility relocations for Dominion, Verizon, Washington Gas, AT&T, Government Communications, and Water and Sanitary. Many of the same utilities will require relocation on Route 29 Solutions; therefore, we are proposing the same utility team that performed the relocations on Route 1: LUCM and Utility Pros.
- **I-695/I-95 Interchange (Section 100)** – This project had utility relocations that were successfully coordinated by the project management team. Our proposed CM for Route 29 Solutions, Mr. Miller, was involved with the coordination of the utility relocations on the Section 100 project.
- **Danville Cut & Cover Tunnel** – A cut-and-cover tunnel to take a major state route through the congested down town of Danville, Pennsylvania, required extensive utility relocations. The existing feeds and services all had to be routed around, or lowered beneath, the tunnel structure. Our proposed DBPM, Mr. Bednarik, had extensive involvement with the coordination and scheduling of the utility relocations for the project.

Meeting or Exceeding Required Disadvantage Business Enterprise Program Commitments

Both Wagman and Parsons have long track records of meeting or exceeding both disadvantage business enterprise (DBE) program commitments. Wagman has an unblemished track record regarding meeting or exceeding DBE program commitments and, in its 110+ year history, has met all DBE program requirements for all completed contracts.

3.5 PROJECT RISKS

3.5 PROJECT RISKS

INTRODUCTION

The Wagman/Parsons Design-Build Team (DB Team) has a proven track record in delivering more than $1B of DB and DBB fast-track projects in the Mid-Atlantic Region over the last 12 years. Our risk management process has been refined in the course of delivering these award-winning projects based on early identification of risks and the development of innovative solutions.

Critical Risk No. 1 – Utility Relocations

The DB Team has, preliminarily, identified the following utilities: Water and sanitary sewer utilities owned by the City of Charlottesville, Albemarle County Service Authority (ACSA), and Rivanna Water and Sewer Authority (RWSA); communication infrastructure owned by various companies, including Fiberlight, Century Link, Lumos Networks, and MCI Communications; electric owned by Dominion Virginia Power; gas owned by City of Charlottesville Gas; and cable TV owned by Comcast Digital Cable. The existing utilities comprise both OH and UG.

The DB Team has further identified a critical area of utility relocations, that being the intersection between Route 29 and Rio Road. The RFQ indicates that Route 29 shall be depressed underneath of Rio Road, which will greatly impact the numerous existing utilities within the existing at-grade intersection. Impacted utilities include water, sanitary sewer, communications, telephone, overhead electric, gas, and storm lines. Extensive coordination with MOT phasing and construction methodologies will need to be considered in order to properly relocate the existing utilities through this area. In addition, coordination of the structural design may be required in order to hang utilities on the bridge. The DB Team's primary consideration will be the minimization of impacts to the utility owners and the utilities' end users.

Risk Criticalness and Project Impact

Determining potential utility conflicts is critical to define the risk to the project. The comprehensive identification of impacts to existing utilities is required early in order to properly plan for the relocation. Additionally, the protection of utilities is critical to the success of any project and includes both direct and indirect impacts, such as those that may be caused by vibrations during construction or heavy equipment passing over utilities. The roadway areas will require the identification and mapping of all known overhead/underground utilities to determine that they are adequately protected from new construction impacts and to ensure they maintain proper clearances both overhead/underground. This includes service lines to area homeowners and businesses. The protection of utilities is critical to prevent any loss of service to homeowners and businesses located within not only the LOD, but also end users beyong the project limits.

Another risk presented by utility relocations concerns the project schedule. Failure to provide timely assistance by any of the respective utility owners can create major impacts to completing areas of work on the project. Proper upfront work and planning is required in order to identify the utilities in need of relocation, develop a plan of relocation, acquire ROW and easements, and schedule the utility companies to perform the relocation. The utility relocation effort must be aggressive and comprehensive in order to avoid any impacts to the project construction.

Mitigation Strategies

As mitigation, the DB Team intends to provide early and continuous coordination with affected utility companies commencing at the proposal phase and continuing throughout design development and construction. The DB Team will implement design and construction strategies to aid in the management of the utility relocation process through partnering and open communication. Our team will investigate alternative designs to avoid or minimize impacts to existing utilities. On the ICC projects, we moved bridge piers and built retaining walls and protection slabs to minimize impacts to existing utilities. Coordination efforts will begin with the project kickoff meeting following award, and the agenda for the kickoff meeting will include an item for utility relocations. Representatives from the affected utilities, as well as VDOT utility personnel, will be invited to the kickoff meeting to participate in utility discussions. Follow-up meetings will be held as necessary with the utility companies and VDOT to develop our relocation designs. Mr. Hershey executed this flawlessly on the US Route 1 Widening at Ft. Belvoir.

The DB Team has assigned Mr. Hershey, DBIA, CPE, of Wagman, to the role of LUCM (resume attached in Section 3.3.1). Mr. Hershey has extensive experience in the design and process management of utility relocations for transportation projects in Virginia and Maryland. In addition to the LUCM, the DB Team has teamed with Utility Pros, a prominent utility relocation consulting firm with extensive utility relocation experience in Virginia. Utility Pros is headquartered in Virginia and frequently services the Route 29 project area. The DB Team has a longstanding working relationship with Utility Pros. Wagman's proposed

LUCM has successfully performed utility relocations on a previous transportation project with Utility Pros. Utility Pros has established relationships with the majority of the affected utility companies on Route 29 Solutions, as well as deep-rooted relationships with VDOT's utility managers. In addition, the DB Team has also teamed with Woolpert, Inc., a respected Virginia-based utility locating firm.

A utility task force led by Mr. Hershey will be established during design and continue through construction in order to define potential impacts, evaluate solutions for minimizing impacts, and facilitate relocations. The utility task force will also work diligently with the ROW acquisition teams to ensure proper ROW and easements for the relocated utilities. Finally, we will locate and designate the precise locations of existing utilities using supplemental utility surveys by Woolpert's in-house subsurface utility engineering (SUE) capabilities, followed by the implementation of a robust SUE Level A test hole program to confirm the depth of utilities with respect to proposed roadway grades and potential conflicts. Our early and aggressive coordination efforts will occur well before actual construction, allowing for minimal impacts to the project schedule and to all affected parties.

The utility task force will work with the utility owners to explore methods to expedite utility-related plans and estimates (P&Es) to advance the project schedule and to generate the required UT-9 forms and arrange and coordinate the UFI meeting(s). The DB Team is familiar with the UFI process and the preparation of the UT-9, UT-4, UT-11, and other documents required by VDOT's Utility Manual of Instructions – Utility Relocation Policies & Procedures. In addition, Utility Pros has access to VDOT's RUMS and will be managing the RUMS input for this project. We will diligently pursue the relocation effort in accordance with the manual's and the RFP's requirements.

Anticipated VDOT Role

We do not anticipate any additional role for VDOT. We anticipate that VDOT will participate in the utility relocation planning efforts, including planning meetings and UFI meetings. VDOT will be invited to any meetings with the utility companies and will be welcomed to attend. The success of the utility relocation effort is also contingent upon timely reviews and approvals by VDOT's Utility Division. Wagman, Parsons, and Utility Pros have extensive experience coordinating with VDOT's utility managers in past projects, and, as a result, the DB Team request for VDOT approval will be timely and complete, allowing for a quick, effortless review and approval process.

Critical Risk No. 2 – Right-of-Way

From a review of the preliminary drawings and conceptual plans, it appears that the proposed widening, grade-separated changes will necessitate the ROW acquisition of approximately 15 to 20 parcels for the Berkmar Drive Extension. ROW acquisition is not anticipated for the US Route 29 widening, nor from the Rio Road Grade-Separated Interchange. The impacts to the parcels along Berkmar will vary from small fee acquisitions and temporary construction easements to larger fee acquisitions and property bifurcations north of the Rivanna River. No business or residential relocations are anticipated on this project. ROW acquisition is most critical in the area where a new structure will span the Rivanna River. Defining all of the specific impacts during design development; obtaining ROW plan approval; conducting the necessary negotiations; obtaining the agreements; and finally, requesting payment from VDOT are all steps that will be required as part of this process, and all of these steps have the potential to delay the schedule.

Mitigation Strategies

Our team includes Stantec to assist with the ROW acquisition process. Stantec's extensive DB experience with VDOT projects will help streamline the process and mitigate the risks associated with acquisition.

The DB Team will develop a construction sequence that will form the basis of our ROW acquisition schedule. As an overall mitigation strategy for ROW acquisition, the DB Team will direct Stantec to work in advance of the ROW notice to proceed, to perform title searches in an effort to identify properties with liens and other encumbrances. Based on our findings, we will develop a strategy to accelerate the acquisition schedule on problem properties to allow more time to obtain releases and facilitate a quick settlement. Where practical, and in keeping with VDOT policy, Stantec will recommend the use of basic administrative reports (BARs) to allow the appraisers to concentrate on more complicated valuations and to maintain the project schedule. Upon receiving ROW notice to proceed, the DB Team will deliver a formal acquisition plan to VDOT. This document will include a prioritized appraisal schedule and lay out the framework for acquiring all properties in accordance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended, and VDOT's ROW procedures. On the Route 1 Ft. Belvoir Reconstruction project, Wagman, in conjunction with VDOT, was successfully able to acquire a total of 25 parcels. Of the 25 parcels, there were two apartment buildings that required the relocation of over 70

tenants, a strip mall with five businesses that required relocation, two gas stations, a convenience store and a fast food restaurant. Wagman worked with their ROW acquisition manager, as well as Les Griggs of VDOT to ensure the timely acquisition of the properties. As part of our comprehensive acquisition program, we hosted and participated in numerous public workshops to educate and involve the property owners of the proposed acquisitions and the steps that would be involved with the process. The project team worked diligently to maintain the best relationships possible with the property owners, business owners and tenants that were being relocated and to keep them informed and to resolve any issues they may have. The ROW acquisition process involved the condemnation of three properties for which Wagman worked with VDOT to acquire.

RUMS entries will be made on a daily basis to ensure that VDOT has access to the latest ROW acquisition information. All documents will be subjected to a rigid QA/QC process to ensure that deliverables to VDOT are accurate. This will help us avoid delays caused by rework and should expedite VDOT approvals.

Anticipated VDOT Role

VDOT needs to provide timely approval of the ROW plans. VDOT will be expected to maintain contractual delivery times for approving just compensation and issuing notices to commence acquisition. Upon the completion of negotiations, either by voluntary conveyance or filing of certificate, VDOT will be expected to deliver notices to commence construction in accordance with the contract.

Critical Risk No. 3 – MOT/Sequencing

MOT risks on road construction projects in existing urban corridors primarily fall into four categories:

- Safety
- Traffic flow (user delay)
- Access to adjacent properties
- Schedule

Even the Berkmar Drive Extension portion of the project, which is almost entirely greenfield, will present some risks related to MOT. The primary issue for this project, unlike most urban corridors, is that there are no reasonable alternate routes for US 29 to direct traffic. Even the available options for motorists to take alternate routes of their own volition are minimal and not convenient. Due to UVA in Charlottesville, there will frequently be unfamiliar motorists traveling through the project for campus events. All of these facts compound the risks associated with MOT.

Our approach to identifying and mitigating risks begins with extensive upfront planning that balances the construction staging/traffic control approach and the impacts to the public with the overall constructability of the project. This starts with developing a comprehensive traffic management plan for the project incorporating lessons learned from DB projects around North America to address the specific issues of Route 29 Solutions. For complex urban transportation construction projects, we work to incorporate all three facets of the project:

- The end user (the traveling public and stakeholders), to ensure impacts are minimized and mitigated
- The designer, to ensure the traffic control is clear and safe for both the public and construction crews
- The contractor, to ensure the construction staging approach is constructible and cost-effective

We will implement regular task force meetings that include the owner, contractor, designer, and key stakeholders (cities/counties, transit, emergency services, etc.) to foster a spirit of cooperation and understanding which will ensure an approach that balances the needs of all. This approach also creates a common ownership of the plan and minimizes conflicting or ambiguous messages to the public. Risks and mitigation strategies will be a regular agenda item of the MOT task force throughout project duration.

One component of our best practices is to implement risk assessment workshops for all facets of major projects. These workshops ensure that the project team has identified and mitigated all major risks, to the extent possible. Based on previous experience, we anticipate holding at least two risk workshops for Route 29 Solutions. These workshops will focus on the construction staging, traffic control approach, and constructability and will include industry experts with national design and construction experience, along with appropriate project team members from VDOT.

Workshop attendees will provide recommendations for risk and traffic mitigation. The first workshop (internal only to our team) will actually occur in the procurement phase, during the development of the construction staging concepts. After award and prior to the 60 percent plan level, a second workshop will held with all team members and appropriate stakeholders to perform a more focused evaluation of the approach and risks and ensure there are no fatal flaws.

Parsons has used this approach — to great success — on DB projects of all sizes. For example, on the The New I-64 DB project, in St. Louis, Missouri, Parsons implemented a creative MOT concept that

shaved approximately six months off of the project schedule and millions off of the project cost. Parsons' comprehensive TMP included a variety of mitigation measures to ensure the 150,000 vehicles per day that were using I-64 experienced minimal impacts during constructions and enabled the DB team to achieve the $5M project incentive (based on completion deadlines and regional mobility during construction). At completion, the project received a 95 percent public satisfaction rating.

Risk Criticalness and Project Impact and Mitigation Strategies

Our team is intimately familiar with the US 29 corridor and surrounding region, and, using lessons learned from a variety of previous projects both in Virginia and around the country, we will develop numerous mitigation strategies for the various MOT risks we've identified for the project. The table below outlines the MOT risks for all three portions of Route 29 Solutions and some of our mitigation strategies for each risk.

For all of these risks, we anticipate VDOT's and other agencies' roles, beyond the initial coordination and planning input, to be limited to normal plan reviews and comment. In some instances, where temporary easements may be needed, VDOT may be asked to play a supporting role in acquiring the easement.

RISK	WHY THE RISK IS CRITICAL	POTENTIAL IMPACTS OF THE RISK ON THE PROJECT	MITIGATION STRATEGIES
Berkmar Drive Extension			
Work Zone Access	Limited access points	Schedule – Increased duration/impacts Cost – Difficult haul routes	Schedule hauling operations in off-peak hours Create multiple temporary access points
Traffic Flow	US 29 is a key regional route	Cost – Delays in hauling operations Delay – Slow-moving trucks Public opinion – Negative views	Maximize temporary lane widths on US 29 Optimize temporary geometry Schedule hauling operations in off-peak hours Provide adequate accel and decel distances
Route 29 Widening – Polo Grounds Road to Towncenter Drive			
Narrow Existing Section	Limited width for traffic shifts and work zone protection	Safety – Operations adjacent to traffic without positive protection Cost – Extensive temporary widening could be necessary	Perform more work at night using lane closures Eliminate pavement drop-offs during the day Temp widen and use temp barrier around deeper excavations (such as drainage work)
Work Zone Access	All work is in the median of US 29, so all access will be to and from live traffic lanes	Safety – Slow-moving trucks Schedule – Without continuous work zone protection, work must progress along small sections at a time	Schedule hauling operations in off-peak hours Provide adequate accel and decel distances Detailed upfront planning of work processes to create efficient operations
Traffic Flow	US 29 is a key regional route	Schedule – Increased duration/impacts Delay – Slow-moving trucks Public opinion – Negative views	Do not reduce lane and shoulder widths Limit or eliminate daytime operations Provide temporary emergency pullouts Extensive public outreach
US Route 29/Rio Road Grade Separation and Intersection Improvements			
Traffic Flow	Key regional intersection	Schedule – Increased duration/impacts Delay – Slow-moving trucks Public opinion – Negative views	Limit lane reductions Perform work at night whenever possible Comprehensive incident management plan Employ accelerated construction techniques Extensive public outreach
Access to Adjacent Properties	Potential loss of business income, employee layoffs, and business failure	Lawsuits Public opinion	Limit access closures to after-business hours Avoid full closures unless safety dictates it Provide temporary business wayfinding signage Extensive public outreach

RISK	WHY THE RISK IS CRITICAL	POTENTIAL IMPACTS OF THE RISK ON THE PROJECT	MITIGATION STRATEGIES
Schedule	Largest risk to project schedule due to UVA work window restrictions	Potential impacts to UVA activities Increased duration of impacts to the public	Comprehensive pre-activity planning Build flexibility into the construction plans Maximize work zone space Employ accelerated construction techniques
Safety	Complex work zone(s) can increase conflicts between traffic and construction crews	Multiple traffic shifts can cause confusion for motorists Work will be performed "on an island," making access difficult	Temporary configurations must provide clear indication of the travel paths for motorists Comprehensive incident management plan Optimize temporary geometry at intersection
Utility Relocation	Affects both project schedule and traffic	Schedule – Often on critical path Traffic flow – Work will likely cut across numerous lanes Safety – Deep cuts adjacent to traffic	Incorporate strong management practices to coordinate relocations with each utility Work with private utilities to develop MOT plans for each relocation

Critical Risk No. 4 –Stakeholder Coordination/Public Outreach

Public outreach and stakeholder coordination are critical risks on this project because the businesses and civic and special interest groups, as well as the general public in the Charlottesville/Albemarle County area, are very active, sophisticated, and involved in their communities. It is important to forge good working relationships with key stakeholders and to keep them frequently and well informed about the project design, construction, and schedule to prevent negative reactions to the project.

Risk Criticalness and Project Impact

Failure to provide timely and complete project information to stakeholders may cause negative public opinion toward the project, as well as negatively impact overall traffic operations and MOT and increase the likelihood for traffic incidents. If key stakeholders are not kept informed and given the opportunity to provide meaningful input, they may pressure elected officials to delay the project and negatively impact the project schedule. Gaps in communication must be avoided, because, in the absence of information, misinformation may be proliferated. During construction, accurate and timely project status updates, including information concerning lane closures, detours, and other traffic disruptions, are necessary to avoid impacts to safety and frustration for drivers. Listening to and addressing the concerns of the stakeholders and the public will be paramount to a successful project, but if not managed properly, also represents a considerable risk.

Mitigation Strategies

Based on several previous projects in Charlottesville and Albemarle County, the DB Team appreciates the importance of effective public relations and knows that the success of this project will hinge greatly upon the proper and timely dissemination of information to the public about the construction schedule and its impacts on the public's daily lives and activities. To address stakeholder coordination and public relations concerns, the DB Team includes a prominent public outreach management team, Travesky & Associates, which has been providing such services to VDOT for more than 20 years. Key to addressing these concerns is a proactive public outreach program identified in a public communication plan that prepares the public early during the design phase and continues to inform throughout construction. Our public outreach program will identify key stakeholders, significant messages, and the best techniques for disseminating information to diverse populations to ensure we mitigate this potential risk. Key stakeholders include VDOT; the University of Virginia; and elected officials, such as the Albemarle County Board of Supervisors, the mayor of Charlottesville, and the Charlottesville City Council, as well as the staffs from these jurisdictions. Businesses in the immediate area around the construction sites will be part of outreach efforts. These include retail such as the Fashion Square Mall and Albemarle Square, Seminole Square, and Charlottesville Shoppers World Shopping centers; Northrup Grumman; and the car dealerships, restaurants, and hotels along the affected part of Route 29 North. Business organizations such as the Charlottesville Regional Chamber of Commerce would also be included. Our team has worked with local interest groups, including environmental groups such as the Piedmont Environmental Council and the Southern Environmental Law Center, on previous projects and expect them to take very active positions on this project as well. Umbrella groups, such as US 29 Advisory Panel and the Charlottesville-Albemarle MPO, will also be key participants, as well as the

University of Virginia. And finally, residents and homeowners associations near the project will must be engaged, as well as the traveling public.

The media are also critical stakeholders and will be kept informed of the project schedule and construction and traffic impacts. On previous projects, we have coordinated media elements with local newspapers, television stations, radio stations, and other media outlets. As part of these efforts, we provided press releases and construction alerts to ensure accurate project information. Other stakeholders, such as Bike Charlottesville and the Charlottesville Bicycle Club, and transit providers, such as Charlottesville Area Transit, will be engaged. This early involvement with stakeholders will help secure their buy-in. Even if participants disagree with the outcome, they will know it was a fair, open, and transparent process.

Public relations will be treated as an essential activity for this project and positioned to immediately express how the benefits outweigh any potential inconveniences. To accomplish this, we will include the following activities as part of our comprehensive public outreach efforts toolbox:

- Develop benefit-focused theme for communication.
- Conduct an initial public meeting.
- Develop a stand-alone website or provide content to VDOT that would be included as part of a VDOT-maintained project site. The DB Team would assist VDOT by drafting replies to comments, and VDOT would review and reply.
- Regularly communicate via an e-blast notification.
- Provide project overview to traffic reporters and other media and schedule regular updates.
- Proactively reach out to businesses and communities in the area to prepare them for upcoming activities.
- Build community goodwill through community-based interactions and participation in community events (e.g., clean-up days, sports, etc.).
- Focus on communicating to those with driving needs all day long, not just during rush hour.
- Regularly update police and emergency personnel.

Close working relationships and channels of communication will be established and maintained with all stakeholders by assigning a dedicated public outreach project liaison, Ms. Travesky, of Travesky & Associates. Outreach efforts will occur through numerous venues, including possible meetings held at regular intervals or project milestones; pop-up information booths at retail centers and public fairs or events; a project website; social media; online engagement; a toll-free information hotline; or printed outreach materials, such as fact sheets, newsletters, and postcards. The DB Team has effectively employed this defined outreach program on several other local VDOT projects, including the Route 29 Corridor Development Study, the Route 29 Pedestrian Study, and the 2035 Rural Long-Range Transportation Plan.

The public awareness program described above is based on successful programs for VDOT projects in the region and across the Commonwealth. It will begin with the development of a comprehensive strategy in collaboration with VDOT. This strategy will establish what will be done, who will do it, and when it will be done. The DB Team communication plan will include establishing and organizing joint task force group meetings, to which VDOT, stakeholders, and others will be invited. Efficient/proactive project coordination and communication between all parties is the key to the successful completion so that projects milestones are met or exceeded — minimizing the potential risks.

Anticipated VDOT Role

The DB Team will coordinate with VDOT to schedule traffic messages and arrange for VDOT staff to attend public meetings and events. The DB Team will seek VDOT's approval of our communication plan. The DB Team will communicate regularly with VDOT Public Affairs to be sure it is informed of project progress, events, concerns, media opportunities, etc.

Critical Risk No. 5 – Rivanna River Crossing Concerns

The current RFQ design includes a new extension of Berkmar Drive. This extension has a crossing of the Rivanna River just downstream from the Rivanna Reservoir and Dam and in the proximity of the water treatment plant. There are many aspects of this crossing that would need to be reviewed, analyzed, and considered when developing the designs and constructing the crossing for the extension.

Risk Criticalness and Project Impact

This element of the project, the structural crossing of the Rivanna River, will likely be on the critical path for the project, and anticipating potential delays and hurdles will be important to the success of the project. In addition, the design and construction activities need to avoid impacts to the dam, river, water treatment plant, and the nearby Schroeder Branch and other resources. Poor planning, design, or construction could lead to impacts to the reservoir and dam itself, which could result in significant health and safety impacts to the neighboring communities and resources and even damage to the new bridge structure itself.

Inadequate mitigation of impacts could cause permit issues, permit process delays, and could require additional mitigation and repair work, further impacting the overall project schedule. In addition, environmental impacts (during construction and post-construction) could include increased downstream flooding and decreased water quality, which could impact nearby properties, such as the water treatment plant, environmental resources, and downstream communities. Impacts to the reservoir, dam, and water treatment plant could result in undermining of the dam, structural damage to the plant, and degradation of the water supply that the city and surrounding areas rely on. Specific problems could include the following: susceptibility of the bridge to dam breach, undermining of the bridge due to scour, increased erosion of the stream, impacts to wildlife habitat in and along the stream, and other possible structural impacts. All of these impacts could also impact the public perception of the project and VDOT.

Mitigation Strategies

This risk can be effectively managed by first engaging experts in dam analysis and design, geotechnical engineers with relevant experience, and contractors who have built similar structures. Parsons has designed and built some of the nation's largest dams and similar structures, such as the Rocky Pen Run Reservoir.

Second, proper planning and analysis will avoid many of the potential issues involved. This planning starts with geotechnical, hydraulic, and structural engineers analyzing the existing data and brainstorming potential risks, concerns, and the overall goals of the effort.

In this case, our geotechnical engineers reviewed their prior knowledge of the area, geotechnical data reports for nearby investigations/projects, and geologic mapping information. From this, they were able to discern the following geotechnical risks that would need to be addressed:

- Corrosion/deterioration of foundations due to soils
- Settlement and stability of wing walls/retaining walls and fill embankments
- Presence of unsuitable soils
- Shallow bedrock

Corrosion/Deterioration of Foundation Due to Soils – Bridge foundations founded in corrosive soil are subject to corrosion and/or concrete attack, which may result in loss of strength in the foundation, ultimately leading to bridge failure. To minimize this risk element, corrosion series testing will be performed on soil samples collected from the bridge foundation areas to evaluate the corrosivity and concrete attack potential of the subsoils. Once the corrosivity and concrete attack potential are determined, appropriate foundation protection measures can be provided, as necessary such as ground improvements and concrete mixes resistant to corrosivity.

Wingwall/Retaining Wall and Fill Embankment Design and Construction – The construction of retaining walls/embankments over soft existing soils may result in the excessive settlement of the existing soils under the weight of the new fill, and subsequent foundation distress, which can result in foundation failure if the shear strength of the foundation materials is exceeded. Settlement magnitudes and durations can require staged embankment construction, hence lengthening overall construction schedules. In order to verify the consistency of the existing soil at wing wall/retaining wall locations, we will drill test borings during the design phase of the project. Further, during the construction phase of this project, test pits will also be excavated in the vicinity of these test borings to verify the horizontal and vertical extent of any soft existing soils. The global stability of any proposed wing walls/retaining walls will also be evaluated. If required, the global stability will be enhanced by increasing the length of geogrids, or by lowering the wall foundations, or by using a wedge of suitable granular soils to improve sliding resistance along the potential failure plane. Common mitigation techniques are the use of lightweight fills (e.g., foams) and pre-loading.

Unsuitable Soils – Excessively wet soils, soft or loose soils, soils that classify CH and MH, and soils with California Bearing Ratio (CBR) values less than 5 are not considered suitable for direct support of the proposed roadway and associated structures. A preliminary evaluation of the DB Team's geotechnical data from nearby sites indicate that unsuitable soils will likely be encountered within the project limits. The treatment of unsuitable soil by traditional means (undercut and replace) can result in added time, cost, and impacts to the traveling public. In order to maintain the project schedule, the DB Team will perform significant subsurface investigation including borings and test pits to delineate the limits of unsuitable soils in each phase of the project prior to beginning physical construction. With the exception of organic materials that will still require conventionally removal and replacement, The DB Team will develop engineered solutions for soil modification and subgrade stabilization where appropriate to minimize the amount of soil being physically removed and replaced via transport on the local road network. These engineered solutions will

include but not be limited to the following: addition of pelletized quicklime, addition of hydraulic cement, and installation of geotextile.

Shallow Bedrock – Based on geological maps and our nearby geotechnical data reports, rock may be encountered between about 5 to 10 feet depth below the existing ground surface. Depending on proposed pavement grades, bridge foundation depths, and utility depths, rock excavation may be required during construction activities. The early identification of these areas reduces the risk to the critical path of the project due to delays that could result in mobilizing different earthwork equipment and preparing blasting protection measures. To mitigate the potential adverse impact of excavations in shallow bedrock, the project team will focus on delineating these shallow bedrock areas with a combination of test pits, test borings, and seismic refraction surveys in expected deep cut areas.

Next, the hydraulic and stream engineers need to do their work. The bridge crossing needs to be designed to withstand the hydrologic and scour forces associated with a dam breach at the Rivanna Reservoir. The following are the areas, beyond erosion and sediment control and permitting, that we believe need to be addressed in the design phase of the project:

- Channel degradation due to sediment trapping by South Fork Rivanna River reservoir
- Local scour caused by the presence of the bridge substructure in the riverbed
- A breach of the Rivanna Reservoir Dam
- Scour during construction activities

Channel degradation, occurring over the years, can lower the channel bottom at the bridge location and reduce the embedment of pile caps, pilings, or other substructure units, thus decreasing their load-bearing capacity and lateral stability. An evaluation of historic channel cross sections will reveal the rate of channel degradation, and the bridge substructure will be designed to a depth that will withstand the channel degradation projected to occur during the bridge's design life. Geotech properties of the channel bed will be evaluated to determine if scour-resistant layers exist that could slow the future erosion rate.

Local scour at piers and abutments can form scour holes near the piers and abutments. These holes reduce the embedment of pile caps, pilings, or other substructure units, thus decreasing their load-bearing capacity and lateral stability. Piers will be designed to withstand the estimated pier scour for the 100-year flow event, plus contraction scour and channel degradation, and also to withstand the larger of the dam breach flow or the 500-year flow event with a safety factor of 1. VDOT and the Parsons design team will reach an agreement on the antecedent conditions for the dam breach (e.g., sunny day or spillway design flow). According to existing reports, the design elevation of the dam breach flood elevation is 374 feet for sunny day breach and 400 feet for Probable Max Flood Breach. The scour design will be conducted in accordance with HEC-18, HEC-20 and the VDOT Drainage Manual.

The flood wave (possibly mixed with a heavy sediment load) from a dam breach will exert lateral forces on the bridge structure and could cause sudden channel erosion/lowering and also large local scour holes at unprotected piers. Abutment protection could also be compromised. During the ebb of the dambreak flood, sediment from the reservoir could be deposited at the bridge, causing an obstruction to flow through the bridge after the flood recedes. The bridge deck low chord will be placed above the dam breach water surface elevation at the bridge location, plus a freeboard allocation for floating debris and, if feasible, to include adequate hydraulic capacity with dam breach sediment deposits. RWSA will provide the existing FERC-approved dam breach analysis model data files, the most current dam inspection, and any current reservoir sediment management plan.

Construction sheeting or other temporary flow obstructions in the river can cause large scour holes to form very quickly, especially where bed material has been disturbed by construction activities. These holes can cause a failure of such sheeting or other temporary structures. Construction activities in the water will be coordinated with the hydraulic design team and will include consideration of the dam release policies of the RWSA so as to avoid periods of high flow.

Finally, the structural engineers will take these recommendations, analyses, and studies and develop their structural designs accordingly. This will be in addition to looking at the as-built and inspection information of the existing reservoir, dam, and plant facilities to ensure that pier placement and construction of these elements will not cause any damage.

Anticipated VDOT Role

It is the contractor's responsibility to design and implement effective planning design and construction activities and to provide VDOT with a quality product, in this case the Berkmar Extension crossing of the Rivanna River. VDOT's role will be limited to normal review and approval activities and assistance in locating existing information, such as the previously completed environmental studies and data produced under other or previous projects.

APPENDIX

SOQ Checklist

ATTACHMENT 3.1.2

DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS, CONTRACT ID C00077383DB80
STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Offerors shall furnish a copy of this Statement of Qualifications (SOQ) Checklist, with the page references added, with the Statement of Qualifications.

Statement of Qualifications Component	Form (if any)	RFQ Cross-Reference	Included within 20-page limit	SOQ Page Reference
Statement of Qualifications Checklist and Contents	Attachment 3.1.2	Section 3.1.2	no	A1 – A3
Acknowledgement of RFQ, Revision and/or Addenda	Attachment 2.11 (Form C-78-RFQ)	Section 2.10	no	A4
Letter of Submittal (on Offeror's letterhead)				
Authorized Representative's signature	NA	Section 3.2.1	yes	1
Offeror's Point of Contact information	NA	Section 3.2.2	yes	1
Principal Officer information	NA	Section 3.2.3	yes	1
Offeror's corporate structure	NA	Section 3.2.4	yes	1
Identity of Lead Contractor and Lead Designer	NA	Section 3.2.5	yes	1
Affiliated/subsidiary companies	Attachment 3.2.6	Section 3.2.6	no	A5
Debarment forms	Attachment 3.2.7(a) Attachment 3.2.7(b)	Section 3.2.7	no	A6 – A19
Offeror's VDOT prequalification evidence	NA	Section 3.2.8	no	A20
Evidence of obtaining bonding	NA	Section 3.2.9	no	A21 – A22

ATTACHMENT 3.1.2

DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS, CONTRACT ID C00077383DB80
STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross-Reference	Included within 20-page limit	SOQ Page Reference
SCC and DPOR registration documentation (Appendix)	Attachment 3.2.10	Section 3.2.10	no	A23 – A26
Full size copies of SCC Registration	NA	Section 3.2.10.1	no	A27 – A47
Full size copies of DPOR Registration (Offices)	NA	Section 3.2.10.2	no	A27 – A47
Full size copies of DPOR Registration (Key Personnel)	NA	Section 3.2.10.3	no	A48 – A53
Full size copies of DPOR Registration (Non-APELSCIDLA)	NA	Section 3.2.10.4	no	NA
DBE statement within Letter of Submittal confirming Offeror is committed to achieving the thirteen (13%) DBE goal	NA	Section 3.2.11	yes	1
Offeror's Team Structure				
Identity and qualifications of Key Personnel	NA	Section 3.3.1	yes	2 – 8
Key Personnel Resume – DB Project Manager	Attachment 3.3.1	Section 3.3.1.1	no	A54 – A55
Key Personnel Resume – Quality Assurance Manager	Attachment 3.3.1	Section 3.3.1.2	no	A56 – A57
Key Personnel Resume – Design Manager	Attachment 3.3.1	Section 3.3.1.3	no	A58 – A59
Key Personnel Resume – Construction Manager	Attachment 3.3.1	Section 3.3.1.4	no	A60 – A61
Key Personnel Resume – Lead Structural Engineer	Attachment 3.3.1	Section 3.3.1.5	no	A62 – A63
Key Personnel Resume – Lead Traffic Engineer	Attachment 3.3.1	Section 3.3.1.6	no	A64 – A65
Key Personnel Resume – Lead Geotechnical Engineer	Attachment 3.3.1	Section 3.3.1.7	no	A66 – A67
Key Personnel Resume – Lead Utility Coordination Manager	Attachment 3.3.1	Section 3.3.1.8	no	A68 –A69
Key Personnel Resume – Public Relations Manager	Attachment 3.3.1	Section 3.3.1.9	no	A70 – A71
Organizational chart	NA	Section 3.3.2	yes	3

ATTACHMENT 3.1.2

DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS, CONTRACT ID C00077383DB80
STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross-Reference	Included within 20-page limit	SOQ Page Reference
Organizational chart narrative	NA	Section 3.3.2	yes	8 – 9
Experience of Offeror's Team				
Lead Contractor Work History Form	Attachment 3.4.1(a)	Section 3.4	no	A72 – A77
Sub-Contractor Work History Form, if applicable	Attachment 3.4.1(b)	Section 3.4	no	NA
Lead Designer Work History Form	Attachment 3.4.1(c)	Section 3.4	no	A78 – A83
Sub-Consultant Work History Form, if applicable	Attachment 3.4.1(d)	Section 3.4	no	NA
Project Risk				
Identify and discuss five critical risks for the Project	NA	Section 3.5.1	yes	13 – 20

Form C-78-RFQ

Form C-78-RFQ

ATTACHMENT 2.11

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

PROJECT: Design-Build Project for Route 29 Solutions

CONTRACT ID: C00077383DB80

ACKNOWLEDGEMENT OF RFQ, REVISION AND/OR ADDENDA

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

By signing this Attachment 2.10, the Offeror acknowledges receipt of the RFQ and/or following revisions and/or addenda to the RFQ for the above designated project which were issued under cover letter(s) of the date(s) shown hereon:

1. Cover letter of RFQ 07/24/2014 (Date)
2. Cover letter of Addendum No. 1 08/15/2014 (Date)
3. Cover letter of _____ (Date)

SIGNATURE: David W. Lyle

DATE: 8/21/2014

PRINTED NAME: DAVID W. LYLE

TITLE: Vice President, Division Manager

List of Affiliated and Subsidiary Companies

ATTACHMENT 3.2.6

DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS, CONTRACT ID C00077383DB80

Affiliated and Subsidiary Companies of the Offeror

Offerors shall complete the table and include the addresses of affiliates or subsidiary companies as applicable. By completing this table, Offerors certify that all affiliated and subsidiary companies of the Offeror are listed.

☐	**The Offeror does not have any affiliated or subsidiary companies.**
☒	**Affiliated and/ or subsidiary companies of the Offeror are listed below.**

Relationship with Offeror (Affiliate or Subsidiary)	Full Legal Name	Address
Affiliate	Wagman Construction, Inc.	231 North George Street, York, PA 17401
Affiliate (Parent)	Wagman Companies, Inc.	3290 North Susquehanna Trail, York, PA 17406

Debarment Forms

ATTACHMENT NO. 3.2.7(a)

CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.

b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; and have not been convicted of any violations of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or receiving stolen property;

c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1) b) of this certification; and

d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Signature: [signature] Date: 8/21/2014 Title: Vice President, Division Manager

Name of Firm: G.A. & F.C. Wagman, Inc.

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Stephen Wartur 8/28/2014
Signature Date

Vice President
Title

Parsons Transportation Group Inc.
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Signature 8/19/14 Date President Title

Accumpong Engineering Group LLC
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Signature	8/19/14 Date	President Title

Athavale, Lystad & Associates, Inc.
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

	8/18/2014	President
Signature	Date	Title

CES Consulting LLC
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Signature	Date	Title
	08/20/14	President

Endesco, Inc.
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

8/20/14 Vice President

Signature S.C. HUNTER Date Title

General Excavation, Inc.

Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Signature	Date	Title
	8/19/14	President

GeoConcepts Engineering, Inc.
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Elizabeth Quinn — August 22, 2014 — President
Signature — Date — Title

Quinn Consulting Services, Inc.
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Signature	Date	Title
Simon Simon	8/19/2014	Senior Principal

Simon Simon, PE

Stantec Consulting Services Inc.
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Susan Collyer 8/19/14 Chief Administrative Officer
Signature Date Title

F3 Design Corporation, Fairfax, VA
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Maria L. Traveskey 8/19/14 President
Signature Date Title

Traveskey & Associates, Ltd.
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Carya G. Howe 8/20/14 President
Signature Date Title

Utility Professional Services, Inc.
Name of Firm

ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: Design-Build Project for Route 29 Solutions
Contract ID: C00077383DB80

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Signature 8/19/14 Date Senior Associate Title

Woolpert, Inc.
Name of Firm

Offeror's VDOT Prequalification Certificate

```
TRNSPORT - E22          COMMONWEALTH OF VIRGINIA                    06/12/2014
LSPPREQ               DEPARTMENT OF TRANSPORTATION                   2:37 PM
                 PREQUALIFIED VENDORS SORTED BY VENDOR NAME          PAGE 455
                 THIS LIST INCLUDES ALL PREQUALIFIED LEVELS
                            AS OF 06/12/2014
                                - W -

==============================================================================
W374
WAFF CONTRACTING, INC.
PREQ. EXP  : 10/31/2014

 --PREQ ADDRESS ------------------  WORK CLASSES (LISTED BUT NOT LIMITED TO)
  P. O. BOX 237                      030 - PILE DRIVING AND CAISSONS
  EDENTON, NC 27932-0000             082 - SHORING AND SHEETING
  PHONE : 252-482-7071
  FAX   : 252-482-4816

BUSINESS CONTACT: WEMPLE, PATRICK JOHN
EMAIL: PWEMPLE@WAFFGROUP.COM
                         ------DBE INFORMATION------

DBE TYPE    :  N/A
DBE CONTACT:  N/A
==============================================================================
W002
G. A. & F. C. WAGMAN, INC.
PREQ. EXP  : 10/31/2014

 --PREQ ADDRESS ------------------  WORK CLASSES (LISTED BUT NOT LIMITED TO)
  3290 NORTH SUSQUEHANNA TRAIL       003 - MAJOR STRUCTURES
  YORK, PA 17406-9754                007 - MINOR STRUCTURES
  PHONE : 717-764-8521               011 - CLEARING AND GRUBBING
  FAX   : 717-764-2799               080 - DEMOLITION OF STRUCTURES
                                     101 - EXCAVATING

BUSINESS CONTACT: BECKER, TODD EUGENE
EMAIL: ESTIMATING@WAGMAN.COM
                         ------DBE INFORMATION------

DBE TYPE    :  N/A
DBE CONTACT:  N/A
==============================================================================
```

Surety Letter

CNA SURETY

333 S. Wabash Avenue, 41st Floor, Chicago, IL 60604

August 13, 2014

Virginia Department of Transportation
1401 E. Broad Street
Richmond, VA 23219

Re: A Design-Build Project
Contract ID #C00077383DB80
State Project No.: 0029-002-091 US 29 Rio Road Grade Separated Intersection
0029-002-135 US 29 Widening
9999-002-900 Berkmar Drive Extension
Route 29 Solutions, Albemarle County, Virginia

Dear Sirs:

As surety for G.A. & F.C. Wagman, Inc., Continental Casualty Company, with A.M. Best Financial Strength Rating "A" and Financial Size Category "XV", is capable of obtaining 100% Performance and 100% Labor and Materials Payment Bonds in the amount of $185,000,000 (the anticipated cost of construction), and said bonds will cover the Project and any warranty periods as provided for in the Contract Documents on behalf of the Contractor, in the event that such firm be the successful bidder and enter into a contract for this Project.

Sincerely,
Continental Casualty Company

By: Patricia C. Robinson
Patricia C. Robinson
Attorney-in-Fact

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company (herein called "the CNA Companies"), are duly organized and existing insurance companies having their principal offices in the City of Chicago, and State of Illinois, and that they do by virtue of the signatures and seals herein affixed hereby make, constitute and appoint

Eugene M Fritz, Kathy R Reisinger, Donald R Wert, Patricia C Robinson, Deborah L Cottom, James R Gould, Joseph G Buyakowski, Alson O Wolcott, Jr, Individually

of Mechanicsburg, PA, their true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on their behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of their insurance companies and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law and Resolutions, printed on the reverse hereof, duly adopted, as indicated, by the Boards of Directors of the insurance companies.

In Witness Whereof, the CNA Companies have caused these presents to be signed by their Vice President and their corporate seals to be hereto affixed on this 15th day of August, 2013.

Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

Paul T. Bruflat — Vice President

State of South Dakota, County of Minnehaha, ss:

On this 15th day of August, 2013, before me personally came Paul T. Bruflat to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company described in and which executed the above instrument; that he knows the seals of said insurance companies; that the seals affixed to the said instrument are such corporate seals; that they were so affixed pursuant to authority given by the Boards of Directors of said insurance companies and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance companies.

J. MOHR
NOTARY PUBLIC
SOUTH DAKOTA

My Commission Expires June 23, 2015

J. Mohr — Notary Public

CERTIFICATE

I, D. Bult, Assistant Secretary of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance companies printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance companies this 15th day of August, 2014.

Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

D. Bult — Assistant Secretary

Form F6853-4/2012

SCC and DPOR Information Tables

ATTACHMENT 3.2.10

DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS, CONTRACT ID C00077383DB80

SCC and DPOR Information

Offerors shall complete the table and include the required state registration and licensure information. By completing this table, Offerors certify that their team complies with the requirements set forth in Section 3.2.10 and that all businesses and individuals listed are active and in good standing.

SCC & DPOR INFORMATION FOR BUSINESSES (RFQ Sections 3.2.10.1 and 3.2.10.2)							
Business Name	SCC Information (3.2.10.1)			DPOR Information (3.2.10.2)			
	SCC Number	SCC Type of Corporation	SCC Status	DPOR Registered Address	DPOR Registration Type	DPOR Registration Number	DPOR Expiration Date
G.A. & F.C. Wagman, Inc.	F0198988	Foreign Corporation	Active	3290 North Susquehanna Trail York, PA 17406-9754	Contractor	2701015887	01-31-2015
Parsons Transportation Group Inc.	F1943028	Foreign Corporation	Active	3926 Pender Drive, Suite 100 Fairfax, VA 22030	Engineering	0405001589	12-31-2015
				100 M Street SE Washington, DC 20003	Engineering	0410000214	02-29-2016
Accompong Engineering Group, LLC	S283521-5	Limited Liability Corporation	Active	9510 Iron Bridge Road Suite 200 Chesterfield, VA 23832	Engineering	0407005442	12-31-2015
Athavale Lystad and Associates, Inc.	F060584-2	Foreign Corporation	Active	8180 Greensboro Drive, Suite 550 McLean, VA 22102	Engineering	0407002804	12-31-2015
CES Consulting,LLC	S3416007	Limited Liability Corporation	Active	13991 Virginia Cedar Court Gainesville, VA 20155	Engineering	0407005783	12-31-2015
Endesco, Inc.	F1337361	Foreign Corporation	Active	438 N Frederick Avenue, Suite 455 Gaithersburg, MD 20877	Engineering	0407005431	12-31-2015
General Excavation, Inc.	02400679	Corporation	Active	9757 Rider Road Warrenton, VA 20187	Contractor	2701026132	04-30-2015
GeoConcepts Engineering, Inc.	05167671	Corporation	Active	19955 Highland Vista Drive, Suite 170 Ashburn, VA 20147	Engineering	0407004404	12-31-2015

ATTACHMENT 3.2.10

DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS, CONTRACT ID C00077383DB80

SCC and DPOR Information

Quinn Consulting Services, Inc.	04925517	Corporation	Active	14160 Newbrook Drive, Suite 220 Chantilly, VA 20151	Engineering	0407003733	12-31-2015
Stantec Consulting Services Inc.	F1493198	Foreign Corporation	Active	4500 Daly Drive, Suite 100 Chantilly, VA 20151	Landscape Surveying/ Engineering	0411000987	02-29-2016
				5209 Center Street Williamsburg, VA 23188	Engineering/ Landscape Architecture	0411001084	02-29-2016
				150 Riverside Parkway, Suite 301 Fredericksburg, VA 22406	Engineering/ Landscape Architecture	0411001085	02-29-2016
				1011 Boulder Springs Drive, Suite 225 Richmond, VA 23225	Engineering	0411001086	02-29-2016
T3 Design Corporation	06585392	Corporation	Active	10340 Democracy Lane, Suite 305 Fairfax, VA 22030	Engineering	0405001624	12-31-2015
Travesky and Associates	02924173	Corporation	Active	N/A	N/A	N/A	N/A
Utility Professional Services, Inc.	0588987-8	Corporation	Active	390 Shore Drive/ PO Box 923 Colonial Beach, VA 22443	Engineering	0407005942	12-31-2015
Woolpert, Inc.	F1597881	Foreign Corporation	Active	676 Independence Parkway, Suite 100 Chesapeake, VA 23320	Land Surveying/ Engineering	0407004603	12-31-2015

ATTACHMENT 3.2.10

DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS, CONTRACT ID C00077383DB80

SCC and DPOR Information

DPOR INFORMATION FOR INDIVIDUALS (RFQ Sections 3.2.10.3 and 3.2.10.4)						
Business Name	**Individual's Name**	**Office Location Where Professional Services will be Provided (City/State)**	**Individual's DPOR Address**	**DPOR Type**	**DPOR Registration Number**	**DPOR Expiration Date**
G.A. & F.C. Wagman, Inc.	Gregory Andricos	York, PA	4202 Kilbourne Drive Fairfax, VA 22032	Professional Engineer	0402032211	07-31-2016
	Mike Mansfield	Chester, VA	13716 Berkley Davis Drive Chester, VA 23838	Professional Engineer	0402040130	12-31-2014
	Charles Carey	Berryville, VA	604 Jack Enders Boulevard Berryville, VA 22611	Professional Engineer	0402010611	11-30-2015
Parsons Transportation Group Inc.	Josh Wade	Tysons, VA	43346 Riverpoint Drive Leesburg, VA 20176	Professional Engineer	0402032924	01-31-2015
	Amir Ahmadzadeh	Washington, DC	Baltimore, MD	Professional Engineer	0402047862	01-31-2015
	Dhimant Sojitra	Tysons, VA	20 Moss Road Sterling, VA 20165	Professional Engineer	0402029124	02-29-2016
	Stuart Tyler	Washington, DC	5436 Mersea Court Burke, VA 22015	Professional Engineer	0402021993	04-30-2015
	Craig Richardson	Buffalo, NY	203 Huxley Drive Amherst, NY 14226	Landscape Architect	0406001154	04-30-2015
	Brian Smith	Washington, DC	5550 Columbia Pike, Apt 833 Arlington, VA 22204	Professional Engineer	0402049566	09-30-2015
	Amir Arab	Washington, DC	13314 Hound Run Drive Fairfax, VA 22033	Professional Engineer	0402042390	05-31-2016
	Nick Nicholson	Washington, DC	6131 Sligo Mill Road NE Washington, DC 20011	Professional Engineer	0402018251	02-29-2016
	Cliff Roberts	Washington, DC	4740 6th Street South Arlington, VA 22204	Professional Engineer	0402020740	01-31-2016

ATTACHMENT 3.2.10

DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS, CONTRACT ID C00077383DB80

SCC and DPOR Information

CES Consulting, Inc.	Avtar Singh	Gainesville, VA	13991 Virginia Cedar Court Gainesville, VA 20155	Professional Engineer	0402035169	01-31-2015
GeoConcepts Engineering, Inc.	Paul Burkart	Ashburn, VA	19955 Highland Vista Drive, Suite 170 Ashburn, VA 20147	Professional Engineer	0402021556	03-31-2016
Quinn Consulting Group, Inc.	Richard Allen	Chantilly, VA	10128 Elliston Court Bristow, VA 20136	Professional Engineer	0402036809	11-30-2015
T3 Design Corporation	Amy Morris	Fairfax, VA	6319 Wendy Ann Court Fairfax Station, VA 22039	Professional Engineer	0402041485	12-31-2015

Full Size SCC and DPOR Supporting Registration/License Documentation

G.A. & F.C. Wagman, Inc.

Commonwealth of Virginia
State Corporation Commission

06/24/14
CISM0180 CORPORATE DATA INQUIRY 18:56:56

CORP ID: F019898 - 8 STATUS: 00 ACTIVE STATUS DATE: 10/08/10
CORP NAME: WAGMAN, INC., G. A. & F. C.

DATE OF CERTIFICATE: 09/20/1967 PERIOD OF DURATION: INDUSTRY CODE: 00
STATE OF INCORPORATION: PA PENNSYLVANIA STOCK INDICATOR: S STOCK
MERGER IND: CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y MONITOR INDICATOR:
CHARTER FEE: 2500.00 MON NO: MON STATUS: MONITOR DTE:
R/A NAME: CORPORATION SERVICE COMPANY

STREET: BANK OF AMERICA CENTER AR RTN MAIL:
16TH FLOOR, 1111 EAST MAIN STREET
CITY: RICHMOND STATE : VA ZIP: 23219
R/A STATUS: 5 B.E. AUTH IN VI EFF. DATE: 09/11/12 LOC : 216
ACCEPTED AR#: 213 54 5686 DATE: 09/30/13 RICHMOND CITY
CURRENT AR#: 213 54 5686 DATE: 09/30/13 STATUS: A ASSESSMENT INDICATOR: 0

YEAR	FEES	PENALTY	INTEREST	TAXES	BALANCE	TOTAL SHARES
13	1,700.00					4,000,000

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 01-31-2015

NUMBER 2701015887

BOARD FOR CONTRACTORS
CLASS A CONTRACTOR
"CLASSIFICATIONS" H/H

GA & FC WAGMAN INC
3290 NORTH SUSQUEHANNA TRAIL
YORK, PA 17406-9754

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Gordon N. Dixon, Director

Parsons Transportation Group Inc.

Commonwealth of Virginia

State Corporation Commission

CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That PARSONS TRANSPORTATION GROUP INC., a corporation incorporated under the law of Illinois, is authorized to transact business in the Commonwealth of Virginia;

That it obtained a certificate of authority to transact business in Virginia from the Commission on October 8, 2013; and

That the corporation is in good standing in the Commonwealth of Virginia as of the date set forth below.

Nothing more is hereby certified.

STATE CORPORATION COMMISSION VIRGINIA 1903

Signed and Sealed at Richmond on this Date:
December 9, 2013

Joel H. Peck
Joel H. Peck, Clerk of the Commission

CISECOM
Document Control Number: 1312095968

SCC home

Commonwealth of Virginia
State Corporation Commission

12/09/13
CISM0180 CORPORATE DATA INQUIRY **14:56:04**

CORP ID: F194302 - 8 STATUS: 00 ACTIVE STATUS DATE: 10/08/13
CORP NAME: **PARSONS TRANSPORTATION GROUP INC.**

DATE OF CERTIFICATE: 10/08/2013 PERIOD OF DURATION: INDUSTRY CODE: 00
STATE OF INCORPORATION: IL ILLINOIS STOCK INDICATOR: S STOCK
MERGER IND: CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y MONITOR INDICATOR:
CHARTER FEE: 50.00 MON NO: MON STATUS: MONITOR DTE:
R/A NAME: CT CORPORATION SYSTEM

STREET: 4701 COX ROAD, SUITE 285 AR RTN MAIL:

CITY: GLEN ALLEN STATE : VA ZIP: 23060
R/A STATUS: 5 B.E. AUTH IN VI EFF. DATE: 10/04/13 LOC : 143
ACCEPTED AR#: 000 00 0000 DATE: HENRICO COUNTY
CURRENT AR#: 000 00 0000 DATE: STATUS: ASSESSMENT INDICATOR: 0

YEAR	FEES	PENALTY	INTEREST	TAXES	BALANCE	TOTAL SHARES
00						500

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 02-29-2016

NUMBER 0410000214

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL CORPORATION BRANCH OFFICE REGISTRATION

PROFESSIONS: ENG

PARSONS TRANSPORTATION GROUP INC OF VIRGINIA
100 M STREET SE
WASHINGTON, DC 20003

Nick A. Christner
Nick A. Christner, Interim Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 12-31-2015

NUMBER 0405001589

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL CORPORATION REGISTRATION

PROFESSIONS: ENG

PARSONS TRANSPORTATION GROUP INC OF VIRGINIA
ATTN: LICENSING
4701 HEDGEMORE DR
CHARLOTTE, NC 28209

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA

*Parsons is awaiting updated license with correct Fairfax address (see below)

Details of license number 0405001589

Name:	PARSONS TRANSPORTATION GROUP INC OF VIRGINIA
License Number:	0405001589
License Description:	Professional Corporation Registration
Business Type:	PC
Address:	3926 PENDER DR STE 100 FAIRFAX, VA 22030
Initial Certification Date:	2007-05-08
Expiration Date:	2015-12-31

Accompong Engineering Group, LLC

Commonwealth of Virginia

STATE CORPORATION COMMISSION

Richmond, February 17, 2009

This is to certify that the certificate of organization of

Accompong Engineering Group, LLC

was this day issued and admitted to record in this office and that the said limited liability company is authorized to transact its business subject to all Virginia laws applicable to the company and its business. Effective date: February 17, 2009

STATE CORPORATION COMMISSION VIRGINIA 1903

State Corporation Commission
Attest:

Joel H. Peck
Clerk of the Commission

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 12-31-2015

NUMBER 0407005442

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY REGISTRATION

PROFESSIONS: ENG

ACCOMPONG ENGINEERING GROUP, LLC
9510 IRON BRIDGE RD
SUITE 200
CHESTERFIELD, VA 23832

Gordon N. Dixon, Director

Athavale Lystad and Associates, Inc.

Commonwealth of Virginia

State Corporation Commission

I Certify the Following from the Records of the Commission:

ATHAVALE, LYSTAD & ASSOCIATES, INC., a corporation existing under the laws of MARYLAND, holds a certificate of authority to transact business in Virginia, and is in good standing.

The certificate was issued on March 02, 1989.

Nothing more is hereby certified.

Signed and Sealed at Richmond on this Date.
August 24, 2009

Joel H. Peck

Joel H. Peck, Clerk of the Com

Details of license number 0407002804

Name:	ATHAVALE LYSTAD AND ASSOCIATES INC
License Number:	0407002804
License Description:	Business Entity Registration
Address:	8180 GREENSBORO DRIVE #550 MCLEAN, VA 22102
Initial Certification Date:	1987-04-20
Expiration Date:	2015-12-31

CES Consulting, LLC

Commonwealth of Virginia
State Corporation Commission

08/11/14
12:20:13

LLCM3220 LLC DATA INQUIRY

LLC ID: S341600 - 7 STATUS: 00 ACTIVE STATUS DATE: 10/14/10

LLC NAME: CES Consulting, LLC

DATE OF FILING: 10/14/2010 PERIOD OF DURATION: INDUSTRY CODE: 70

STATE OF FILING: VA VIRGINIA MERGER INDICATOR:

CONVERSION/DOMESTICATION INDICATOR:

PRINCIPAL OFFICE ADDRESS

STREET: 13991 VIRGINIA CEDAR COURT

CITY: GAINESVILLE STATE: VA ZIP: 20155-0000

REGISTERED AGENT INFORMATION

R/A NAME: AVTAR SINGH

STREET: 13991 VIRGINIA CEDAR COURT

RTN MAIL:

CITY: GAINESVILLE STATE: VA ZIP: 20155-0000

R/A STATUS: 1 MEMBER/MANAGER EFF DATE: 01/04/13 LOC: 176 PRINCE WILLIAM

YEAR	FEES	PENALTY	INTEREST	BALANCE
14	50.00			50.00

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2015

NUMBER
0407005783

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY REGISTRATION

PROFESSIONS: ENG

CES CONSULTING LLC
13991 VIRGINIA CEDAR COURT
GAINESVILLE, VA 20155

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Endesco, Inc.

Commonwealth of Virginia

STATE CORPORATION COMMISSION

Richmond, May 7, 1998

This is to certify that a certificate of authority to transact business in Virginia was this day issued and admitted to record in this office for

ENDESCO, INC.

a corporation organized under the laws of MARYLAND *and that the said corporation is authorized to transact business in Virginia, subject to all Virginia laws applicable to the corporation and its business.*

STATE CORPORATION COMMISSION VIRGINIA 1903

State Corporation Commission

Attest:

William J. Bridge

Clerk of the Commission

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 12-31-2015

NUMBER 0407005431

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY REGISTRATION

PROFESSIONS: ENG

ENDESCO, INC.
438 N FREDERICK AVE
SUITE 455
GAITHERSBURG, MD 20877

Gordon N. Dixon, Director

General Excavation, Inc.

Commonwealth of Virginia

State Corporation Commission

I Certify the Following from the Records of the Commission:

GENERAL EXCAVATION, INC. is a corporation existing under and by virtue of the laws of Virginia, and is in good standing.

The date of incorporation is March 28, 1983.

Nothing more is hereby certified.

STATE CORPORATION COMMISSION VIRGINIA 1903

Signed and Sealed at Richmond on this Date:
August 14, 2009

Joel H. Peck

Joel H. Peck, Clerk of the Commis

Commonwealth of Virginia

STATE CORPORATION COMMISSION

Richmond, August 14, 2009

This is to certify that the certificate of incorporation of

GENERAL EXCAVATION, INC.

was issued and admitted to record in this office and that the said corporation is authorized to transact its business subject to all Virginia laws applicable to the corporation and its business. Effective date: March 28, 1983

STATE CORPORATION COMMISSION VIRGINIA 1903

State Corporation Commission
Attest:

Joel H. Peck
Clerk of the Commission

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
04-30-2015

NUMBER
2701026132

BOARD FOR CONTRACTORS
CLASS A CONTRACTOR
"CLASSIFICATIONS" H/H SDS

GENERAL EXCAVATION INC
9757 RIDER ROAD
WARRENTON, VA 20187

Gordon N. Dixon, Director

GeoConcepts Engineering, Inc.

Commonwealth of Virginia

State Corporation Commission

CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That GeoConcepts Engineering, Inc. is duly incorporated under the law of the Commonwealth of Virginia;

That the date of its incorporation is February 25, 1999;

That the period of its duration is perpetual; and

That the corporation is in existence and in good standing in the Commonwealth of Virginia as of the date set forth below.

Nothing more is hereby certified.

Signed and Sealed at Richmond on this Date:
July 29, 2013

Joel H. Peck

Joel H. Peck, Clerk of the Commission

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2015

NUMBER
0407004404

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY REGISTRATION

PROFESSIONS: ENG

GEOCONCEPTS ENGINEERING INC
19955 HIGHLAND VISTA DRIVE
SUITE 170
ASHBURN, VA 20147

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Gordon N. Dixon, Director

Quinn Consulting Services, Inc.

Commonwealth of Virginia

State Corporation Commission

CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That QUINN CONSULTING SERVICES INCORPORATED is duly incorporated under the law of the Commonwealth of Virginia;

That the date of its incorporation is October 24, 1997;

That the period of its duration is perpetual; and

That the corporation is in existence and in good standing in the Commonwealth of Virginia as of the date set forth below.

Nothing more is hereby certified.

Signed and Sealed at Richmond on this Date:
August 4, 2014

Joel H. Peck, Clerk of the Commission

Commonwealth of Virginia
State Corporation Commission

08/22/14
CISM0180 CORPORATE DATA INQUIRY 10:45:29

CORP ID: 0492551 - 7 STATUS: 00 ACTIVE STATUS DATE: 12/01/08
CORP NAME: QUINN CONSULTING SERVICES INCORPORATED

DATE OF CERTIFICATE: 10/24/1997 PERIOD OF DURATION: INDUSTRY CODE: 00
STATE OF INCORPORATION: VA VIRGINIA STOCK INDICATOR: S STOCK
MERGER IND: S SURVIVOR CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y MONITOR INDICATOR:
CHARTER FEE: 50.00 MON NO: MON STATUS: MONITOR DTE:
R/A NAME: JOHN H QUINN JR

STREET: 2208 S KNOLL ST AR RTN MAIL:

CITY: ARLINGTON STATE : VA ZIP: 22202 2134
R/A STATUS: 4 ATTORNEY EFF. DATE: 10/24/97 LOC : 106
ACCEPTED AR#: 213 12 8953 DATE: 08/21/13 ARLINGTON COUNT
CURRENT AR#: 213 12 8953 DATE: 08/21/13 STATUS: A ASSESSMENT INDICATOR: 0

YEAR	FEES	PENALTY	INTEREST	TAXES	BALANCE	TOTAL SHARES
14	100.00				100.00	5,000

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 12-31-2015

NUMBER 0407003733

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY REGISTRATION

PROFESSIONS: ENG

QUINN CONSULTING SERVICES INC
14160 NEWBROOK DR
SUITE 220
CHANTILLY, VA 20151

Gordon N. Dixon, Director

Stantec Consulting Services, Inc.

COMMONWEALTH OF VIRGINIA

CLINTON MILLER
CHAIRMAN

MARK C. CHRISTIE
COMMISSIONER

THEODORE V. MORRISON, JR.
COMMISSIONER

JOEL H. PECK
CLERK OF THE COMMISSION
P.O. BOX 1197
RICHMOND, VIRGINIA 23218-1197

STATE CORPORATION COMMISSION
Office of the Clerk

April 15, 2005

BETH EPSTEIN
UCC RETRIEVALS
HOLD
DO NOT MAIL

RE: Stantec Consulting Services Inc.
ID: F149319 - 8
DCN: 05-04-13-0109

Dear Customer:

This is your receipt for $25.00, covering the fees for filing a duly authenticated copy of articles of merger with this office.

The document was filed on April 15, 2005.

Each non-surviving entity:

Stantec Consulting Services Inc.

is merged into Stantec Consulting Services Inc. (formerly STANTEC CONSULTING GROUP INC.).

If you have any questions, please call (804) 371-9733 or toll-free in Virginia, 1-866-722-2551.

Sincerely,

Joel H. Peck

Joel H. Peck
Clerk of the Commission

MERGRCPT
MERGRCPT
CIS0375

Tyler Building, 1300 East Main Street, Richmond, VA 23219-3630
Clerk's Office (804) 371-9733 or (866) 722-2551 (toll-free in Virginia) www.scc.virginia.gov/division/clk
Telecommunications Device for the Deaf-TDD/Voice: (804) 371-9206

SCC760/922
(10/01)

COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

APPLICATION FOR AN AMENDED CERTIFICATE OF AUTHORITY TO TRANSACT BUSINESS IN VIRGINIA

This application of a foreign corporation authorized to transact business in Virginia for an amended certificate of authority sets forth:

The former name of the corporation was STANTEC CONSULTING GROUP INC.

The present name of the corporation is STANTEC CONSULTING SERVICES INC.

If the corporation is a stock corporation and the present name of the corporation does not contain the word "corporation," "company," "incorporated" or "limited," or an abbreviation of one of such words, or if the corporation's present name is not available for use in Virginia, the name of the corporation with the word or abbreviation which it has elected to add thereto for use in Virginia, or the name designated by the corporation for use in Virginia, is _____.

The name of the state or country under whose law the corporation is presently incorporated is New York.

The name of the state or country under whose law the corporation was formerly incorporated (if changed by the enclosed amendment) is _____.

The undersigned chairman or vice-chairman of the board of directors, president, or any other of its officers authorized to act on behalf of the corporation, declares that the facts herein stated are true as of March 29/05.

STANTEC CONSULTING SERVICES INC.
(Present name of corporation)

By: Michael Slocombe
(Signature)

Michael J. Slocombe, Secretary
(Printed name and corporate title)

See instructions on the reverse.

Commonwealth of Virginia

State Corporation Commission

I Certify the Following from the Records of the Commission:

The foregoing is a true copy of an application for an amended certificate of authority to transact business in Virginia filed in this office by Stantec Consulting Services Inc.

Nothing more is hereby certified.

Signed and Sealed at Richmond on this Date:
April 19, 2005

Joel H. Peck, Clerk of the Commission

448

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 02-29-2016

NUMBER 0411000987

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY BRANCH OFFICE REGISTRATION

PROFESSIONS: LS, ENG

STANTEC CONSULTING SERVICES INC
4500 DALY DRIVE
SUITE 100
CHANTILLY, VA 20151

Nick A. Christner
Nick A. Christner, Interim Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY BRANCH OFFICE REGISTRATION

PROFESSIONS: ENG, LA

STANTEC CONSULTING SERVICES INC

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY BRANCH OFFICE REGISTRATION

PROFESSIONS: LA, ENG

STANTEC CONSULTING SERVICES INC

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 02-29-2016

NUMBER 0411001086

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY BRANCH OFFICE REGISTRATION

PROFESSIONS: ENG

STANTEC CONSULTING SERVICES INC
1011 BOULDER SPRINGS DR STE 225
RICHMOND, VA 23225

Nick A. Christner
Nick A. Christner, Interim Director

T3 Design Corporation

Commonwealth of Virginia

STATE CORPORATION COMMISSION

Richmond, January 26, 2012

This is to certify that the certificate of incorporation of

T3 Design Corporation
(Formerly known as T3 Design, P.C.)

was issued and admitted to record in this office and that the said corporation is authorized to transact its business subject to all Virginia laws applicable to the corporation and its business. Effective date: May 18, 2006

State Corporation Commission
Attest:

Joel H. Peck
Clerk of the Commission

STATE CORPORATION COMMISSION VIRGINIA 1903

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

Expires On: 12-31-2015

Number: 0405001624

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL CORPORATION REGISTRATION

PROFESSIONS: ENG

T3 DESIGN CORPORATION
10340 DEMOCRACY LANE
SUITE 305
FAIRFAX, VA 22030

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Travesky and Associates

Commonwealth of Virginia

STATE CORPORATION COMMISSION

Richmond, September 11, 1986

is is to Certify that the certificate of incorporation of

TRAVESKY & ASSOCIATES, LTD.

this day issued and admitted to record in this office
that the said corporation is authorized to transact its
ness subject to all the laws of the State applicable to the
oration and its business.

STATE CORPORATION COMMISSION VIRGINIA 1903

State Corporation Commission

Clerk of the Commission

Utility Professional Services, Inc.

Commonwealth of Virginia

STATE CORPORATION COMMISSION

Richmond, December 31, 2002

This is to certify that the certificate of incorporation of

Utility Professional Services, Inc.

was this day issued and admitted to record in this office and that the said corporation is authorized to transact its business subject to all Virginia laws applicable to the corporation and its business.
Effective date: December 31, 2002

State Corporation Commission
Attest:

Joel H. Peck
Clerk of the Commission

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON 12-31-2015

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY REGISTRATION

PROFESSIONS: ENG

UTILITY PROFESSIONAL SERVICES INC
UTILITY PROS
P O BOX 925
COLONIAL BEACH, VA 22443

Woolpert, Inc.

Commonwealth of Virginia

STATE CORPORATION COMMISSION

Richmond, August 17, 2004

This is to certify that a certificate of authority to transact business in Virginia was this day issued and admitted to record in this office for

Woolpert, Inc.

a corporation organized under the laws of OHIO and that the said corporation is authorized to transact business in Virginia, subject to all Virginia laws applicable to the corporation and its business.

STATE CORPORATION COMMISSION VIRGINIA 1903

State Corporation Commission
Attest:

Joel H. Peck
Clerk of the Commission

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2015

NUMBER
0407004603

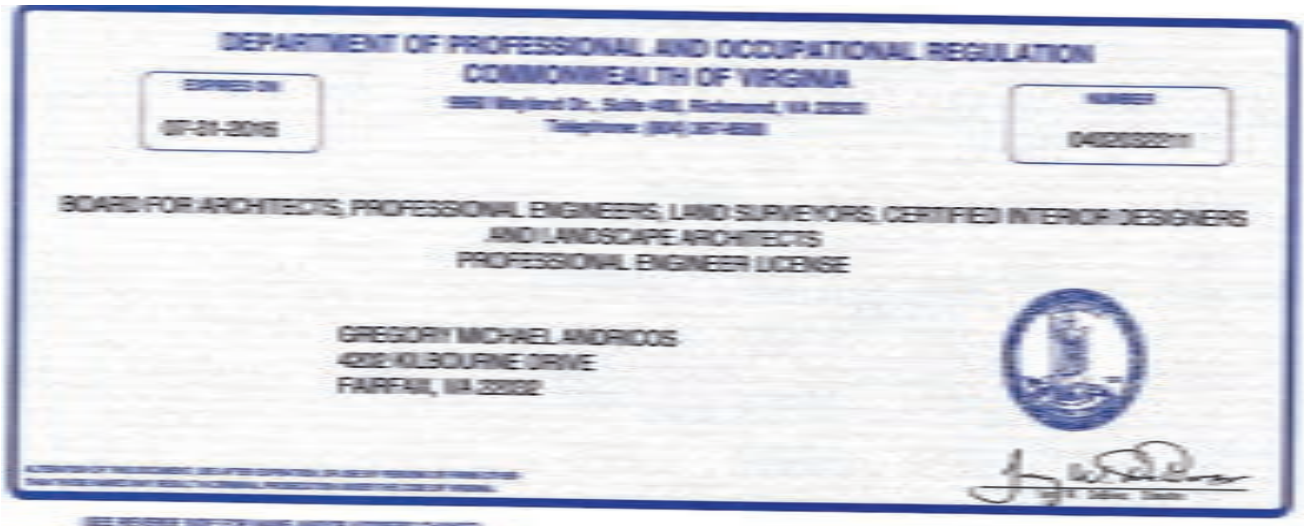
BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY REGISTRATION

PROFESSIONS: LS, ENG

WOOLPERT INC
676 INDEPENDENCE PARKWAY
SUITE 100
CHESAPEAKE, VA 23320

Gordon N. Dixon, Director

Gregory Andricos (G.A. & F.C. Wagman)


DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

GREGORY MICHAEL ANDRICOS
FAIRFAX, VA

Mike Mansfield (G.A. & F.C. Wagman)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2014

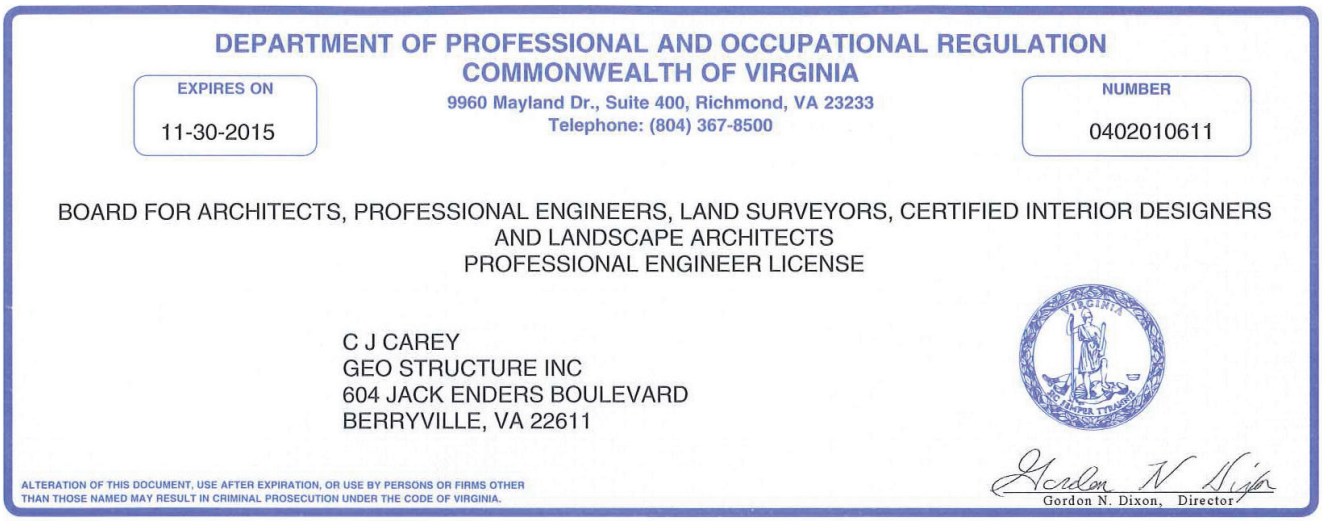
NUMBER
0402040130

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

MICHAEL PATRICK MANSFIELD
13716 BERKLEY DAVIS DRIVE
CHESTER, VA 23838

Gordon N. Dixon, Director

Charles Carey (G.A. & F.C. Wagman)


DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
11-30-2015

NUMBER
0402010611

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

C J CAREY
GEO STRUCTURE INC
604 JACK ENDERS BOULEVARD
BERRYVILLE, VA 22611

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Gordon N. Dixon, Director

Josh Wade (Parsons Transportation Group Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 01-31-2015

NUMBER 0402032924

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

JOSHUA SHEPPARD WADE
43346 RIVERPOINT DRIVE
LEESBURG, VA 20176

Gordon N. Dixon, Director

Amir Ahmadzadeh (Parsons Transportation Group Inc.)

Details of license number 0402047862

Name:	AHMADZADEH, AMIRAHMAD
License Number:	0402047862
License Description:	Professional Engineer License
Address:	BALTIMORE MD, 21201
Initial Certification Date:	2011-01-24
Expiration Date:	2015-01-31

No Open Complaints

Dhimant Sojitra (Parsons Transportation Group Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 02-29-2016

NUMBER 0402029124

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

DHIMANT P SOJITRA
20 MOSS ROAD
STERLING, VA 20165

Nick A. Christner, Interim Director

Stuart Tyler (Parsons Transportation Group Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 04-30-2015

NUMBER 0402021993

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

JAMES STUART TYLER
5436 MERSEA CT
BURKE, VA 22015

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Craig Richardson (Parsons Transportation Group Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 04-30-2015

NUMBER 0406001154

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
LANDSCAPE ARCHITECT LICENSE

CRAIG ANDREW RICHARDSON
203 HUXLEY DRIVE
AMHERST, NY 14226

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Brian Smith (Parsons Transportation Group Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 09-30-2015

NUMBER 0402049566

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

BRIAN CHRISTOPHER SMITH
5550 COLUMBIA PIKE
APT 833
ARLINGTON, VA 22204

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Amir Arab (Parsons Transportation Group Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 05-31-2016

NUMBER 0402042390

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

AMIR AHMAD ARAB
13314 HOUND RUN DR
FAIRFAX, VA 22033

Nick A. Christner
Nick A. Christner, Interim Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Nick Nicholson (Parsons Transportation Group Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 02-29-2016

NUMBER 0402018251

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

RONALDO T NICHOLSON
6131 SLIGO MILL RD NE
WASHINGTON, DC 20011

Nick A. Christner
Nick A. Christner, Interim Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Cliff Roberts (Parsons Transportation Group Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 01-31-2016

NUMBER 0402020740

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

CLIFFORD ALBERT ROBERTS
4740 6TH STREET SOUTH
ARLINGTON, VA 22204

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Avtar Singh (CES Consulting, LLC)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 01-31-2015

NUMBER 0402035169

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

AVTAR SINGH
13991 VIRGINIA CEDAR COURT
GAINESVILLE, VA 20155

Nick A. Christner
Nick A. Christner, Interim Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Paul Burkart (GeoConcepts Engineering, Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 03-31-2016

NUMBER 0402021556

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

PAUL EDWARD BURKART
GEOCONCEPTS ENGINEERING INC
19955 HIGHLAND VISTA DRIVE
SUITE 170
ASHBURN, VA 20147

Nick A. Christner
Nick A. Christner, Interim Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Richard Allen (Quinn Consulting Group, Inc.)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON 11-30-2015

NUMBER 0402036809

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

RICHARD MEINRAD ALLEN
10128 ELLISTON COURT
BRISTOW, VA 20136

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Amy Morris (T3 Design Corporation)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2015

NUMBER
0402041485

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE

AMY JO MORRIS
6319 WENDY ANN CT
FAIRFAX STATION, VA 22039

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Gordon N. Dixon, Director

Key Personnel Resume Forms

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: **Anthony Bednarik, DBIA | Design-Build and Business Development Manager**

b. Project Assignment: **Design-Build Project Manager**

c. Name of Firm with which you are now associated: **G.A. & F.C. Wagman, Inc.**

d. Years experience: With this Firm **15** Years With Other Firms **12** Years

Please list chronologically (most recent experience first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):

Vice President of Business Development and Estimating, G.A. & F.C. Wagman, Inc. 1999 to Present. Currently, Mr. Bednarik is Vice President of Business Development and Estimating. Mr. Bednarik is responsible for the estimating staff and, more importantly, is involved in design-build (DB) projects for Wagman from pursuit to final completion. Mr. Bednarik is assigned to major DB projects, such as the Route 29 Solutions. Over the past 15 years, Mr. Bednarik has worked as a DB project manager, DB coordinator, project manager, and estimator. Mr. Bednarik has assisted with the acquisition of D.W. Lyle Corporation and Key Construction and their corporate integration.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

Bucknell University | Lewisburg, PA | BS | 1987 | Civil Engineering

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

2005 | Design Build Institute of America; RLD Certification No. 42696

g. Document the extent and depth of your experience and qualifications relevant to the Project.

1. *Note your specific responsibilities and authorities for each project, not those of the firm.*
2. *Note whether experience is with current firm or with other firm.*
3. *Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.*

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

INTERCOUNTY CONNECTOR DESIGN-BUILD CONTRACT A, Montgomery County, MD

Name of Firm: G.A. & F.C. Wagman
Dates: 2006 to 2009
Project Role: Assistant DB Project Manager
Construction Value: $464 million

RELEVANCE: *▪ Design-build with Parsons ▪ Many of the same design leads and subs ▪ Several structures built over major streams ▪ Major utility relocations ▪ Alternative intersection/interchange configuration ▪ Extensive MOT ▪ Substantial communications and QC plans*

The ICC-A contract had Parsons as the lead designer and consisted of 7.3 miles of new six-lane toll highway with three interchanges from I-370 to MD-97. Work included 18 structures, 350,000 square feet of noise walls, extensive utility relocations, ROW acquisition, environmental permitting and monitoring, drainage, and over 3 million cubic yards of excavation. Major traffic control and traffic switches were required to minimize impacts to the traveling public. The project included extensive intelligent transportation systems (ITS) and signalization within and beyond the project limits. The ICC-A project also included a 600-ft long cut-and-cover tunnel that was constructed in a phased manner to allow for maintenance of traffic (MOT). While the DB Project for Route 29 Solutions may not have a true tunnel, some of the construction methods, utility relocation issues, and MOT will be similar when depressing Route 29 beneath Rio Road. As assistant DB Project Manager (DBPM), Mr. Bednarik was responsible for the establishment of a DB coordination effort; the coordination of design, including environmental and structural aspects; construction startup; and project mobilization and project administration. Mr. Bednarik took the lead on identifying and organizing critical early design tasks, such as geotechnical investigation and utility coordination. Mr. Bednarik was responsible for partnering and early relationship-building between the owner and the DB Team and also played a critical role in stakeholder coordination. He performed constructability reviews of early design elements and coordinated with the third-party quality control (QC) firm and the environmental compliance firm. In addition to his post-award duties, Mr. Bednarik coordinated the pursuit and estimate during the procurement phase and served as Wagman's senior representative to the construction joint venture with authority to make any project-related decisions on behalf of Wagman. ***(See Work History Forms for more information about this project.)***

INTERCOUNTY CONNECTOR DESIGN-BUILD CONTRACT B, Montgomery County, MD

Name of Firm: G.A. & F.C. Wagman
Dates: 2008 to 2011
Project Role: Assistant Design Coordination Manager
Construction Value: $560 million

Recently won *ENR's* Best Transportation Project in the Mid-Atlantic Region. The ICC B contract consisted of 6.9

miles of new six-lane toll highway with two interchanges with Parsons as the Lead Designer. Mr. Bednarik was responsible for DB coordination for structures and roadway: coordinating constructability reviews and comment resolution with the design team and Josh Wade. He coordinated permitting with the Maryland Department of the Environment and outside regulatory agencies, such as the U.S. Army Corps of Engineers (USACE), and Maryland Capital National Park Commission. Mr. Bednarik started on the pursuit, then assisted with the mobilization and coordination of early design activities, such as survey, geotechnical, and utility coordination. The Single Point Urban Interchange (SPUI) at MD 650 included significant utility interferences that were on the critical path. Using lessons learned on the ICC-A, Mr. Bednarik worked with the designer and field personnel to ensure that the design met all environmental commitments, design requirements, and constructability constraints. Mr. Bednarik's efforts were a huge part of this success. ***(See Appendix B for more information about this project.)***

RELEVANCE: ▪ Design-build with Parsons ▪ Many of the same design leads and subs ▪ Urban interchange ▪ Environmental constraints ▪ Several structures built over major streams ▪ Major utility relocations ▪ Alternative intersection/interchange configuration ▪ Extensive MOT ▪ Substantial communications and QC plans

YOUGHIOGHENY RESERVOIR BRIDGE REPLACEMENT, Fayette County, PA

Name of Firm: G.A. & F.C. Wagman
Dates: 2002 to 2006
Project Role: Project Manager
Construction Value: $27 million

RELEVANCE: ▪ Major structure over water ▪Design-build bridge ▪ Geotechnical ▪ Environmental concerns ▪ Roadway ▪ MOT▪ Dam upstream

This Pennsylvania Department of Transportation (PennDOT) project involved the construction of a 1,500-foot-long bridge over the Youghiogheny River and 1 miles of road reconstruction. The ACOE manages this section of river as a reservoir, and the water levels fluctuate over 40 feet over a year. Wagman was responsible for the design and construction of the bridge and, through innovation, was able to eliminate multiple piers to reduce the cost and environmental impacts, saving the owner $500,000. The foundation included 9-foot-diameter caissons over 125 feet long. As project manager, Mr. Bednarik was responsible for the entire project management, which included the redesign of the structure across the reservoir and all construction engineering with an adjustable template to accommodate the varying water levels and to ensure the proper placement of the caissons. Mr. Bednarik supervised all work activities, scheduling, and oversight of the design of the structure, design coordination, subcontractor coordination, and general project administration.

ROUTE 15 MILL CREEK BRIDGE DESIGN-BUILD, Tioga County, PA

Name of Firm: G.A. & F.C. Wagman
Dates: 1999 to 2002
Project Role: Design-Build Project Manager
Construction Value: $10 million

RELEVANCE: ▪ Design-build ▪QC ▪ Major structure over water ▪ Geotechnical ▪ Roadway work ▪ Extensive MOT ▪ Environment concerns ▪ Fast-track schedule

This project, one of the first DB bridge projects awarded in Pennsylvania, involved the construction of a 1,510-foot-long bridge structure to widen the existing high-level bridge across Tioga Lake to four lanes. As DBPM for Wagman, Mr. Bednarik was responsible for design coordination between the DBT, the owner, and regulatory agencies, as well as the supervision of all construction activities, all of which were carried on simultaneously in order to meet an aggressive schedule in an area with a limited construction season. Other aspects of this project included approach highway design and construction, a contractor-designed traffic maintenance scheme, and coordination with the USACE lake management operations. Mr. Bednarik created a modified QC plan for construction activities and coordinated QC testing. The project was part of the overall Route 15 widening project.

DANVILLE RT 54 CUT-AND-COVER TUNNEL, Montour County, PA

Name of Firm: G.A. & F.C. Wagman
Dates: 1999 to 2001
Project Role: Project Manager
Construction Value: $9.3 million

RELEVANCE: ▪ Extensive utility relocations ▪QC ▪ Major support of excavation ▪ Geotechnical ▪ Roadway work ▪ Extensive MOT ▪ Public relations ▪ Fast-track schedule

This 600-foot-long, cut-and-cover tunnel project in Danville, Pennsylvania, was constructed to carry Route 54 traffic under three existing city blocks and two major cross roads. The excavation for the tunnel involved extensive utility relocations and support of excavation (SOE). Utilizing an in-house shoring design with soil mix we excavated within 3 feet of historical mansions. Cross traffic was maintained with a temporary bridge. The project included approximately 1mile of the widening of Route 54. The project required extensive community involvement and public relations efforts. In the end, the high profile project was received very favorably by the Danville community. As project manager, Mr. Bednarik was responsible for the overall success of the project, and his duties included the supervision of all work activities, scheduling, utility relocations, oversight of the design of SOE, labor and equipment allocation, subcontractor coordination, and public relations. The project was completed on time and exceeded the public's expectations.

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: **Richard Allen, PE | Quality Assurance Manager**

b. Project Assignment: **Quality Assurance Manager (QAM)**

c. Name of Firm with which you are now associated: **Quinn Consulting Services, Inc.**

d. Years experience: With this Firm **1** Years With Other Firms **19** Years

Please list chronologically (most recent experience first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):

Quality Assurance Manager, Quinn Consulting Services, Inc., 2013 to Present. As QCS's quality assurance manager (QAM), Mr. Allen was assigned to work exclusively on the $900 million I-95 Express Toll Lanes Design-Build project. He is in charge of all quality assurance (QA) activities and monitors quality control (QC) for compliance with the approved QA/QC plan, the minimum requirements as set forth in the Virginia Department of Transportation (VDOT) QA/QC Design-Build Manual, and other relevant documents incorporated into the contract.

Senior Civil Structural Engineer, Dulles Transit Partners, 2007 to 2013. He worked on the $1.6 billion Dulles Metrorail (Phase 1 – Silver Line) Design-Build Public-Private Transportation Act (PPTA) project in northern Virginia. During the design phase of the project, he oversaw a group of design engineers with the overall goal of providing a quality design package with respect to completeness, accuracy, and consistency between various design package submittals. His specific responsibilities included the review of civil structural design calculations, drawings, and specifications for the evaluation of constructability and conformance with contract plan documents and design standards. During the construction phase, he performed site inspections and monitored the quality of materials and workmanship. He also developed remedial solutions to correct nonconformance issues.

Regional Engineer, The Reinforced Earth Company, 2000 to 2007. He worked for this national leader in mechanically stabilized earth (MSE) wall design and material supply. His responsibilities included the final design of MSE wall shop drawings for specific regions of the United States. He was also responsible for addressing both field design and QC issues as related to both MSE and noise walls.

Project Manager/Lead Construction Inspector, Pennsylvania Department of Transportation (PennDOT) District 1-0 Construction Unit, 1999 to 2000. He was responsible for supervising a construction inspection staff of approximately three to six inspectors on-site during active road repair and rehabilitation projects.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

Old Dominion University | Norfolk, VA | MS | 1995 | Engineering
The Pennsylvania State University | State College, PA | BS | 1992 | Civil Engineering

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

2001 | Professional Engineer | VA No. 0402036809
Also registered in D.C., MD, and PA

g. Document the extent and depth of your experience and qualifications relevant to the Project.

1. *Note your specific responsibilities and authorities for each project, not those of the firm.*
2. *Note whether experience is with current firm or with other firm.*
3. *Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.*

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

VDOT, I-95 EXPRESS LANES (DB), Fairfax, Prince William and Stafford Counties, VA

Name of Firm:	Quinn Consulting
Dates:	2013 to 2014
Project Role:	Quality Assurance Manager
Construction Value:	$900 million

RELEVANCE: *▪ Design-build ▪ Independent QC/QA ▪ Distinct project elements ▪ Major structures ▪ Extensive MOT with high ADT*

Mr. Allen was the QAM for this nearly $1 billion project financed, constructed, and operated under Virginia's PPTA. The I-95 Express Lanes project was divided into the following four segments:

- **Segment 1 (8.3 miles)** – Garrisonville Road to Dumfries Road: two-lane reversible section on new location (seven new bridges, inclusive of two flyovers and northbound slip ramp)
- **Segment 2 (7 miles)** – Dumfries Road to Prince William Parkway: maintained geometry of the existing roadway
- **Segment 3 (11.9 miles)** – Prince William Parkway to I-495: added third lane
- **Segment 4 (2. -miles)** – I-495 to North of Edsall Road: added third lane

Mr. Allen was responsible for overseeing project QA staff and for verifying that all work performed on the project was inspected and tested in accordance with the *VDOT Minimum Requirements for Quality Assurance and Quality Control on Design-Build and Public-Private Transportation Act Projects* and *the project-specific QA/QC plan*.

MWAA, DULLES METRORAIL – SILVER LINE (DB), Northern VA

Name of Firm: Dulles Transit Partners
Dates: 2007 to 2013
Project Role: Senior Structural Engineer
Construction Value: $9.1 million

RELEVANCE: *▪ Design-build ▪ Independent QC/QA ▪ Submittal review and approval ▪ Major structures ▪ Extensive MOT ▪ Structural engineering analysis*

Mr. Allen was responsible for the oversight of four design engineers and four to six designer draftsmen with a high focus on contract due dates, completeness, accuracy, and consistency between various design package submittals. He reviewed civil structural design calculations, drawings, and specifications for the evaluation of constructability and conformance with contract plan documents; design standards; and applicable building codes, such as the Washington Metropolitan Area Transit Authority (WMATA), VDOT, AASHTO, the American Society of Civil Engineers, the American Concrete Institute, the Precast/Prestressed Concrete Institute, and IBC. Mr. Allen coordinated and reviewed subcontractor-submitted shop drawings. As lead structural engineer for the McLean Station, he coordinated station-specific interdisciplinary engineering issues to deal with special engineering or construction problems, such as conflicting utilities, mislocated structural connections, rebar interference with connections, honeycombing of concrete, and the development and/or review of remedial solutions to correct unforeseen issues. Mr. Allen conducted periodic visits to active construction sites to investigate, conduct reviews, and provide sound engineering advice and solutions to field issues encountered during the construction phase of the project.

THE REINFORCED EARTH COMPANY, Northern VA

Name of Firm: Reinforced Earth Company
Dates: 2000 to 2007
Project Role: Regional Engineer
Construction Value: N/A

RELEVANCE: *▪ Submittal review and approval ▪ Major structures ▪ Structural engineering analysis ▪ Geotechnical monitoring*

As regional engineer, Mr. Allen oversaw the complete and final design of all MSE wall drawings and calculations, including internal; external; and, occasionally, global stability. He coordinated work assignments with the regional manager and assisted project managers with engineering-related issues arising at the construction site. Mr. Allen performed site visits to investigate reasons, collect data, and observe the extent of occasional settlement issues that arise on rare occasions, working with project managers to formulate corrective procedures and perform any additional engineering calculations necessary to address the modified conditions. He worked closely with the owner's (e.g., primarily state departments of transportation) engineering and construction staff personnel to address field issues as they arose expeditiously, but with sound engineering judgment, and review the causes to the issues.

PENNDOT DISTRICT 1-0, CONSTRUCTION UNIT, Crawford, Erie, Forest, Mercer, Warren, and Vanango Counties,VA

Name of Firm: PennDOT
Dates: 1999 to 2000
Project Role: Project Manager
Construction Value: N/A

RELEVANCE: *▪ Submittal review and approval ▪ Document management ▪ Quality control inspections ▪ Roadway ▪ Geotechnical*

Mr. Allen reviewed QC inspection documents for correctness and accuracy. He interacted with local officials and residents regarding on-site work activity being performed by the contractor. Mr. Allen issued payments to contractors for work performed. He conducted asphalt core sampling per Pennsylvania Department of Transportation (PennDOT) requirements for roadway rehabilitation projects to determine whether pavement thicknesses were met in accordance with project specifications and whether the quality of the work performed by the contractor met contract plan requirements and Department standards.

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: **Joshua Wade, PE | Principal Project Manager**

b. Project Assignment: **Design Manager**

c. Name of Firm with which you are now associated: **Parsons Transportation Group Inc., Fairfax, VA**

d. Years experience: With this Firm **20** Years With Other Firms **0** Years

Please list chronologically (most recent experience first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):

Principal Project Manager/Design Director, Parsons Transportation Group Inc., 1994 to Present. Mr. Wade has been employed by Parsons for his entire career. Over the past 15 years, he has been the design manager for multiple projects, as well as managed the Virginia design efforts, working extensively with Wagman. These efforts included the projects shown below, as well as other relevant efforts, including operational improvement projects, such as leading the engineering efforts on the Idea-66 project for spot improvements and bus rapid transit (BRT) along I-66 and serving as the engineering civil design manager for the Manassas National Battlefield Bypass and the Dale Boulevard Improvement projects.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

University of Maryland University College | Adelphi, MD | MBA | 2009 | Business Administration
University of Maryland | College Park, MD | BS | 1993 | Civil Engineering

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

1999 | Professional Engineer | VA No. 0402032924
Also registered in MD

g. Document the extent and depth of your experience and qualifications relevant to the Project.

1. *Note your specific responsibilities and authorities for each project, not those of the firm.*
2. *Note whether experience is with current firm or with other firm.*
3. *Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.*

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

INTERCOUNTY CONNECTOR DESIGN-BUILD CONTRACT B, Montgomery County, MD

Name of Firm:	Parsons
Dates:	2008 to 2011 (Substantial Complete)
Project Role:	Design Manager
Construction Value:	$560 million

RELEVANCE: *▪ Design-build with Wagman ▪ Many of the same design leads and subs ▪ Several structures built over major streams ▪ Major utility relocations ▪ Alternative intersection/interchange configuration ▪ Extensive MOT ▪ Substantial communications and QC plans*

Recently won *ENR's* Best Transportation Project in the Mid-Atlantic Region.

As the design manager, Mr. Wade was responsible for the design efforts of the large design-build (DB) project, for which Wagman was part of the contractor joint venture. The project consisted of approximately 7 miles of new, controlled-access, six-lane tolled roadway and two interchanges: ICC/MD 182 and ICC/MD 650. The MD 650 interchange included a single-point urban interchange (SPUI) configuration to reduce the impacts on neighboring properties, improve the operations along MD 650, and accommodate the dozens of utilities in the vicinity. The work also included utility protection designs, the relocation and improvement of state and local roads, intersection improvements, and structures over major streams. In addition, the project included pavement design; utility relocations; bridges; retaining walls; noise walls; earth berms; drainage facilities; landscaping; signing, signals, lighting, and pavement markings; tolling infrastructure; maintenance of traffic (MOT); intelligent transportation system (ITS) devices; public relations support; and environmental compliance. The project included extensive MOT, communication, and quality control plans.

Mr. Wade worked closely with the assistant DB project manager, Anthony Bednarik, and took a hands-on approach to the project, getting involved and overseeing every aspect of the design of the project. He assisted in the development of the overall project schedule, reviewed day-to-day progress, and ensured the successful completion of the project, on time and under budget. His team-building approach to the project management ensured full involvement, from the client to each of the disciplines, and it resulted in a team atmosphere, where all voices and ideas were heard and respected. This team process, whereby all voices were heard and all viewpoints involved in early planning and design reviews, meant that, at the end of the process, all designs were the best they possibly could be, reducing impacts and

maintaining the schedule and budget.

This project team included many of the same design leads and staff and Wagman as one of the lead contractors. ***(See Work History Forms for more information about this project)***

I-64/ROUTE 15 (ZION CROSSROADS) INTERCHANGE IMPROVEMENT, Louisa County, VA

Name of Firm: Parsons
Dates: 2012 to Present
Project Role: Design Manager
Construction Value: $6.8 million

RELEVANCE: *▪ VDOT design-build in Culpeper District ▪ Alternative operational configuration ▪ Innovative approach ▪ Many of the same design leads*

The project is located in Louisa County, Virginia, at the interchange of Route 15 and I-64. The purpose of the project was to improve traffic operations and increase safety at the interchange with I-64 and signals along Route 15 while improving access to the adjacent businesses and land uses. The improvements consisted of a conversion of the interchange configuration from a standard diamond to a diverging diamond interchange (DDI). As the design manager, Mr. Wade was responsible for the design efforts of this Virginia Department of Transportation (VDOT) DB project. Parsons' winning concept modified the request for proposals (RFP) concept plans and improved maintenance, safety, and operations further while reducing overall costs and construction time. The Zion Crossroads project is relevant to the Route 29 Solutions project, in particular the Rio Road intersection, in that it is within the same district of VDOT; Mr. Wade worked with the same VDOT staff; and, most importantly, an innovative approach will be needed to address the operational issues and minimize impacts to the neighboring businesses and traveling public at this location. This project team also included many of the same design leads. ***(See Work History Forms for more information about this project)***

I-395 HOV RAMP AT SEMINARY ROAD WITH I-395 NB AUXILIARY LANE EXTENSION, Alexandria, VA

Name of Firm: Parsons
Dates: 2012 to Present
Project Role: Design Manager
Construction Value: $55.4 million

RELEVANCE: *▪ VDOT design-build ▪ Most of the same design leads and subs, including ALA, Endesco, and Accompong ▪ Widening of a major roadway ▪ Extensive MOT and QC plans*

The project is located in Alexandria, Virginia, at the I-395 and Seminary Road interchange. The purpose of this project is to improve traffic operations and increase safety for high occupancy vehicle (HOV) and transit users working at or near the Mark Center, a new BRAC-related Department of Defense (DOD) facility, as well as ramp and pedestrian improvements to mitigate impacts of the additional DOD staff on the surrounding neighborhoods and businesses. The project includes a new reversible HOV ramp on I-395, a new pedestrian bridge across I-395, and the widening of an existing mainline bridge on I-395. Though the project is not yet constructed, the design phase is significantly completed, and the majority of the construction will be completed prior to the anticipated notice to proceed (NTP) of February 2015 for the Design-Build Project for Route 29 Solutions. This project is similar to the Design-Build Project for Route 29 Solutions because it is a DB project for VDOT with a widening of a major roadway and has a significant MOT component.

WOODROW WILSON MEMORIAL BRIDGE, Alexandria, VA

Name of Firm: Parsons
Dates: 9/2007 to 12/2007
Project Role: Design Program Manager
Contract Value: $1 million/year

RELEVANCE: *▪ New structure over interstate ▪ Designed for minimal impact to existing traffic and environmental resources*

The monumental $680 million Woodrow Wilson Bridge project on the Capital Beltway was undertaken to eliminate one of the nation's worst bottlenecks. Parsons performed all phases of work for the design of this bridge. Initial work included early studies and environmental documentation. Then, as a result of winning a blind design competition, Parsons was selected as the prime consultant to perform the final design for the construction of the bridge. The bridge separated local and express lanes. The project also included extensive MOT to coordinate with the adjacent interchange improvements along the approaches to the bridge, utility relocation, and a significant communications and public outreach plan. Parsons' achievements on this project have been recognized through 22 awards. Mr. Wade served as Parsons' lead engineer for the preliminary engineering and National Environmental Policy Act (NEPA) phases of the project, contributed to the winning design competition entry, and served as a quality control reviewer during the final design of the bridge. ***(See Work History Forms for more information about this project)***

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: **Scott Miller | Senior Project Manager/Construction Manager**

b. Project Assignment: **Construction Manager**

c. Name of Firm with which you are now associated: **G.A. & F.C. Wagman, Inc.**

d. Years experience: With this Firm 16 Years With Other Firms 10 Years

Please list chronologically (most recent experience first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):

Senior Project Manager/Project Manager, G.A. & F.C. Wagman, Inc., 1998 to Present. Currently, Mr. Miller serves as senior project manager, coordinating all project construction activities, including establishing and updating project schedules; negotiating and managing subcontractor work; and supervising general superintendents, project engineers, and other project managers. Mr. Miller is responsible for project management on several unique fast-tracked highway and bridge projects, with an emphasis on high-profile transportation contracts.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

The Pennsylvania State University | State College, PA | BS | 1987 | Civil Engineering

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

Responsible Land Disturber (RLD) No. 42692; Mr. Miller will hold his Erosion and Sediment Control Contractor Certification (ESCCC) prior to the commencement of construction activities.

g. Document the extent and depth of your experience and qualifications relevant to the Project.

1. *Note your specific responsibilities and authorities for each project, not those of the firm.*
2. *Note whether experience is with current firm or with other firm.*
3. *Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.*

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

I-95 AND I-695 INTERCHANGE (SECTION 100), Baltimore County, MD

RELEVANCE: ▪ Multiple elements ▪ Several major structures ▪ Extensive MOT on high ADT roadways ▪ Geotechnical work ▪ Utility relocations ▪ Roadway work ▪ Environmental considerations ▪ Public relations

Name of Firm: G.A. & F.C. Wagman, Inc.
Dates: 2007 to 2011
Project Role: Construction Manager
Construction Value: $209 million

As construction manager, Mr. Miller provided overall management of the project, including administrative and technical direction, and was the main client interface. The interchange was constructed by a joint venture (JV) of Wagman, Corman, and McLean, and Mr. Miller managed structure, grading, and utility superintendents; the supervisory team; employees; and equipment for three different companies. His ability to coordinate resources between three JV partners was paramount to the success of this project. The project maintained an A rating for erosion and sedimentation controls during four years of construction. As part of a value engineering proposal (a design-build [DB] element), the JV team, led by Mr. Miller, redesigned the foundations for some of the structures to save the owner over $1 million. Maintenance and protection of traffic (MPT) was very complex and, under his leadership, was accomplished without incident. The project has won multiple awards, including Maryland's Quality Initiative for Best Large Project.

WOODROW WILSON BRIDGE PROJECT, Prince George County, MD

RELEVANCE: ▪ Multiple elements ▪ Several major structures ▪ Extensive MOT on high ADT roadways ▪ Geotechnical work ▪ Utility relocations ▪ Roadway work ▪ Environmental considerations ▪ Public relations

Name of Firm: G.A. & F.C. Wagman, Inc.
Dates: 2002 to 2004
Project Role: Construction Manager
Construction Value: $64 million

Mr. Miller was the construction manager on a highway reconstruction and interchange contract for the Woodrow Wilson Bridge project in Oxon Hill, Maryland. Parsons developed the environmental documentation and impact analysis for these improvements. This project involved the interchange with Oxon Hill Road and the reconstruction of the Inner and Outer loop of the Capital Beltway, creating a 12-lane highway. Mr. Miller's responsibilities included project coordination; schedule; cost accounting; material procurement; subcontractor coordination; the planning of construction activities; and coordination with utility owners, owner communications, and with adjacent contracts. Maintenance of traffic (MOT) included major traffic switches to relocate traffic from the existing highway to the reconstructed inner and outer loop. Environmental compliance was very important to the success of this project, and, under Mr. Miller's leadership, the project maintained an A rating for erosion and sedimentation compliance.

WOODROW WILSON BRIDGE PROJECT, CONTRACT MB-4, Prince George County, MD

Name of Firm: G.A. & F.C. Wagman, Inc.
Dates: 2005 to 2006
Project Role: Superintendent/Construction Manager
Construction Value: $47 million

RELEVANCE: *▪ Multiple elements ▪ Several major structures ▪ Extensive MOT on high ADT roadways ▪ Geotechnical work ▪ Utility relocations ▪ Roadway work ▪ Environmental considerations ▪ Public relations*

Mr. Miller was the superintendent/construction manager for the highway construction at the interchange of I-295, I-95, and the National Harbor Development project, along the Potomac River. As superintendent/construction manager, Mr. Miller was responsible for all work activities, labor and equipment allocation, subcontractor coordination, and owner relations. He maintained the project schedule and oversaw all MPT along the corridor. Major utilities were relocated, and Mr. Miller coordinated with the utility owners and utility subcontractors to minimize impacts to the project schedule. Coordination with environmental agencies provided a project that maintained an A rating and ensured compliance along the sensitive Potomac River. His team installed over 25,000 linear feet of drainage pipe and multiple stormwater management basins to maintain water quality.

SUSQUEHANNA RIVER BRIDGE PROJECT, York and Dauphin Counties, PA

Name of Firm: G.A. & F.C. Wagman, Inc.
Dates: 2006 to 2007
Project Role: Project Manager
Construction Value: $83 million

RELEVANCE: *▪ Bridge structure over water ▪ Drilled shafts ▪ MOT ▪ Geotechnical work ▪ Causeways & cofferdams ▪ Environmental considerations*

Mr. Miller was a project manager for Wagman on this Joint Venture project for the Pennsylvania Turnpike Commission. Mr. Miller was Wagman's project manager and representative with the JV. The project consisted of the construction of two adjacent dual structures with three lanes each direction. There were a total of 40 spans in each direction, for a total of 78 piers. Construction for access included the installation of a stone causeway to an island and a temporary bridge from the island. Once substructure construction reached the island, the stone and temporary bridges were swapped to the opposite side of the island to ensure a constant relief of flow. Causeway construction required close adherence to environmental requirements and involved the installation of turbidity curtains and the recovery of all causeway rock. The substructure, reaching heights of up to 80 feet, was founded on drilled shafts, and each pier location required the installation of a cofferdam. The superstructure consisted of trapezoidal precast segmental units that were launched and positioned by underslung trusses and then post-tensioned. Wagman's scope of work and Mr. Miller's responsibility for the JV included the construction of causeways and temporary bridges, access for all work, cofferdams, bridge substructure, parapets, and bridge rail. His duties included scheduling and project administration.

HARVEY TAYLOR BRIDGE PROJECT, Dauphin County, PA

Name of Firm: G.A. & F.C. Wagman, Inc.
Dates: 2001 to 2003
Project Role: Construction Manager
Construction Value: $30 million

RELEVANCE: *▪ Bridge structure work ▪ Innovative time-saving solutions ▪ MOT ▪ Fast-track schedule*

Mr. Miller was project manager for this Pennsylvania Department of Transportation (PennDOT) bridge rehabilitation project over the Susquehanna River. The bridge was 4,000 feet long with 27 spans. The project consisted of the removal and replacement of the existing concrete-filled grid deck floors. The deck floor was cut and slabbed, and then removed in sections. Replacement sections had to be set at different grades and required adjustable chairs to hold the new section in place until rapid-set latex concrete was poured. The project required all bearings to be replaced and the cleaning and painting of the entire structure. All work was performed on weekends and under traffic. Project requirements originally called for weeknight closures, but upon Wagman analysis, it was determined that work would be able to progress better during 60-hour weekend shifts, resulting in increased productivity and decreased traffic impacts. As project manager, Mr. Miller provided project coordination and project scheduling and was responsible for all work activities, labor and equipment, and subcontractor and stakeholder coordination. The project was successfully completed on time.

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

- Replacement of Dual Bridges on MD 4 over MD 223, MDSHA. Currently serving as Project Manager. The project will be substantially completion in 2014, which is prior to the award date for the US 29 Solutions Project. Project administrative closeout of MD 4 will be performed by Scott's Project Engineer.
- Rt. 340 Bridge over Shenandoah River, VDOT. Currently serving as Project Manager. Anticipated completion date is 12/1/2017. If successful on the US 29 Solutions Project, G.A. & F.C. Wagman will immediately appoint a successor for Mr. Miller on the Rt. 340 Bridge Project. This individual will work under Scott's supervision until Phase 1 of the Rte. 340 is complete (anticipated to occur in July of 2015) and then assume Scott's duties as Mr. Miller is reassigned to US 29 in advance of construction operations beginning in August of 2015. Mr. Miller will be on the Project site full time for the duration of the construction operations.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: **Amir Arab, PhD, PE | Area Manager**

b. Project Assignment: **Lead Structural Engineer**

c. Name of Firm with which you are now associated: **Parsons Transportation Group Inc., Tysons, VA**

d. Years experience: With this Firm **>1** Years With Other Firms **18** Years

Please list chronologically (most recent experience first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):

Principal Project Manager D.C./VA Area Manager Bridge & Tunnel Group, Parsons Transportation Group Inc., 2014 to Present. Management of the staff, including the project managers; design, rehabilitation, and rating of highway structures; design, rehabilitation, and rating of railroad structures; design of pedestrian bridges; design of post-tensioned structures, including segmental bridges; design for accelerated bridge construction; seismic design; finite element modeling; field investigations; project pursuits; project deliveries; quality assurance/quality control procedures; and audits.

Associate Vice President/Mid-Atlantic District Manager, T.Y. Lin International, 2009 to 2014. Management of the staff, including the project managers; design, rehabilitation, and rating of highway structures; design, rehabilitation, and rating of railroad structures; design and development of demolition plans for concrete arch structures; design of post-tensioned structures, including segmental bridges; design for accelerated bridge construction; seismic design; finite element modeling; field investigations; project pursuits; project deliveries; quality assurance/quality control procedures; and audits.

Senior Structural Engineer, HDR, Inc., 2006 to 2009. Design, rehabilitation, and rating of highway structures; design, rehabilitation, and rating of railroad structures; design, rehabilitation, and rating of steel trusses; inspection of railway structures; seismic design; finite element modeling; project pursuits; project deliveries; quality assurance/quality control procedures; and audits.

Senior Structural Engineer & National Practice Leader for Center of Excellence for Seismic Engineering, TRC Companies, Inc., 2005 to 2006. Design, rehabilitation, and rating of highway structures; seismic design; finite element modeling; project deliveries; quality assurance/quality control branch manager.

Civil Engineer, City of St. Louis Department of the President – Board of Public Service, 2004 to 2005. Technical review of design and construction bid documents prepared by engineering; design and preparation of construction documents for civil and structural engineering projects, including structural analysis and design, site improvements design, hydraulic analysis, and the preparation of CAD drawings, as well as construction cost estimates; performing feasibility studies and the preparation of project reports during the planning and programming phase; participation in the development of quality control procedures for engineering projects; performing routine and special bridge inspections; performing the structural evaluation of buildings and other facilities owned by the City of St. Louis, Missouri.

Structural Project Engineer, Horner & Shifrin, Inc., 1997 to 2004. Structural analysis, design, and rehabilitation of highway bridges, buildings, and special structures, such as lock dams and water reservoirs; design of transit structures; seismic design; finite element modeling.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

George Washington University | Washington, D.C. | PhD | 2012 | Structural Engineering with Minor in Engineering Mechanics and Applied Sciences

Southern Illinois University | Carbondale, IL | MS | 2001 | Structural Engineering

Southern Illinois University | Carbondale, IL | BS | 1995 | Civil Engineering

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

2006 | Professional Engineer | VA | 0402042390

Also registered in D.C., LA, MD, and MO

g. Document the extent and depth of your experience and qualifications relevant to the Project.

1. *Note your specific responsibilities and authorities for each project, not those of the firm.*
2. *Note whether experience is with current firm or with other firm.*
3. *Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.*

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

I-395 SEMINARY ROAD HOV RAMP, Alexandria, VA

Name of Firm: Parsons
Dates: 2014 to Present
Project Role: Lead Structural Engineer
Construction Value: $55.4 million

RELEVANCE: *▪ Design-build project ▪ Tall piers ▪ Constraints imposed by vehicular/HOV traffic*

The project includes a new reversible high occupancy vehicle (HOV) ramp on I-395 connecting to the existing three-level interchange at Seminary Road, a new stand-alone pedestrian bridge across I-395, and the widening of an existing mainline bridge over Sanger Avenue on I-395. The project also includes load rating and capacity verification of the existing structures, several noise walls, varying types of retaining walls, and sign structures. Mr. Arab is the lead structural engineer for the $55.4 million design-build (DB) contract.

REHABILITATION OF NEW YORK AVENUE D.C. BRIDGE NO 534, Washington, D.C.

Name of Firm: T.Y. Lin International
Dates: 2013 – 2013
Project Role: Project Manager
Construction Value: $45 million

RELEVANCE: *▪ Design-build project ▪ Accelerated construction ▪ Innovative solutions to support schedule compressions ▪ Constraints imposed by vehicular and railroad traffic*

The rehabilitation of the existing bridge included the addition of new steel plate girders; the replacement of the existing cast-in-place concrete deck with post-tensioned precast deck panels; the strengthening of the existing bridge piers and abutments; the elimination of the deck joints; overall improvements to the roadway approaches, pedestrian sidewalks, and lighting features; and enhancement of the scenic view with the installation of dynamic monumental architectural structures at the entry point of the bridge. Mr. Arab was the project manager and structural lead for this $45 million DB contract, including the load rating and capacity evaluation of the existing superstructure and substructure.

VETERANS MEMORIAL BRIDGE, Portland, ME

Name of Firm: T.Y. Lin International
Dates: 2012 – 2012
Project Role: Senior Structural Engineer
Construction Value: $65 million

RELEVANCE: *▪ Major river crossing ▪ Innovative solutions ▪ H&H impacts on the structure ▪ Designed and detailed for extended service life (100 years) ▪ Bridge aesthetics*

Mr. Arab served as the senior bridge engineer, responsible for the independent design check of the new Veterans Memorial Bridge, one of Maine's most heavily traveled bridges, connecting the cities of Portland and South Portland over the Fore River. The new structure is a segmental bridge built with 361 pieces of precast concrete. The 1,610-foot bridge stretches more than one-third of a mile across the Fore River. The new structure was designed for at least 100 years of service and was completed ahead of schedule and on budget. The bridge was placed on a new alignment to reduce the overall length and cost of the project by nearly 800 feet and allow the old bridge to remain in service during construction. The design greatly reduced the impact of the 22,000 vehicles using the bridge each day and minimized work over and adjacent to an active railroad. The new bridge is a visibly compelling structure, providing Portland and South Portland with a signature bridge for an important transportation link, dedicated to veterans.

I-395 CAPITOL CROSSING DEVELOPMENT, Washington, DC

Name of Firm: T.Y. Lin International
Dates: 2013 – 2013
Project Role: Sr. Program Manager
Construction Value: $1.2 billion

RELEVANCE: *▪ Decking over existing interstate highway ▪ Hybrid structure: Highway/Tunnel ▪ Tunnel design including security, fire, blast and ventilation*

Capitol Crossing is a multi-phase master-planned development located in the District of Columbia bordered by Massachusetts Avenue to the north, E Street to the south, Third Street to the west and Second Street to the east. The project site area is approximately 247,000-square-foot consisting of the recessed portion of US I-395. The project is planned and designed to be built over I-395 utilizing a platform to support the development of an expected 2.2 million square-foot mixed-use project also including parking facilities below the existing I-395 grade. Mr. Arab served as the Sr. Program Manager assisting District DOT with the review of various aspects of this project including: Structural including new F and G Street Bridges, widening of the Massachusetts Ave and compatibility/interactions between buildings and the supporting infrastructure; Civil and Maintenance-of-Traffic; Tunnel including deep foundations, security, blast, fire and ventilation, and Construction Phasing.

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: **Amy Morris, PE, PTOE | Senior Transportation Engineer**

b. Project Assignment: **Lead Traffic Engineer**

c. Name of Firm with which you are now associated: **T3 Design Corporation**

d. Years experience: With this Firm **8** Years With Other Firms **16** Years

Please list chronologically (most recent experience first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):

Senior Transportation Engineer, T3 Design Corporation, 2006 to Present. In this position, Ms. Morris performs and supervises technical traffic engineering projects ranging from the development of traffic studies — including traffic analysis; crash analysis; speed studies; and the development of transportation management plans, maintenance-of-traffic (MOT) plans, and interchange justification reports — to the design of various traffic control device plans, intelligent transportation systems (ITSs), and signing and marking plans. She supervises a staff of traffic and transportation engineers; prepares work plans; and manages scope, schedule, budget, and quality of work completed for clients. She is highly proficient in a variety of traffic engineering software and is knowledgeable of federal, state, and local regulations, including the Manual on Uniform Traffic Control Devices, that guide the development and design of transportation projects. She manages T3's 50-plus task-order contracts and coordinates closely with clients and other team members to ensure requirements are met.

Project Engineer, Street Smarts, 2002 to 2006. Ms. Morris designed traffic signal installation and modification plans, pavement marking and signing plans, and ITS field device plans; conducted traffic data collection and site studies; and performed traffic signal timing and intersection capacity analyses. She also performed traffic impact and safety studies.

NOTE: Ms. Morris had 10 years of operations management experience in the transportation logistics sector prior to becoming a transportation engineer.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

George Mason University | Fairfax,VA | BS | 2002 | Civil Engineering

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

2005 | Professional Engineer | Virginia | No. 0402041485
Also registered in MD, D.C., PA
2006 | Professional Traffic Operations Engineer | No. 1941

g. Document the extent and depth of your experience and qualifications relevant to the Project.

1. *Note your specific responsibilities and authorities for each project, not those of the firm.*
2. *Note whether experience is with current firm or with other firm.*
3. *Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.*

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

VDOT I-95 LEFT SHOULDER WIDENING PROJECT, Northern VA

Name of Firm:	T3 Design
Dates:	2001 to 2013
Project Role:	Task Manager
Construction Value:	$40 million

RELEVANCE: *▪ Transportation management plan/MOT ▪ MOT for three construction phases ▪ Roadway safety assessments*

As T3 Design's task manager for the widening of the left shoulder for 14 miles along I-95, including the northbound and southbound lanes, Ms. Morris prepared the transportation management plan (TMP) for this type B project, including the TMP document and traffic control plans (MOT) for three construction phases. In addition, T3 completed roadway safety assessment (RSA) evaluations using the Virginia Department of Transportation (VDOT) template and crash history analysis for the corridor using the previous three years of crash reports. The results of the RSA were compared to trends in the crash analysis, and any "hot spots" were identified for further study. Hot spots were field-investigated for potential improvements, and all conclusions and recommendations were prepared in a project safety study.

VDOT ROUTE 606 RECONSTRUCTION AND WIDENING PROJECT, Loudoun County, VA

Name of Firm: T3 Design
Dates: 2011 to 2013
Project Role: Task Manager
Construction Value: $106.7 million

RELEVANCE: *▪ Traffic control devices ▪ Signs, sign structures, and foundations*

Task manager to perform preliminary traffic engineering on project to widen Route 606 from an existing two-lane rural roadway to a four-lane divided urban collector. Ms. Morris completed an extensive traffic study involving 12 intersections along the corridor, as well as preliminary signal design and signing and marking design. The traffic study involved an evaluation of widening alternatives, an evaluation of signal warrants and turn-lane warrants, and safety and queue-length analyses. The final traffic study summarized all conclusions and recommendations.

EAST ELDEN STREET WIDENING, Herndon, VA

Name of Firm: T3 Design
Dates: 2013 to 2015
Project Role: Project Lead
Construction Value: $22.5 million

RELEVANCE: *▪ Traffic control devices ▪ Quality assurance/quality control*

As project lead for T3 Design, Ms. Morris coordinated with the clients on the budget and reviewed and approved the data collection plan at the 11 study intersections and conducted quality assurance/quality control (QA/QC) of the tech memos, submitted to the Town and VDOT, for traffic growth rate and trip assignments from the Metrorail project. Ms. Morris also reviewed signal warrant analysis and conducted QA/QC of the warrant report for the intersection of East Elden Street and K-Mart. Ms. Morris conducted QA/QC of the safety and traffic analyses and the traffic study report. Ms. Morris will also review signal design plans for the five study intersections before submission to VDOT and the Town.

VDOT COURTHOUSE ROAD/HULL STREET INTERSECTION PROJECT, Chesterfield County, VA

Name of Firm: T3 Design
Dates: 2010 to 2013
Project Role: Project Lead
Construction Value: $25 million

RELEVANCE: *▪ TMP/MOT/construction sequencing ▪ Signing and marking plans ▪ Traffic control devices*

Project manager for T3 Design on a task order to provide traffic design plans to construct dual right turn lanes and close a side-street entrance on Courthouse Road at its intersection with Hull Street (Route 360). Developed permanent signing and pavement marking plans for the project, as well as traffic control plans for MOT. Traffic control plans included sequencing construction to remove the median, shifting traffic to the new pavement while constructing the dual right turn lanes, then shifting traffic again in order to construct a new raised median. Part of this work included analyzing work zone traffic conditions to determine allowable work hours to maintain intersection capacity levels.

VDOT I-81 BRIDGES OVER NEW RIVER, Montgomery County, VA

Name of Firm: T3 Design
Dates: 2014
Project Role: Task Manager
Construction Value: $113 million

RELEVANCE: *▪ Signage, sign structure, and foundations*

As project manager for T3 Design, Ms. Morris's tasks include conducting an existing sign inventory of approximately 100 ground-mounted signs and 10 guide signs for the area affected by the proposed improvements, preparing base plans for existing signing and pavement marking plans, developing a conceptual signing plan to be included in the interchange modification report (IMR), completing a crash safety assessment to be included in the IMR, developing the ITS concept of operations, and attending meetings with VDOT and the project team as required.

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: **Paul Burkhart, PE | Principal**

b. Project Assignment: **Lead Geotechnical Engineer**

c. Name of Firm with which you are now associated: **GeoConcepts, Inc.; Ashburn, VA**

d. Years experience: With this Firm **15** Years With Other Firms **14** Years

Please list chronologically (most recent experience first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):

Principal, GeoConcepts Engineering, Inc., 1999 to Present. Mr. Burkart has more than 29 years of experience managing geotechnical engineering design and materials testing services for transportation projects. In the past 10 years alone, Mr. Burkart has been responsible for geotechnical services on 37 Virginia Department of Transportation (VDOT) projects, 20 of which were design-build (DB). His expertise includes land stability studies; ground improvement studies; subdrainage systems; preloading of soft soils; special in situ testing programs, including dynamic testing; and stabilization programs using geosynthetics.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

University of Maryland | College Park, MD | MS | 1992 | Geotechnical Engineering
University of Maryland | College Park, MD | BS | 1985 | Civil Engineering

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

1990 | Professional Engineer | VA | No. 0402021556

g. Document the extent and depth of your experience and qualifications relevant to the Project.

1. *Note your specific responsibilities and authorities for each project, not those of the firm.*
2. *Note whether experience is with current firm or with other firm.*
3. *Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.*

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

VDOT CHARLOTTESVILLE RESIDENCY BRIDGE REPLACEMENT PROJECTS, Albemarle County, VA

Name of Firm: GeoConcepts
Dates: 2011 to Present
Project Role: Project Geotechnical Engineer
Construction Value: $7.4 million

RELEVANCE: *▪ VDOT Project ▪ Located in Charlottesville ▪ Same types of analysis and tests that will need to be done for the Design-Build Project for Route 29 Solutions*

He served as project engineer for geotechnical engineering services for the replacement of three bridges in Charlottesville. The bridges were generally constructed of timber and steel, and were deteriorating quickly. GeoConcepts provided preliminary and final geotechnical engineering reports for the three projects, which included soil test borings, a review of geological maps, rock cores, and Electrical Resistivity Imaging (ERI) surveys at sites where potential bedrock discontinuities might be an issue. Recommendations were provided for foundation design, earthworks, and retaining walls.

VDOT ROUTE 50 WIDENING AND BRIDGES (ROUTE 742 TO ROUTE 28), Fairfax and Loudoun Counties, VA

Name of Firm: GeoConcepts
Dates: 2011 to Present
Project Role: Project Geotechnical Engineer
Construction Value: $55.4 million

RELEVANCE: *▪ VDOT design-build ▪ Roadway, drainage, and structural elements and requires geotechnical testing and analysis*

He was project engineer for geotechnical engineering design and construction materials testing services for the federally funded DB project to widen 3.6 miles of the four-lane roadway to six lanes. Additional construction included two bridges, improvements to all connecting roads, a double box culvert, existing box culvert modification, six stormwater management ponds, several drainage pipes, and a 500-foot-long retaining wall. The subsurface investigation involved 274 soil test borings and rock coring. Design recommendations were provided regarding foundations, pavements, retaining walls, stormwater management basins/pipe culverts, earthwork, and rock excavation. During construction, GeoConcepts personnel provided inspection and testing services to verify that work is completed in accordance with project plans and specifications.

FAIRFAX COUNTY PARKWAY EXTENSION PHASE III , Fairfax County, VA

Name of Firm: GeoConcepts
Dates: 2010 to 2012
Project Role: Project Geotechnical Engineer
Construction Value: $21.9 million

RELEVANCE: *▪ FHWA/VDOT design-build ▪ Roadway, drainage, and structural elements and required geotechnical testing and analysis*

He served as project engineer for the geotechnical engineering design and construction services for the Federal Highway Administration (FHWA)/VDOT DB project involving a 0.5-mile extension of the six-lane divided parkway, interchange improvements, a shared-use path, sound barriers, a bridge, and stormwater management facilities. The field investigation involved 91 soil test borings and in situ pressure meter testing. Recommendations were provided regarding foundations, pavements, retaining walls, stormwater management basins/pipe culverts, earthwork, rock excavation, and slope stability. GeoConcepts provided quality control testing services during construction.

VDOT ROUTE 29 BRIDGE REPLACEMENT OVER LITTLE ROCKY RUN, Fairfax, VA

Name of Firm: GeoConcepts
Dates: 2013 to Present
Project Role: Project Geotechnical Engineer
Construction Value: $13.4 million

RELEVANCE: *▪ VDOT design-build ▪ Roadway, drainage, and structural elements and requires geotechnical testing and analysis*

He provided geotechnical engineering design and construction materials testing services for the DB project involving the replacement of the bridge with a new six-lane bridge and approaches, which included widening portions of Route 29. Construction included a shared-use path, sidewalk, stormwater management facilities, 36-inch-diameter drainage pipe, and utility relocations. Recommendations were provided regarding foundations, pavements, drainage structures, earthwork, embankment fill and fill slopes rock excavation, global stability, and stormwater management by infiltration.

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: **Jason Hershey, DBIA, CPE | Senior Design-Build Estimator/Lead Utility Coordination Manager**

b. Project Assignment: **Lead Utility Coordination Manager**

c. Name of Firm with which you are now associated: **G.A. & F.C. Wagman, Inc.**

d. Years experience: With this Firm **4** Years With Other Firms **11** Years

Please list chronologically (most recent experience first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):

Senior Design-Build Estimator/Design-Build Coordinator, G.A. & F.C. Wagman, Inc., 2011 to Present. Currently, Mr. Hershey is the senior design-build (DB) estimator for Wagman and was also the lead utility coordination manager and DB coordinator for the Route 1 Widening Project. Mr. Hershey is involved with the estimating and coordination of all DB pursuits for Wagman. His responsibilities include statement of qualifications (SOQ) development, technical and price proposal development, cost estimating, DB coordination, and utility relocations. Having a member of the DB management team who is involved with the pursuit and cost estimation has proven invaluable and has resulted in a better-integrated project execution.

Senior Estimator, Cherry Hill Construction, 2005 to 2011. Mr. Hershey was the senior estimator for Cherry Hill Construction (a Tutor Perini company), focusing on DB pursuits. In addition to his estimating duties, he served as a DB coordinator for the Fairfax County Parkway project, a $112.5 million, four-year DB project. His responsibilities included SOQ development, DB proposal development, cost estimating, DB coordination, and utility work.

Project Manager/Project Estimator, Iacoboni Site Specialists, Inc., 2000 to 2005. Mr. Hershey served as a project manager and estimator for Iacoboni and specialized in utility work and site projects. Utility relocations and installations were performed for various municipalities, including Fairfax County, VA; Prince George's County, MD; the Washington Suburban Sanitary Commission, Baltimore City and County, MD, Washington, D.C., and throughout Pennsylvania.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

York College of Pennsylvania | York, PA | BS | Business Administration & Accounting

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

VDOT RLD Certification #42577

Design Build Institute of America – Professional Certification; ASPE Certified Professional Estimator

g. Document the extent and depth of your experience and qualifications relevant to the Project.

1. *Note your specific responsibilities and authorities for each project, not those of the firm.*
2. *Note whether experience is with current firm or with other firm.*
3. *Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.*

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

ROUTE 1 WIDENING AT FORT BELVOIR, Fairfax, VA

Name of Firm:	G.A. & F.C. Wagman, Inc.
Dates:	2013 to Present
Project Role:	Deputy DB Manager/Lead Utility Coordinator
Construction Value:	$70 million

RELEVANCE: *▪ Design-build ▪ Bridge over water ▪ Environmental requirements ▪ Extensive utility relocations ▪ Extensive MOT with high ADT ▪ Geotechnical ▪ Stakeholder coordination and public outreach ▪ Five distinct project elements*

This DB project consists of the widening of a 3.68-mile segment of US Route 1 (Richmond Highway) from Telegraph Road (Route 611) to Mount Vernon Highway (Route 235) in Fairfax County, Virginia. Parsons developed the environmental document and impact analysis for the improvements. The highway reconstruction involves widening from four through lanes to six through lanes, including the addition of left and right turn lanes at intersections and connecting roadways; a multiuse trail; pedestrian sidewalks; and the construction of new twin bridges over Accotink Creek. The scope of work includes right-of-way acquisition, environmental permitting and mitigation, utility relocations, public relations, stakeholder coordination, extensive maintenance of traffic (MOT), unexploded ordinance (UXO), bridges with drilled shaft foundations, retaining walls, noise walls, sediment controls, earthwork, subbase, paving, and roadway incidentals. Mr. Hershey's involvement with the project started during the estimating phase, as the lead DB estimator and, upon award of the contract, included general design coordination and oversight, joint venture representation on behalf of Wagman, and utility coordination. Mr. Hershey represented the DBT at management and oversight meetings with the stakeholders, including the Federal Highway Administration Eastern Federal Lands

Highway Division (FHWA-EFLHD), the Virginia Department of Transportation (VDOT), Fairfax County, and the Army. Mr. Hershey has been involved in all aspects of the DB process for this project, including right-of-way (ROW) acquisition, public outreach and stakeholder involvement, environmental mitigation, design reviews, and construction (ongoing). As lead utility coordinator, Mr. Hershey's duties include the identification of impacted utilities, coordination with the utility companies for both design and construction, the development of preliminary utility relocation plans, UT-9 generation, UFI meeting management, cost responsibility determination, and utility relocation design oversight. Mr. Hershey leads a team of utility specialists, which includes Utility Professional Specialists, Inc., the same firm being proposed to be used on the Route 29 Solutions. Extensive utility coordination was successfully executed between the DBT, 11 utility companies, and four major stakeholders. Additionally, due to the sensitivity of some of the government-operated utilities, extensive coordination between numerous Ft. Belvoir-operated utility companies was required. DBT coordination was also required to ensure proper ROW and easements for the relocated utilities, as will be required for the Route 29 Solutions. Mr. Hershey worked closely with VDOT's regional utilities manager in reviewing and recommending the approval of the utility relocation plans and in obtaining the subsequent approval from VDOT and the FHWA-EFLHD.

FAIRFAX COUNTY PARKWAY DESIGN-BUILD PHASE I, II, & IV, Fairfax, VA

Name of Firm: Cherry Hill Construction, Inc.
Dates: 2008 to 2011
Project Role: DB Coordinator/Senior Estimator
Construction Value: $112.5 million

RELEVANCE: *▪ Design-build ▪ Numerous bridges, including over water ▪ Retaining walls ▪ Box culverts ▪ Environmental requirements ▪ Utility relocations ▪ MOT ▪ Roadway ▪ Geotechnical ▪ Stakeholder coordination and public outreach*

Mr. Hershey was the senior estimator and DB coordinator for this $112.5 million DB project, consisting of approximately 2.5 miles of six-lane highway design and construction. Parsons developed the environmental documentation and impact analysis for the improvements. The scope of work included ROW acquisition, utility relocation and avoidance, the installation of seven new multi-span bridges (with drilled shaft foundations), numerous noise walls, 1.4 million cubic yards of earth moving, contaminated soil and groundwater remediation, numerous retaining walls (both mechanically stabilized earth and cast-in-place), stormwater management (SWM) facilities, signalization, lighting, signage, and intricate utility relocations. Design and coordination efforts included stringent environmental concerns and SWM practices, shared-use paths, and an aggressive BRAC-mandated schedule. Context-sensitive means and methods were used in the design of the Accotink Creek bridge structure, minimizing impact to the watershed. This project won a 2013 National Design-Build Institute of America award for transportation, as well as honor awards in transportation from the American Council of Engineering Companies and the Virginia Transportation Construction Alliance (VTCA). Mr. Hershey prepared the SOQs and technical and price proposal for this project. He also provided coordination during the design phase and throughout construction. In addition, Mr. Hershey participated in partnering and stakeholder coordination efforts. Coordination was required with multiple stakeholders, including the FHWA-EFLHD, VDOT, the DOD, and Fairfax County. Extensive coordination efforts were required for the utility relocation, which included Fairfax County water and sewer mains, communication cables, and a 42-inch sanitary sewer interceptor that required extensive pump-around. He worked closely with the designer for this project, resulting in fostering close relationships with the design firm personnel, leading to a well-integrated DBT. Mr. Hershey also worked with the design firm to identify potential utility conflicts and to adjust the design as necessary to avoid the conflicts. The mitigation of the impacts to utilities significantly reduced the time and costs associated with the utility relocations.

DULLES METRORAIL PHASE II, Fairfax, VA

Name of Firm: G.A. & F.C. Wagman, Inc.
Dates: 2012 to 2013
Project Role: DB Coordinator/Sr.
Construction Value: $1.1 billion

RELEVANCE: *▪ Design-build ▪ Numerous bridges ▪ Stations/platforms ▪ Retaining walls ▪ Environmental requirements ▪ Extensive utility relocations ▪ MOT ▪ Roadway ▪ Geotechnical*

This project involved the DB construction of 11.5 miles of rail line and six new stations. Mr. Hershey worked as a DB coordinator during the six-month pursuit of this project, as well as a senior estimator. His duties included coordination of the preliminary bid design for the civil components of the pursuit, including utility relocations, as well as managing the estimating process. Effective communication skills were utilized to properly coordinate the efforts between five joint venture partners and three major design firms. Mr. Hershey actively participated in stakeholder (MWAA and WMATA) coordination and partnering efforts. The utility relocation effort included a comprehensive evaluation and listing of the utility conflicts, and then involved working with the designer to avoid these impacts. If the impacts were unavoidable, a conceptual relocation plan was prepared and evaluated. While this project was a proposal effort and did not result in an awarded contract, the listing is justified due to the complexity and size of the pursuit.

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: **Marie Travesky | President**

b. Project Assignment: **Public Relations Manager**

c. Name of Firm with which you are now associated: **Travesky & Associates**

d. Years experience: With this Firm **28** Years With Other Firms **9** Years

Please list chronologically (most recent experience first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):

President, Travesky & Associates, 1986 to Present. Ms. Travesky designs the strategic communication plans needed for complex transportation projects, including transportation management plans (TMPs). She serves as the quality control officer on all of the firm's projects and ensures that clients – large or small – receive appropriate execution and personal service to be successful in their undertakings.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

George Mason University | Fairfax County, VA | BA | 1991 | Government and Politics

George Mason University | Fairfax County, VA | 1998 | Certificate in Facilitation and Group Consensus Building Skills

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

g. Document the extent and depth of your experience and qualifications relevant to the Project.

1. *Note your specific responsibilities and authorities for each project, not those of the firm.*
2. *Note whether experience is with current firm or with other firm.*
3. *Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.*

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

2012 DULLES TOLL ROAD PROPOSED TOLL RATE INCREASES, Fairfax and Loudoun Counties, VA

Name of Firm: Travesky & Associates
Dates: 2012
Project Role: Public Involvement
Construction Value: N/A

RELEVANCE: *▪ Transportation project ▪ Within the Commonwealth of Virginia*

The Metropolitan Washington Airports Authority assumed responsibility for the construction of the Metrorail through the Dulles Corridor. As part of this program, the Commonwealth of Virginia transferred the operation of the Dulles Toll Road to the Airports Authority under a 50-year agreement to operate and improve the Toll Road and to use the revenues from the tolls to help finance the rail construction and other improvements to the Toll Road and the Dulles Corridor.

The Airports Authority has proposed toll rate increases to finance Phase 2 of the Dulles Metrorail Project and improve the Toll Road. Travesky & Associates contracted with the Airports Authority in designing and implementing a formal public comment process to solicit input on proposed toll rate increases for the Dulles Toll Road. Subsequent to three public hearings and the Metropolitan Washington Airports Authority Board of Directors' review of public comments, a set of toll rate increases on the Dulles Toll Road was approved for implementation in January 2013. The toll rate increases will support the construction of Phase 2 of the Dulles Corridor Metrorail project and improvements to the Dulles Toll Road. During the Airport Authority's regulatory process for public involvement in rate setting for the Dulles Toll Road, Travesky & Associates assumed responsibility for implementing public outreach and involvement tasks.

VIRGINIA MEGAPROJECTS, Statewide, VA

Name of Firm: Travesky & Associates
Dates: 2008 to Present
Project Role: Public Involvement
Construction Value: $3.8 billion

RELEVANCE: *▪ Transportation projects ▪ Multiple projects at the same time ▪ Within the Commonwealth of Virginia*

Under the Public-Private Transportation Act of 1995, the Virginia Department of Transportation (VDOT) and its private partners are working to deliver the most significant package of improvements to the Northern Virginia region in a generation — providing congestion relief and new travel options on roadways and rail lines. Travesky & Associates, as a member of the VDOT General Engineering Consultant Services (GEC) team, is responsible for a significant portion of the communications efforts for the I-495 Express Lanes and the I-95 Express Lanes. The firm's efforts

include the following:

- Augmenting VDOT communications staff by providing public information services
- Developing and implementing strategic communications plans for each project
- Coordinating logistics and participating in numerous information sessions and outreach meetings to continually update elected officials, community members, employers, media representatives, and local businesses on the projects' progress
- Coordinating, managing logistics for, and documenting design public hearings
- Developing outreach materials, including press releases, informational brochures, newspaper advertisements, postcards, and correspondence to impacted property owners
- Preparing and disseminating email broadcasts regarding traffic alerts and construction activities
- Providing briefings and information to elected officials to facilitate their responses to citizens' inquiries
- Preparing crisis communication plans
- Preparing informational materials for project websites

ROUTE 460 CORRIDOR IMPROVEMENT PROJECT, Prince George County, VA

Name of Firm: Travesky & Associates
Dates: 2012 to Present
Project Role: Public Involvement
Construction Value: $1.2 billion

RELEVANCE: *▪ Transportation project ▪ Within the Commonwealth of Virginia*

The Route 460 Corridor Improvement project involves the study of potential improvements along a 55-mile stretch of Route 460 and the I-295 interchange in Prince George County to the Route 58 bypass just south of the existing Route 460 in the city of Suffolk.

The project involves extensive coordination between VDOT, an independent review panel (IRP) appointed by the Secretary of Transportation, the Commonwealth Transportation Board (CTB), the Federal Highway Administration (FHWA), the Department of Rail and Public Transportation (DRPT), and the Virginia Port Authority.

Travesky & Associates, as part of the project management team, is responsible for the public involvement efforts for the Route 460 Corridor Improvement project. The firm's scope of work includes the following:

- Developing and implementing a comprehensive stakeholder outreach plan and database
- Coordinating communications and briefings with elected officials
- Developing key messages, FAQs, PowerPoint presentations, brochures, and other public relations materials
- Providing project website content and materials to VDOT
- Creating project updates and articles for project fact sheets
- Creating legal notices and advertisements
- Coordinating efforts with the project team and stakeholders during field work operations
- Providing public outreach support during the subsurface exploration program
- Planning the logistics for and staffing public meetings and outreach events

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

Work History Forms

ATTACHMENT 3.4.1(a)

LEAD CONTRACTOR - WORK HISTORY FORM

(LIMIT 2 PAGE PER PROJECT)

a. Project Name & Location ***	b. Name of the prime design consulting firm responsible for the overall project design.	c. Contact information of the Client or Owner and their Project Manager who can verify Firm's responsibilities.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual)*	f. Contract Value (in thousands)		g. Dollar Value of Work Performed by the Firm identified as the Lead Contractor for this procurement.(in thousands)
					Original Contract Value	Final Contract Value**	
Intercounty Connector (ICC MD 200) Contract A Montgomery County, MD	Parsons Transportation Group/Jacobs Joint Venture	Melinda Peters Maryland State Highway Administration 410.545.0400 mpeters@sha.state.md.us	August 2010	December 2012* (see explanation below)	$464,000	$464,000	$102,107 Intercounty Constructors Joint Venture's Lead Contractor (Wagman's Fee)

h. Narrative describing the Work Performed by the Firm identified as the Lead Contractor for this procurement. If the Offeror chooses to submit work completed by an affiliated or subsidiary company of the Lead Contractor, identify the full legal name of the affiliate or subsidiary and the role they will have on this Project, so the relevancy of that work can be considered accordingly.

THIS PROJECT SHALL BE EVALUATED AS A ROADWAY PROJECT

WAGMAN'S ROLE/PROJECT NARRATIVE

The $464 million Intercounty Connector (ICC) Contract A was the first of five contracts to create the $1.5 billion, 18.8-mile ICC that ultimately connected the I-270 corridor in Montgomery County, Maryland, to the I-95/ US 1 corridor in Prince George's County, Maryland. Wagman was an equity member of a fully integrated construction joint venture known as Intercounty Constructors and, as such, was jointly and severally liable with each partner and financially responsible for the project. Parsons led the design joint venture. This 3.5-year, **fast-tracked** project included the construction 7.3 miles of six-lane highway inclusive of 18 structures (five structures were over water – Rock Creek and four tributaries), 350,000 square feet of noise walls, utility relocations, right-of-way (ROW) acquisition, environmental permitting and monitoring, drainage, more than 3 million cubic yards of excavation, rock blasting, more than 650,000 square yards of paving, roadway incidentals, and construction of three interchanges. The three interchanges were constructed at MD 355, Shady Grove Metro Station, and MD 97 (Georgia Avenue). All three interchanges were on the western end of the project in highly congested **urban** areas with high average daily traffic (ADT) in excess of 78,000. In addition to the interchanges, Wagman performed approximately 1.5 miles of roadway widening and reconstruction on the existing I-370. I-370 was widened to the median to create an additional lane, and eight existing structures were widened to the median (the bridge over CSXT was also widened to the outside). The interface of I-370 and the new ICC required us to widen to the median and to the outside and reconstruct four additional structures to accommodate new ramps for the new interchange to the Washington Metropolitan Area Transit Authority (WMATA) station in Rockville, Maryland. The project also included a 612-foot-long cut-and-cover deck-over structure (tunnel) to carry an existing road overtop of the depressed ICC, resulting in reduced noise and improved aesthetics. The team design and constructed the deck-over such that it did not classify as a tunnel and thus did not require expensive systems such as ventilation and lighting often required by NFPA 502. Team experience with such a structure will prove to be beneficial when evaluating solutions for carrying Route 29 underneath of Rio Road on the Design-Build Project for Route 29 Solutions.

Major maintenance of traffic (**MOT**) and traffic switches were required on the western end to minimize impacts to the traveling public. The project included extensive intelligent transportation systems (ITS) and signalization within the project limits and beyond the project limits to inform the motorists and maintain traffic flow. In addition to vehicular MOT, Wagman also had to interact with the railway (CSXT) on a daily basis to ensure proper **coordination** between construction activities and rail traffic. Daily coordination was also required to ensure that the impacts to the numerous local businesses were minimized. Wagman and Parsons participated in extensive **public relations** and stakeholder coordination efforts that were required for this project due to the highly publicized nature of the project, as well as environmental constraints. The design-build (DB) team supported the Maryland State Highway Administration (MDSHA) in its outreach efforts to approximately 10,000 residents surrounding the corridor. More than 100 community meetings and public outreach hearings were held in which the DB team participated. The DB team established an **environmental** team to educate, assist, and monitor environmental compliance and progress. The team developed strategies to reduce impact, which were incorporated into written management plans, to include water quality monitoring, thermal reductions to stormwater runoff, reforestation, air quality management, noise mitigation, spill preventions, and stormwater pollution countermeasures. Rigorous reviews of design and construction for regulatory compliance were performed to ensure excellence in environmental stewardship. In order to have better control over environmental issues on this fast-track project, Wagman performed daily stabilization with in-house forces. Wagman added a hydro-seeding crew and purchased the required equipment, as well as adding multiple E&SC maintenance crews, to ensure better control over critical environmental work. These practices, which were perfected on the ICC A project, will be applied as necessary to the Route 29 Solutions. Extensive **utility relocation** efforts were required for utility owners, including PEPCO, Verizon, Comcast, Fibergate, Level 3, Neon, Washington Gas, WSSC Sewer, and Montgomery County water and sewer. The wet utility (water and sewer) relocations were performed in-house to maximize relocation efficiency and included the relocation of more than 6,000 linear feet of pipe. The DB Team had to coordinate the roadway design with the gas companies to ensure safe crossing of the roadway over multiple high pressure gas mains that were up to 30 inches in diameter. Utilities similar to these will require relocation on Route 29 Solutions, and Wagman will employ the same practices that were utilized on the ICC A project to ensure accurate communication with the utility owners and timely and properly coordinated relocation.

RELEVANCE TO THE DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

- DB with Parsons
- Fast-tracked
- Urban locations
- Bridges, including over water
- Geotechnical consideration
- Environmentally sensitive
- High ADT MOT (78,000 and greater ADT at interchanges and I-370)
- Staged construction with multi-phase MOT (3 phases)
- Mechanically stabilized earth (MSE) and cast-in-place (CIP) retaining walls
- Extensive utility relocations (water, sewer, gas, comm, and electric)
- Drainage
- Public involvement/SH coordination
- Construction quality control
- Overall project management
- Disadvantaged business enterprise (DBE) participation (15% goal/23% actual)

The Similar Scope Activities list, below, outlines work completed on the ICC A project that will be similar to the Route 29 Solutions. The design and coordination efforts demonstrated by the Wagman staff on the ICC A project illustrates their competency in regard to performing cooperative team work and coordinating with third-party entities on DB projects. Wagman worked closely with MDSHA on a comprehensive, third-party coordination effort to include organizing meetings, generating newsletters, providing website content, and addressing daily concerns. The proposed staff and their demonstrated experience with similar scope items will ensure continuity within the Wagman/Parsons team and within its approach and will result in an experienced team that is integrated and has a proven history of completing projects on time and within budget.

- More than 3 million cubic yards of excavation
- 55,000 linear feet of drainage pipe
- 190,000 linear feet of underdrain
- 101,240 square feet of retaining walls (MSE and CIP)
- 375,000 square feet of noise walls
- Over 20,000 square feet of support of excavation
- 18 bridge structures
- 25,000 linear feet of steel piles
- Curb and gutter and sidewalk
- Extensive MOT (including temporary roads and bridges)
- Stormwater management ponds and basin conversions
- 650,000 square yards of paving
- Guardrail/signage/signals/ITS/lighting/fencing
- Public relations
- Construction quality control
- Cut and cover deck-over structure
- Utility relocations

The ICC A project completion date was extended due to approved additional work and approved time extensions. The project was completed ahead of the revised contract completion date.

RELEVANT PROJECT PARAMETERS OF THE ICC CONTRACT A FOR THE DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

Delivering multiple projects concurrently on a fast-track schedule	The ICC Contract A was split into multiple segments, driven mostly by interchanges, that were designed and constructed concurrently.
Delivering projects in developed urban corridors	The project had three major interchanges within highly urbanized areas with existing roadways that had high ADT (78,000). Additionally, there was over 1.5 miles of widening on I-370.
Use of innovative design solutions and construction techniques	As mentioned above, many innovative construction techniques were used that included open bottom culverts, I-370 /MAR interchange re-design, alternative technical concept (ATC) submission to value-engineer (VE) and re-design a three-level interchange to a two-level trumpet interchange and context-sensitive designs.
Previous DB experience	This was a DB project.
Limiting impacts to the traveling public and affected businesses and communities, including commitments to effective strategies to minimize congestion during construction	An extensive traffic management plan (TMP) plan with a public communications plan was put into place and adhered to in order to keep motorists adequately informed.
Developing and managing effective communication strategies with business owners and other key stakeholders	A public relations plan was developed to ensure proper and early communication and interaction. Wagman worked closely with MDSHA to develop a comprehensive third-party coordination effort.
Previous success in taking and managing calculated risks and realizing incentives	Calculated risks included the various redesign and VE efforts outlined above. Wagman successfully redesigned a major interchange, resulting in cost and time savings, as well as numerous other efforts, such as utilizing open-bottom culverts in lieu of bridge structures.
Previous success in the coordination of complex utility relocation	The project had extensive utility relocations throughout the corridor, and particularly at the interchanges. Avoidance and protection options were explored as the preferred method. Where relocations were required, early and effective communications with the utility owners was paramount. Wagman worked with the utilities to develop a relocation design and to properly schedule the relocation work.
Meeting or exceeding required DBE program commitments	This project had a 15% overall minority business enterprise goal. Wagman exceeded the goal by achieving 23% MBE participation.

INNOVATIVE SOLUTIONS

Many **innovative solutions** were utilized to reduce cost and minimize impacts to the environment, such as open-bottom culverts, underground stormwater management structures to reduce thermal impact to adjacent streams, and redesign of the interchange with existing I-370 and the MAR access road to eliminate structures and reduce the quantity of retaining walls. As a joint venture partner, Wagman was responsible for the design and construction of the entire project. Wagman utilized the ATC process to redesign a three-level interchange into a two-level trumpet interchange, reducing bid cost and also reducing long-term maintenance costs for the owner. A complete TMP was developed for the project that included all phases of construction and project completion. Context-sensitive solutions were incorporated to ensure compliance with the aesthetic requirements and the projects commitment checklist. The project utilized three-dimensional modeling to assist with survey and earth-moving operations. The DB Team was able to adjust the vertical and horizontal alignment to eliminate excess excavated material.

LESSONS LEARNED

- Planning and coordination with extremely high traffic counts in excess of 78,000 requires detailed advanced planning and coordination, not only within the construction team but also with project stakeholders.
- Construction staging and sequencing is complex. Having sufficient equipment and human resources is necessary to execute work in multiple locations with complicated MOT requirements and restrictions.
- Geotechnical challenges required various types of bridge foundations. The ability to self-perform drilled shafts, driven piles, and predrilled pile foundations is key to successful project completion.

TEAM MEMBERS

Project staff on this project that is proposed to be utilized on the Route 29 Solutions project includes Anthony Bednarik, Mike Dugan, Josh Wade, Greg Anderson, and Alan Kite. Anthony served as the Assistant DBPM on the ICC A project and is proposed as the DBPM for this project. Mike Dugan will perform the same role, Structural Superintendent, on the Route 29 Solutions project, and will also fill the role of Lead for the Rio Road/Route 29 Intersection element. Greg Anderson and Alan Kite will serve in the same roles for this project.

PROJECT AWARDS

- 2012 Transportation - National Design-Build Award - Design-Build Institute of America (DBIA)
- 2012 Exemplary Ecosystem Initiatives Award - Federal Highway Administration (FHWA)
- 2012 Alliant Build America Award - Associated General Contractors of America (ACG)
- 2011 Northeast Region's Best Overall Project (Transportation) - Engineering News Record, Northeast Region (ENR Northeast)
- 2011 President's Award for Highways - American Association of State Highway and Transportation Officials (AASHTO)
- 2010 Intercounty Connector Safety Award – EFCO Corporation

* If actual contract completion date is different from the original contract completion date (i.e. early or late), please explain under Section (h) above. If early completion was due to an incentive please provide details.

** If actual contract value is different from the original contract value (i.e. more or less), please explain under Section (h) above.

*** For multiple phase projects, only single phase of construction (or single contract) will be considered as a Project. If additional phases are shown under the same Work History Form, only the first phase (or contract) listed will be evaluated.

ATTACHMENT 3.4.1(a)

LEAD CONTRACTOR - WORK HISTORY FORM

(LIMIT 2 PAGE PER PROJECT)

a. Project Name & Location ***	b. Name of the prime design consulting firm responsible for the overall project design.	c. Contact information of the Client or Owner and their Project Manager who can verify Firm's responsibilities.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual)*	f. Contract Value (in thousands)		g. Dollar Value of Work Performed by the Firm identified as the Lead Contractor for this procurement.(in thousands)
					Original Contract Value	Final Contract Value**	
I-495 Hot Lanes and DAT/DTR Interchange Tysons Corner, VA	HNTB	Bob Portley Fluor-Lane, LLC 571.527.3602 bob.portley@Fluor-Lane.com	December 2012	December 2012	$34,945	$43,062 (see explanation below)	$43,062

h. Narrative describing the Work Performed by the Firm identified as the Lead Contractor for this procurement. If the Offeror chooses to submit work completed by an affiliated or subsidiary company of the Lead Contractor, identify the full legal name of the affiliate or subsidiary and the role they will have on this Project, so the relevancy of that work can be considered accordingly.

THIS PROJECT SHALL BE EVALUATED AS A BRIDGE PROJECT

WAGMAN'S ROLE/PROJECT NARRATIVE

G.A. & F.C. Wagman, Inc. (as D.W. Lyle Corporation), participated in the $1.4 billion I-495 Hot Lanes Design-Build Public-Private Partnership Project as a subcontractor to Flour-Lane, LLC, on this $43 million section in Tyson's Corner that included the I-495 Beltway, the Dulles Access Road (DAR), and the Dulles Toll Road (DTR). This 3.5-year-long project, located in a highly congested urban area, consisted of new bridges and ramps to carry new high occupancy toll/high occupancy vehicle (HOT/HOV) lanes over I-495, DAR, and DTR, and also included the construction of ramps to connect the DAR and DTR to the HOT and HOV lanes. The Wagman/D.W. Lyle construction team constructed 16 bridges, three of which were over water, and approximately 140,000 square feet of mechanically stabilized earth (MSE) wall within the I-495 Beltway and at the interchange. All of the substructure and superstructure concrete work was self-performed by the construction team and combined various foundation techniques, including spread footings, driven pile, predrilled pile, and drilled shafts. The substructure construction consisted of hammerhead piers, column piers, and solid piers. In addition to the concrete work, the erection of prestressed concrete girders over the DAR, DTR, and associated ramps was also self-performed, and the construction team successfully worked with another Flour-Lane subcontractor to plan and coordinate the structural steel staging and erection. Superstructure construction included bridge decks with merging lanes, multiple cross slopes, and variable break points. The extensive support of excavation (SOE) package was designed in-house, as well as self-performed, and included specialized trench boxes, sheet piling soldier piling, and soldier piling with tiebacks. The SOE work and substructure work was constructed in very close proximity to traffic. Significant features of the project included the following:

- 1,240 linear feet of drilled shafts
- 26,291 linear feet of driven and pre-drilled H-pile
- 146,400 square feet of MSE wall
- 10,003 linear feet of prestressed bulb-tee girders
- Structural steel contractor coordination
- 8,796 cubic yards of superstructure concrete
- 5,803 cubic yards of substructure concrete
- 2,656,835 pounds of reinforcing steel

Due to the design-build (DB) nature of the project, the project changed significantly after the original contract was executed. The Metropolitan Washington Airports Authority (MWAA); Virginia Department of Transportation (VDOT); and Fluor-Lane, LLC, negotiated to add lanes and ramps for DATR, which posed implications to the initial design of numerous structures. Some bridges were originally designed with structural steel superstructures. These bridges were changed to prestressed concrete girder superstructures to accommodate fast-track changes and long lead times. In addition, numerous bridges were lengthened to accommodate additional travel lanes. The MSE wall quantities increased approximately 35 percent to allow more room for ramps and lanes between roadways. The Wagman (operating as D.W. Lyle) construction team participated in feasibility studies and constructability reviews to assist the design team in advancing the design changes to best accommodate the owner's needs and to best capitalize on work already performed. Despite the addition of the extra scope, valued at $8,117,000, the work was still completed within the original contract schedule. While there were no incentives offered, the expertise and resources of the construction team, as well as its ability to effectively coordinate DB work, allowed for the acceleration of the already **fast-tracked** schedule to accommodate the additional scope of work and still complete the contract **ahead of schedule**. The project required the relocation of numerous communication **utilities**. The construction team installed utility hangers on the new bridges, as well as installed conduits to accommodate the relocations. Upon completion, the construction team coordinated with the utility companies to have the cabling performed. In addition to communication utility relocations, the construction team also installed storm pipe and structures for new and relocated drainage systems. In addition to utility and structure work, the construction team also had to perform **maintenance of traffic** (MOT) work. MOT coordination and planning were critical both on a long-term and short-term (weekly, daily, and hourly) basis for this project. The project was constructed between temporary concrete barriers for the duration of the work. The construction team self-performed all daily and nighttime lane closures required for their work. Part of the MOT scope required the construction team's participation in **public outreach**. The construction team had to diligently plan MOT activities and communicate with VDOT through Flour-Lane to ensure proper motorist notification. Virtually every project-related activity required the planning and scheduling of traffic control, then safely and efficiently executing the activity plan so that the traveling public was not inconvenienced in one of the country's busiest interchanges. Additionally, due to the **environmentally sensitive** nature of the project, and the work that was performed over and above streams, there were numerous environmental constraints imposed on this project. The construction team exercised due diligence in construction and maintenance of the sediment control devices and maintained environmental compliance throughout the duration of the project.

RELEVANCE TO THE DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

- DB for VDOT
- Fast-tracked
- Urban corridor
- Bridges, including over water
- Geotechnical consideration
- Environmental
- High average daily traffic (ADT) MOT (greater than 89,000)
- Multi-phase MOT (2 phases)
- MSE walls
- Utility relocations (communications)
- Drainage
- Public involvement/SH coordination
- Staged construction
- Quality assurance/quality control
- Overall project management
- Disadvantaged business enterprise (DBE) goal (15% goal/17% actual)

The D.W. Lyle Corporation was acquired by G.A. & F.C. Wagman, Inc., in 2013. This strategic acquisition supplements our construction capabilities in Virginia and other southern states. G.A. & F.C. Wagman retained the key personnel from these acquisitions whose knowledge, resources, and experience strengthen the G.A. & F.C. Wagman team's overall capabilities. G.A. & F.C. Wagman is justified in utilizing a D.W. Lyle Corporation past project to satisfy the relevant project experience on the Design-Build Project for Route 29 Solutions due to the retention of D.W. Lyle Corporation's personnel and resources. The past experience of the acquired firm with VDOT, combined with G.A. & F.C. Wagman's past experience with VDOT, along with the combined resources, will ensure the successful completion of the Design-Build Project for Route 29 Solutions.

RELEVANT PROJECT PARAMETERS OF THE HOT LANES PROJECT FOR THE DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

Delivering multiple projects concurrently on a fast-track schedule	The HOT Lanes project required the concurrent construction of 16 structures within a 3.5-year duration. The construction duration was further compressed due to owner-initiated design changes, resulting in the lengthening of numerous structures.
Delivering projects in developed urban corridors	The project was located in the median of the I-495 Capital Beltway in one of the most congested areas of the state, Tysons Corner, with an ADT greater than 89,000.
Use of innovative design solutions and construction techniques	The DB team re-designed the structures to accommodate prestressed concrete girders in lieu of structural steel in order to accommodate the fast-track nature of the project and to minimize lead times.
Previous DB experience	This project was a DB project, and we participated in the process with Flour-Lane and VDOT.
Limiting impacts to the traveling public and affected businesses and communities, including commitments to effective strategies to minimize congestion during construction	An extensive traffic management plan with a public communications plan was put into place and adhered to in order to keep motorists adequately informed. The corridor has an ADT volume of greater than 89,000.
Developing and managing effective communication strategies with business owners and other key stakeholders	A public relations plan was developed to ensure proper and early communication and interaction, and Wagman worked closely with Fluor-Lane and VDOT to implement and maintain the plan.
Previous success in taking and managing calculated risks and realizing incentives	The team participated in constructability reviews and offered input into the re-design efforts of the structures mandated by VDOT. The team capitalized on work already completed on the original design in order to mitigate impacts from the re-design. This allowed the construction team to realize an incentive that consisted of both a cost and time savings.
Previous success in the coordination of complex utility relocation	The project required the relocation of communication lines. Proper communication and coordination with the utility providers ensured the proper relocation of the utilities without impacts to the project schedule or end users.
Meeting or exceeding required DBE program commitments	This project had an overall DBE goal of 15 percent. Wagman exceeded the goal by achieving 17% DBE participation

LESSONS LEARNED

- Planning and coordination with extremely high traffic counts (greater than 89,000) requires detailed advanced planning and coordination, not only within the construction team but also with project stakeholders.
- Construction staging and sequencing is complex. Having sufficient equipment and human resources is necessary to execute work in multiple locations with complicated MOT requirements and restrictions.
- Geotechnical challenges required various types of bridge foundations. The ability to self-perform drilled shafts, driven piles, and predrilled pile foundations is advantageous to ensure successful project completion.

TEAM MEMBERS

Project **staff** on this project that is proposed to be utilized on the Route 29 Solutions project includes Mike Mansfield and David Lyle. Mike Mansfield served as project manager for this project and will be serving as the DB Coordinator for the Route 29 Solutions. David Lyle served as executive oversight and will have the same role on Route 29 Solutions, serving in the executive committee. In addition to the utilization of the same staff, the construction team has also forged invaluable relationships with top-notch subcontractors, such as D.T. Read Steel Co. and Tavares Concrete. These additional resources helped the construction team achieve the required 15 percent DBE participation on this project. Resources such as these will also be utilized on the Design-Build Project for Route 29 Solutions to ensure Wagman achieves the required 13 percent **DBE** participation goal and maintains the aggressive project schedule.

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** If actual contract value is different from the original contract value (i.e. more or less), please explain under Section (h) above.

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ATTACHMENT 3.4.1(a)

LEAD CONTRACTOR - WORK HISTORY FORM

(LIMIT 2 PAGE PER PROJECT)

a. Project Name & Location ***	b. Name of the prime design consulting firm responsible for the overall project design.	c. Contact information of the Client or Owner and their Project Manager who can verify Firm's responsibilities.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual)*	f. Contract Value (in thousands)		g. Dollar Value of Work Performed by the Firm identified as the Lead Contractor for this procurement.(in thousands)
					Original Contract Value	Final Contract Value**	
I-95/I-695 Interchange (Section 100) Express Toll Lanes, Montgomery County, MD	Johnson, Mirmiran & Thompson, Inc.	David LaBella, PE Maryland State Highway Administration 410.931.0110 x251 dlabella@mdta.state.md.us	June 2010	August 2010 *(Contract extended due to extra work)*	$208,440	$216,788 *(Actual)*	$118,800 JV Lead Contractor (Wagman's Fee)

h. Narrative describing the Work Performed by the Firm identified as the Lead Contractor for this procurement. If the Offeror chooses to submit work completed by an affiliated or subsidiary company of the Lead Contractor, identify the full legal name of the affiliate or subsidiary and the role they will have on this Project, so the relevancy of that work can be considered accordingly.

THIS PROJECT SHALL BE EVALUATED AS A ROADWAY PROJECT

WAGMAN'S ROLE/PROJECT NARRATIVE

Wagman served as managing partner of the joint venture for this $210 million interchange reconstruction project north of Baltimore, Maryland. This three-year-duration, **fast-tracked** project had multiple concurrent work areas and phases and involved reconstructing the I-95 and I-695 interchange to eliminate a braided interchange and upgrade the interchange to allow for the construction of express toll lanes through the interchange. The project included two new mainline bridges on I-95 and four long, curved, steel flyover ramp structures to connect I-95 to I-695. In addition, the structural work included several small overpass bridges, mechanically stabilized earth (MSE) retaining walls, noise barriers, and extensive support of excavation. The project was completed ahead of the revised completion date, which was extended due to the addition of approximately $8 million of additional work. Significant project features included:

- More than 1 million cubic yards of excavation
- 242,000 square yard of lime-stabilized subgrade
- 31,100 linear feet of drainage pipe
- 63,000 linear feet of underdrain
- 69,170 square feet of MSE retaining walls
- 215,000 square feet of noise walls
- Extensive support of excavation
- Eight large bridge structures
- 113,000 linear feet of steel piles
- Curb and gutter and sidewalk
- Extensive MOT
- Stormwater management ponds
- More than 300,000 square yards of subbase
- 192,000 tons of paving
- Guardrail/signage/signals/intelligent transportation systems (ITS)/lighting/fencing
- Maintenance of stream flow
- Utility relocates with directional bore

The project included extensive roadwork that involved widening a total of 2 miles of I-95/I-695, new construction of over a mile of I-95/I-695, new construction of 1.5 miles of new ramps, and approximately 1 mile of reconstruction of secondary roadways. All of the widening work was done behind barriers against high average daily traffic (ADT). Extensive planning and coordination was required to ensure the proper delivery of materials, such as storm pipe, subbase stone, and asphalt. The project was divided into multiple concurrent work areas, and the Wagman team was successfully able to schedule and coordinate all of the roadway work to coincide with the maintenance-of-traffic (MOT) plans and the proper sequence of construction. The roadwork included over 1 million cubic yards of earthwork; lime stabilization for susceptible soils; extensive drainage and stormwater management; underdrains; stone subbase; asphalt paving; and roadway incidentals, including striping, signage, lighting, and ITS. While the project was not **design-build (DB)**, it did possess a unique DB element involving the redesign of the foundation system of the large flyover structures to implement standard H-pile over drilled and concrete piles. We offered this as a value-engineering (VE) proposal to the owner, which resulted in a cost savings of more than $1 million for the owner. By working closely with our foundation designer and the project's designer, we were able to complete the redesign of the foundations so that the owner could realize these significant savings. This VE proposal illustrates Wagman's commitment to utilizing **innovative design solutions** and our commitment to partnering with the owner in order to achieve their approval. Wagman had to maintain traffic through one of the most heavily traveled **urbanized** interchanges in the country. During construction, maintenance and protection of traffic **(MPT)** along I-95 and I-695 was a major component. We successfully achieved all contractual **project milestone dates** while optimizing traffic flow. Wagman worked with the designer to modify the MOT plan to minimize impacts to the traveling public and allow construction to continue unimpeded. We were able to erect large steel flyovers over a major highway similar to erection procedures that will be required for the Route 29 and Rio Road interchange. Through proper planning and coordination, the flyovers were constructed with minimum impact to the traveling public. The project required **utility relocations** that were performed by the Wagman team. There was approximately 810 linear feet of water line, with diameters up to 20 inches, which required relocation and included the installation of casing pipe by jack-and-bore and liner plate tunneling methods. In addition to the water, there was approximately 2,200 linear feet of sanitary sewer that needed to be relocated and included pipes up to 30 inches in diameter. The sanitary sewer relocations included the installation of jack-and-bore casing pipes, as well as bypass pumping systems that could manage up to 6 million gallons of sewerage per day. The secondary roadways also required gas main relocations. All of the utility relocations were successfully coordinated and managed by the Wagman team and were performed without impacts to the end users. This project was a highly publicized project and was also **environmentally sensitive**. The installation and maintenance of extensive sediment controls were required. In addition to sediment controls, there were numerous stream diversions and pump-arounds that were required for the installation of culverts. The Wagman team managed the sediment controls by taking a proactive approach, and field personnel were assigned to perform daily inspections of the sediment control devices. Any deficiencies, or threats to cause deficiencies, were immediately rectified in order to avoid compromise to the control devices. By taking a proactive approach and performing our due diligence to responsibly perform the construction, Wagman was able to maintain an "A" rating for erosion and sedimentation implementation and maintenance (an "A" rating is the highest) throughout the entire project.

The relevant items list below highlights work completed that will be needed on the Route 29 Solutions. The proposed staff and their demonstrated experience with similar scope items will ensure continuity in the Wagman/Parsons team and its approach and results in an experienced team that is integrated and has a proven history of completing projects on time and within budget. The Construction Manager proposed for the Design-Build Project for Route 29 Solutions, **Scott Miller**, was the project manager for this sample project. The methodologies and capabilities employed on this project will be utilized on the Design-Build Project for Route 29 Solutions to ensure successful and timely completion.

RELEVANCE TO THE DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

- Design of structure foundations
- Roadway elements
- Survey
- Large bridge structures requiring erection over major roadways
- Environmental
- Geotechnical engineering and construction
- Large retaining wall structures
- Subgrade improvements
- Drainage and stormwater basin conversions
- Traffic control devices/traffic management
- Multi-phase MOT (5 phases)
- High ADT MOT (180,000)
- Utility relocations
- Subbase and paving
- Roadway incidentals
- Public involvement/relations
- Construction quality control
- ITS
- Overall project management
- Coordination with adjacent projects
- MBE participation (16% goal/16.29% actual)

RELEVANT PROJECT PARAMETERS OF THE II-95/I-695 INTERCHANGE FOR THE DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

Delivering multiple projects concurrently on a fast-track schedule	The section 100 project had multiple concurrent work areas and was split into 5 phases to coincide with the MOT plan. The project required $210 million of work to be completed in only three years. The different work areas had to be completed simultaneously in order for the project to advance to subsequent phases.
Delivering projects in developed urban corridors	The project was located in one of the highest ADT (180,000) and busiest urban interchanges in the country. The project included reconstruction and widening along two miles of I-95 and I-695.
Use of innovative design solutions and construction techniques	As mentioned above, the Wagman team was able to redesign structure foundations to utilize driven H-pile in lieu of drilled and concrete pile.
Previous DB experience	This was a not a DB project, but Wagman performed a re-design of structure foundations for a VE.
Limiting impacts to the traveling public and affected businesses and communities, including commitments to effective strategies to minimize congestion during construction	An extensive TMP with a public communications plan was put into place and adhered to in order to keep motorists adequately informed. This section of I-95 has an ADT greater than 180,000.
Developing and managing effective communication strategies with business owners and other key stakeholders	A public relations plan was developed to ensure proper and early communication and interaction, and Wagman worked closely with the Maryland Transportation Authority to implement and maintain the plan.
Previous success in taking and managing calculated risks and realizing incentives	Calculated risks included the various redesign and VE efforts outlined above. Wagman successfully redesigned major structure foundations, which resulted in cost and time savings for the project.
Previous success in the coordination of complex utility relocation	The project required the relocation of water, sanitary sewer, and gas. Wagman performed the water and sewer in-house and coordinated with a subcontractor for the gas. The progression of the work allowed for the timely installation of casing pipes as required to accommodate the utility relocations. The relocation effort was completed on time without impact to the end users.
Meeting or exceeding required disadvantage business enterprise program commitments	This project had an overall minority business enterprise goal of 16%. Wagman exceeded the goal by achieving 16.29%.

LESSONS LEARNED

- Planning and coordination with extremely high traffic counts requires detailed advanced planning and coordination not only within the construction team but also with project stakeholders.
- Erection of curved steel girder required Wagman to properly prepare and execute a project erection plan. The availability of sufficient equipment and human resources to prosecute work in multiple locations was key to successfully executing the various lifts.
- Geotechnical challenges required various types of bridge foundations. The ability to self-perform drilled shafts, driven piles, and predrilled pile foundations is key to successful project completion. VE of modified pier foundations allowed for costs savings to be shared with the owner.

PROJECT AWARDS

- 2011 National Achievement Award, Special Recognition for a Structure Project – National Partnership for Highway Quality (NPHQ)
- 2011 Award of Excellence, Partnering Silver Award – Maryland Quality Initiative (MDQI)
- 2011 Award of Excellence, Structure New/Structure Rehabilitation Over $5 Million – MDQI
- 2010 Silver Award for Public Communication – NPHQ
- 2010 Excellence in Concrete Award – American Concrete Institute (ACI), Maryland Chapter

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ATTACHMENT 3.4.1(c)

LEAD DESIGNER - WORK HISTORY FORM

(LIMIT 2 PAGE PER PROJECT)

a. Project Name & Location***	b. Name of the prime/ general contractor responsible for overall construction of the project.	c. Contact information of the Client and their Project Manager who can verify Firm's responsibilities.	d. Construction Contract Completion Date (Original)	e. Construction Contract Completion Date (Actual or Estimated)*	f. Contract Value (in thousands)		g. Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)
					Construction Contract Value (Original)	Construction Contract Value (Actual or Estimated)**	
Design-Build Intercounty Connector Contract B Montgomery County, MD	MD200 Constructors, a JV (A joint venture between Kiewit, Corman, and G.A. & F.C. Wagman)	Maryland State Highway Administration 301-586-9267 Project Manager: Mark Coblentz Phone: 443-844-9886 (cell) MCoblentz@iccproject.com	11/2011	11/2011	$560,000	$570,000 (increase due to additional client requested scope	$40,900

h. Narrative describing the Work Performed by the Firm identified as the Lead Designer for this procurement. Include the office location(s) where the design work was performed and whether the firm was the prime designer or a subconsultant.

PARSONS' ROLE

Parsons served as lead designer for DB Segment B of the Intercounty Connector (ICC). The project was performed on an accelerated schedule through a design-build (DB) delivery process. Parsons' offices were in Beltsville, Maryland; Washington, D.C.; and Fairfax, Virginia, and Parsons performed the design work. Parsons was responsible for the overall design of this toll road, including intelligent transportation systems (ITS), electronic toll collection (ETC), traffic signals, signing and pavement marking, more than 80 acres of reforestation, hiker and biker trails, and the relocation of six side roads. The project requirements called for numerous environmental protections, mitigations, and construction methods. As the lead designer, Parsons designed and met these stringent environmental requirements and developed several innovative designs to minimize impacts to the surrounding environment. What resulted from the work of more than 150 designers is a successful and environmentally friendly roadway project that was designed under a fast-track schedule.

PROJECT FEATURES/NARRATIVE

The 6.9-mile DB project consisted of a six-lane, controlled-access toll road, including a diamond interchange, a single-point interchange, and 10 new bridges. Other project features included traffic signals, signing and pavement marking, stream restoration, more than 80 acres of reforestation, miles of hiker and biker trails along the roadway, and the relocation of six side roads. The project also had extensive ITS components, including integration with the existing administration's Authority Operations Center (AOC) and Coordinated Highways Action Response Team (CHART) program and closed-circuit television (CCTV), dynamic message signs (DMS), highway advisory radio (HAR), a road weather information system (RWIS), fiber-optic communications, telephone communications, electrical services, and other improvements to provide a fully functioning ITS. Several new intersections were added, along with modifications to five intersections to accommodate the new traffic patterns. In addition, signals and construction activities were coordinated with several bus routes, new and existing, to optimize and accommodate transit service through the area. The project requirements called for numerous environmental protections, mitigations, and construction methods. The project called for the development of plans to not preclude the ultimate improvements of Maryland Route 28, a major roadway going through the corridor with long-range plans for improvements. The project was split into three segments, much like the Design-Build Project for Route 29 Solutions, with portions on new alignment, some roadway widening/reconstruction and grade seperations to facilitate an accelerated schedule, and design approval and permitting. A design segment lead was assigned to coordinate each segment, and that design segment lead worked closely with the corresponding superintendent for that segment to develop the optimized plans and coordinated with the discipline leads, environmental staff, construction leads, client staff, and third parties to ensure complete interdisciplinary, environmental, constructability, safety, and over-the-shoulder reviews were all completed thoroughly and on time. This process and structure led to the project being substantially completed ahead of schedule and on budget.

SCOPE AND COMPLEXITY SIMILARITIES

- DB
- Same contractor and lead designer
- Time-of-year restrictions on construction activities
- Stormwater management (SWM)/drainage systems
- Designs accommodated the future improvements to Maryland Route 28
- 64,000 square feet of retaining and MSE walls
- 455,000 square yards of hot-mix asphalt pavement, which encompassed new access ramps to two major interchanges
- Geotechnical borings and engineering for bridge piers and SWM facilities
- Traffic control/maintenance of traffic (MOT), including for work in major roadway medians and innovative changes to request for proposal (RFP) MOT plans, allowing for safer conditions and reduced pattern changes
- Existing roundabout interaction and modifications at Longmead Crossing Drive
- Transit element, including bus route coordination
- Lighting/signalization and intersection improvements/modifications
- ITS
- Public relations – Community outreach to nearby residents and homeowners associations (HOAs)
- Utility coordination/relocations – Coordinated with more than 12 utility companies and completed relocations at more than 100 locations, including water, sewer, power/electrical, cable, and fiber optic, underground, and overhead
- Adjacent project coordination
- Quality assurance/quality control (QA/QC) – Dedicated QC team was assigned to QA/QC duties

ICC B Longmead Crossing Drive Overpass (Over the ICC) and Roundabout

The MD 650 interchange included significant challenges in regard to the number of existing utilities and the need for a depressed section to allow for the grade separation of the two roadways. These utility-relocation and conflict-resolution needs were part of the critical path, much like the situation at Rio Road for the Design-Build Project for Route 29 Solutions. Through the experience, knowledge, and hard work of the entire DB team, we were able to develop methods to remove much of the work from the critical path, avoid several of the complex relocations, and deliver the interchange on time and budget. The solutions to this challenge included an innovative MOT and phasing scheme that maintained all through lanes throughout construction, built the structure in halves, and avoided any temporary structures or detours. The result was completion of the interchange on time and reduced impacts to the traveling public, nearby community, and environment.

RELEVANT PROJECT PARAMETERS OF THE ICC CONTRACT B FOR THE DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

Delivering multiple projects concurrently on a fast-track schedule	The Intercounty Connector Contract B was split into three segments that were designed and constructed concurrently. Each segment was completed on time and within budget.
Delivering projects in developed urban corridors	Portions of the alignment threaded through developed neighborhoods with community sensitivities. Extra precautions and mitigation measures were taken for these challenges, including additional community meetings, restrictions for construction vehicles on neighborhood streets, the use of hay bales, early noise wall installation, and other techniques to reduce noise impacts during construction activities.
Use of innovative design solutions and construction techniques	As mentioned above, many innovative construction techniques were used, such as hay bales to reduce noise during construction activities and triple-redundant SWM treatment through grass ditches; sand filters; infiltration trenches; Contech stormfilters; and underground SWM basins that treated quantity, quality, and temperature. In addition, the design and construction of the MD 650 interchange was changed from the RFP concept to allow for it to be built in halves while utilities were cleared through jacking and other methods to allow for the reduction of the construction phases and to reduce the overall construction schedule. This also removed the need for any long-term lane closures, further reducing the impacts on the community and traveling public.
Previous DB experience	This was a DB project.
Limiting impacts to the traveling public and affected businesses and communities, including commitments to effective strategies to minimize congestion during construction	As mentioned previously, impacts to the neighboring communities were reduced through restrictions on construction vehicles on neighborhood streets and additional controls, such as no left turns or U-turns at congested intersections. Additionally, proactive public and business outreach minimized unexpected conditions.
Developing and managing effective communication strategies with business owners and other key stakeholders	The ICC projects were all very good examples of an effective, proactive, and strong public outreach program. Due to the varying demographics and land uses throughout the corridor, multiple strategies were employed to reach the communities and businesses. Direct mailings and HOA contacts were used, and often, as well as monthly newsletters; website updates; meetings with HOAs, communities, and businesses, as well as individual homeowners as needed; and door-to-door contacts. These efforts were successful due to the partnering approach of all involved.
Previous success in taking and managing calculated risks and realizing incentives	Some of the additional calculated risks associated with this project included changing some items that resulted in additional risks associated with the additional National Environmental Policy Act (NEPA) clearance that would be required, adding the risk of schedule delay. Having such experienced NEPA experts on the team allowed for this risk to be managed, and the incentives, such as allowing for a more convenient disposal of waste material, was realized.
Previous success in the coordination of complex utility relocation	The project had extensive utility relocations throughout the corridor, but the challenges at the MD 650 interchange were, by far, the most complex. This interchange had more than a dozen different utilities with multiple installations, including Verizon duct banks, Washington Suburban Sanitary Commission water and sewer lines, various electrical and communication lines, and gas. A complex model was developed, along with a matrix of all of the elements that helped determine all of the possible conflicts. Once this was done, coordination with the utilities continued (it started during the request for qualifications development), avoidance and protection options were developed (such as protection slabs, retaining walls, and sleeves), and relocation plans were developed for those that could not be avoided. Working with the utilities early on reduced any unexpected impacts when scheduling their reviews, field inspections, or work forces. This is a necessary step early in the process, since most utility companies plan out their work force and resource allocation as much as three years ahead, making it harder to modify on short notice.
Meeting or exceeding required disadvantage business enterprise (DBE) program commitments	This project had both an overall DBE goal as well as a professional services DBE goal. Both of these goals, including a significant number of additional on-the-job trainees, were achieved.

VERIFIABLE EVIDENCE OF GOOD PERFORMANCE

The project earned "A" cumulative ratings on more than 150 erosion and sediment control inspections. Design, construction, and program management was assessed by the Maryland State Highway Administration, where contract conformance was scored using a quality oversight database. The project ended with the project team earning a 95 percent conformance rating and meeting all key project goals. ICC B was successfully completed on schedule and on budget.

AWARDS

- 2013 *ENR* (Mid-Atlantic Division) Best Project –Transportation
- 2012 ARTBA Globe Environmental Award – Major Highway
- 2012 MdQI Silver Partnering Award

TEAMING EXPERIENCE

- Proposed Design-Build Project Manager (DBPM) Anthony Bednarik was the assistant DBPM and DB coordinator.
- Parsons was the lead designer.
- Josh Wade was the design manager.
- Greg Anderson was the design QA/QC manager.
- Travesky & Associates was the public outreach firm.
- Athavale, Lystad and Associates and T3 Design both served in similar roles for the client's general engineering consultant.

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ATTACHMENT 3.4.1(c)

LEAD DESIGNER - WORK HISTORY FORM

(LIMIT 2 PAGE PER PROJECT)

a. Project Name & Location ***	b. Name of the prime/ general contractor responsible for overall construction of the project.	c. Contact information of the Client and their Project Manager who can verify Firm's responsibilities.	d. Construction Contract Completion Date (Original)	e. Construction Contract Completion Date (Actual or Estimated)*	f. Contract Value (in thousands)		g. Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)
					Construction Contract Value (Original)	Construction Contract Value (Actual or Estimated)**	
I-64/Route 15 (Zion Crossroads) Interchange Improvements Design-Build Louisa County, VA	Corman Construction	Laurence Farrell Virginia Department of Transportation – Culpeper District (540) 829-7627 Laurence.Farrell@vdot.virginia.gov	April 2014	April 2014	$6,883	$6,883	$923

h. Narrative describing the Work Performed by the Firm identified as the Lead Designer for this procurement. Include the office location(s) where the design work was performed and whether the firm was the prime designer or a subconsultant.

PARSONS' ROLE

Parsons was the lead designer to design and construct improvements to the Route 15 and I-64 interchange in Louisa County, Virginia. As the lead designer, Parsons was responsible for all components of roadway design, 3D modeling, traffic analysis, drainage design, geotechnical investigations, signing and lighting, the development of a traffic management plan (TMP), and other related work. Parsons was also responsible for public involvement for this project. As-builts of the project were formally accepted by the Virginia Department of Transportation (VDOT) on August 18, 2014.

PROJECT NARRATIVE

This design-build (DB) project improved traffic operations and safety by converting the existing standard diamond interchange into a diverging diamond interchange (DDI) and by improving the Route 15 and Spring Creek Parkway intersection. This is the first DDI in the commonwealth of Virginia. The project included important land-use access throughout the area.

Parsons' innovative redesign of VDOT's initial concept further improved safety while reducing maintenance costs, the number of maintenance-of-traffic (MOT) phases, overall costs, and the construction schedule.

RELEVANCE TO DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

- DB project for VDOT
- In the same VDOT district as the Design-Build Project for Route 29 Solutions
- Innovative intersection design
- Divided roadway
- Multiple MOT phases
- Public involvement with stakeholders, including adjacent landowners important for continued safe and efficient access through the site
- Importance of design quality control (QC); ISO-certified QC program will be used to develop the design QC program for this project

RELEVANT PROJECT PARAMETERS OF THE I-64/ROUTE 15 INTERCHANGE FOR THE DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

Delivering multiple projects concurrently on a fast-track schedule	This project was completed while working on the I-395 HOV Ramp and Auxiliary Lane Design-Build project for VDOT.
Delivering projects in developed urban corridors	The Route 15 corridor in the vicinity of this project consists of many businesses such as the Walmart distribution center, Sheetz, McDonald's, strip-mall-type developments, as well as several nearby communities. A very good outreach effort performed by Parsons and VDOT was able to keep the stakeholders abreast of the progress and activities of the project, as well as explain how the new configuration would operate. The successfully completed project (including as-built acceptance) is a testament to our ability to deliver projects to VDOT on time and on budget.
Use of innovative design solutions and construction techniques	This project is the first DDI in Virginia. Our winning concept was a modification to VDOT's request for proposal (RFP) concept. Parsons' concept further improved the overall safety of the interchange, reduced maintenance requirements, improved the overall construction schedule, and significantly reduced the overall costs.
Previous Design-Build experience	This project was a DB project for VDOT and within the same Culpeper District.
Limiting impacts to the traveling public and affected businesses and communities, including commitments to effective strategies to minimize congestion during construction	An effective outreach program, discussed below, was put in place to reduce stakeholder confusion and explain access throughout the project. Additionally prior to the switchover of the signals to the ultimate configuration, a detailed, step-by-step plan was developed and practiced showing how the work would progress. In addition, a plan was put in place to allow for final work to be done without out-of-the-way detours and allowing for continual access to the businesses throughout the project.

Developing and managing effective communication strategies with business owners and other key stakeholders	As mentioned above, a very good outreach effort performed by Parsons and VDOT was able to keep the stakeholders abreast of the progress and activities of the project, as well as explain how the new configuration would operate. The program consisted of several public meetings held along the project corridor; website updates; email notifications; and information cards that were distributed at the meetings, door to door, and at card displays at the hotel and truck stop on the corridor. In addition, a 3D model was developed to help explain the ultimate configuration and how to navigate it once it was opened. This drive- through was used at each of the public meetings alongside a traffic simulation model showing how the traffic flow would occur. As a further testament to the success of the stakeholder outreach and the overall project, several of the county supervisors stood up at the final meeting for the project and testified to their and their constituents' happiness with the project, with many of the supervisors going on to say how happy they were with the overall process and dealing with the team.
Previous success in taking and managing calculated risks and realizing incentives	The risk of this project was mainly with the overall stakeholder acceptance. This was managed through the extensive outreach performed by the team.
Previous success in the coordination of complex utility relocation	Parsons was able to minimize the utility relocations of this project with our redesign of the RFP concept. This is the best way to manage utility conflicts — avoid them.
Meeting or exceeding required Disadvantage Business Enterprise Program commitments	Parsons exceeded the disadvantaged business enterprise goal for the project.

DESIGN INNOVATIONS

- This is the first DDI in Virginia.
- The interchange conversion requires a unique TMP and MOT development.

LESSONS LEARNED

- Construction drawings on this VDOT DB project will be directly relatable.
- The public relations task will be very similar, in that there was significant coordination with the local businesses to ensure minimal impacts to their operations, including the extensive operations performed by the Walmart Distribution Center. This effort also included explaining construction phase configurations, detours, and final configuration to the professional drivers, as well as the general public (nearby residences and communities and traveling public) to ensure smooth traffic operations during all phases of the project and to help the users of the facility understand the final configuration and travel paths to be put in place.
- The quality control (QC) program, based on and in conformance with our ISO certification, will be applied to the development of the design QC for the Design-Build Project for Route 29 Solutions.
- Right-of-way requirements from the general public were designed out of the project, and therefore removed from the critical path.
- Utility impacts were reviewed early with input from VDOT and the utilities themselves to allow for a further refinement of the improvements, reduce conflicts, schedule work to minimize impacts to the schedule, and remove the activities from the critical path.

TEAM MEMBERS

Many of the same team members on this project will perform the same roles and carry the lessons learned over to the Design-Build Project for Route 29 Solutions, including the following:

- Parsons was the lead designer.
- Josh Wade as design manager.
- Greg Anderson as design quality manager.
- Endesco, Inc., as our drainage, hydraulic and hydrologic, and erosion and sediment control subconsultant.

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ATTACHMENT 3.4.1(c)

LEAD DESIGNER - WORK HISTORY FORM

(LIMIT 2 PAGE PER PROJECT)

a. Project Name & Location***	b. Name of the prime/ general contractor responsible for overall construction of the project.	c. Contact information of the Client and their Project Manager who can verify Firm's responsibilities.	d. Construction Contract Completion Date (Original)	e. Construction Contract Completion Date (Actual or Estimated)*	f. Contract Value (in thousands)		g. Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)
					Construction Contract Value (Original)	Construction Contract Value (Actual or Estimated)**	
Woodrow Wilson Memorial Bridge Virginia, Maryland, and Washington, D.C.	**Foundations:** Tidewater Construction Corp./ Kiewit Construction Co./Clark Construction Group **VA Approach:** Granite Construction Co./ Corman Construction **MD Approach:** Edward Kraemer and Sons/American Bridge/ Trumbell Corp./Wagman **Bascule Span:** American Bridge/Edward Kraemer and Sons	Shirlene Cleveland (was PM with SHA during the project) Virginia Department of Transportation (703) 691-6710 Shirlene.Cleveland@vdot.virginia.gov	April 1999	December 2008	$632,093	$680,004	$42,970

h. Narrative describing the Work Performed by the Firm identified as the Lead Designer for this procurement. Include the office location(s) where the design work was performed and whether the firm was the prime designer or a subconsultant.

PARSONS' ROLE

Parsons was the lead designer to perform conceptual and final design for this design-bid-build (DBB) project to replace the Woodrow Wilson Bridge, south of Washington, D.C. The work for which our proposed key staff is responsible consisted of preparing the design for five construction contracts, and all were completed within the original conceptual engineer's cost estimate of $680 million. Other responsibilities included constructing a bridge within a very heavily traveled corridor, designing a structure with a 75-year minimum life within a corrosive environment (e.g., deck salts used in winter, foundations in brackish water, etc.), and meeting stringent environmental commitments. Parsons also provided construction-phase services for this project, including the review of more than 30,000 shop and working drawings, responding to numerous field issues, requests for information, field design changes, and construction noncompliance issues.

PROJECT NARRATIVE

The Woodrow Wilson Bridge is the only Potomac River crossing in the southern half of the Washington, D.C., metropolitan area. It carries the Capital Beltway (I-495), which is a part of I-95, the main north-south interstate route on the East Coast. Approximately 6,000 feet long, the new 234-foot-wide bridge comprises 34 fixed spans, divided into two independent structures, and a 260-foot-long, eight-leaf bascule span. Given the movable span and location of this project, it is probably more similar to the FDMB than any project in the nation. The bascule leaves of this monumental project represent the largest movable mass of any bridge in the world.

RELEVANCE TO DESIGN-BUILD PROJECT FOR ROUTE 29 SOLUTIONS

- Significant structural design
- Multiple segments concurrently in a urban environment
- Significant public outreach
- ISO 2001-based quality assurance/quality control plan
- Innovative structure with pier placement constraints (see Risk #5 in Section 3.5 for details on the relevance to the Design-Build Project for Route 29 Solutions)
- Both Parsons and Wagman involved with portions of the project

RELEVANT PROJECT PARAMETERS OF THE WOODROW WILSON MEMORIAL BRIDGE FOR THE ROUTE 29 SOLUTIONS PROJECT

Delivering multiple projects concurrently on a fast-track schedule	This project included multiple packages that all were developed concurrently, including the approaches, the structure, and the movable span.
Delivering projects in developed urban corridors	This project was in the middle of the busy interstate connecting Old Town Alexandria; Washington, D.C.; and Oxon Hill, Maryland. The Virginia side, in particular, had challenges specific to this type of environment, with historic, park, and community elements all involved.
Use of innovative design solutions and construction techniques	Discussed in more detail below, the project was designed with a series of independent precast, post-tensioned segmental v-shaped arch piers. Special concrete requirements were also used.
Previous design-build experience	This contract involved significant coordination with contractors through the multiple bid processes and eventual construction, as well as the adjacent project designers and contractors.
Limiting impacts to the traveling public and affected businesses and communities, including commitments to effective strategies to minimize congestion during construction	The overall project design developed by Parsons won a blind design competition as providing the best design with the least community impacts. One example of the reduced impacts includes the project's design that allowed for one complete span to be constructed while the existing bridge remained in use, then traffic was shifted to the new span and the old bridge was demolished. Finally, the last span was completed and fully opened.
Developing and managing effective communication strategies with business owners and other key stakeholders	From the initial, early phases through final design completion, the Woodrow Wilson Bridge project had a significant public outreach program, including a design center in Old Town Alexandria that allowed for public meetings, communication, and outreach to the various stakeholders.
Previous success in taking and managing calculated risks and realizing incentives	In winning the blind design competition, Parsons took the calculated risks and managed them through our knowledge of bridge design and the stakeholders' desires. This risk resulted in the winning concept and eventual gateway bridge being constructed.

Previous success in the coordination of complex utility relocation	As you can imagine, there were utility conflicts that had to be managed, including on both approaches and across the bridge itself, to accommodate the construction of the new bridges, demolition of the old bridge, the needed navigation warning systems, and the movable span itself.
Meeting or exceeding required disadvantage business enterprise (DBE) program commitments	Due to a late scope change removing the Rosalie Island deck over from the final design and a planned DBE not getting its certification in time, the project was 1 percent short of the DBE goal of 15 percent.

DESIGN INNOVATIONS

- To provide an arch bridge appearance, designed a series of independent precast, post-tensioned segmental v-shaped arch piers constructed with haunched continuous steel girder spans that matched the curvature in the pier legs to provide an arch-shaped appearance. This system produced vertical loads in the pier foundations in lieu of the horizontal thrust characteristics of conventional arch bridges. This design feature not only provided the desired arch appearance but also provided a very economical foundation design, particularly in consideration of the poor river bottom soils.
- Used high-performance concrete, strict concrete curing requirements, stainless steel reinforcing steel in the bascule span, and numerous details to provide a long bridge life.
- Bascule control tower was supported on the bascule pier to provide an unobstructed view of the river channel and approaching ships.

LESSONS LEARNED

- During the initial bid done during a hostile bid environment after 9/11, received very high bid. After doing some value engineering and repackaging the bridge into three smaller construction projects, the second bid resulted in an approximately 40 percent reduction in cost compared to the initial bid.

Awards

- 2000 Federal Design Achievement Award
- 2001 Engineering Excellence Award – Design Grand Award Winner
- 2002 Engineering Excellence Award – Design Grand Award Winner
- 2002 Project of the Year
- 2004 Making a Difference Gold Award for Risk Taking
- 2006 Gold Award of Excellence
- 2007 Bridge Award of Excellence
- 2007 EEA Competition Grand Award
- 2007 EEA Grand Award
- 2007 Outstanding Engineering Achievement
- 2007 Outstanding Project in the Building/Technology/Structural Systems Category
- 2008 Engineering Excellence Award
- 2008 Grand Prize Winner – America's Transportation Award
- 2008 Marvin M. Black Excellence in Partnering Grand Award Winner
- 2008 OPAL-Outstanding Civil Engineering Achievement
- 2008 Top 10 Roads
- 2009 Gustav Lindenthal Medal
- 2009 National Special Award
- 2009 Outstanding Large Project Award
- 2009 Prize Bridge Competition, Iconic Bridge
- Outstanding Civil Engineering Project

TEAM MEMBERS

Many of the same team members on this project will perform in the same roles and carry the lessons learned over to the Design-Build Project for Route 29 Solutions, including the following:

- Parsons was the lead designer.
- Josh Wade as design engineer.
- Greg Anderson as design quality manager.

* If actual contract completion date is different from the original contract completion date (i.e. early or late), please explain under Section (h) above. If early completion was due to an incentive please provide details and if design was a factor in achieving the incentive.

** If actual contract value is different from the original contract value (i.e. more or less), please explain under Section (h) above and if design was a factor.

*** For multiple phase projects, only single phase of construction (or single contract) will be considered as a Project. If additional phases are shown under the same Work History Form, only the first phase (or contract) listed will be evaluated.