



I-81 Widening MM 221 to MM 225 Design-Build

Statement of Qualifications

State Project No.: 0081-007-013, B638, B639, B640, B641,
B642, C501, D602, D603, P101, R201
Federal Project No.: NHPP-081-2(329)

Contract ID Number: C00116269DB116



Electronic Submission

Due Date
August 17, 2022

Submitted by
Wagman Heavy Civil, Inc.
3290 N. Susquehanna Trail
York, PA 17406

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General Construction | Heavy Civil | Geotechnical

in association with



3.2

Letter of Submittal

August 17, 2022

Joseph A. Clarke, PE, DBIA
Alternative Project Delivery Division
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

RE: I-81 Widening MM 221 to MM 225
A Design-Build Project | C00116269DB116
3.2 Letter of Submittal

Dear Joseph Clarke:

Wagman Heavy Civil, Inc. is pleased to submit our SOQ for I-81 Widening MM 221 to MM 225 Design-Build (DB) project. In accordance with the Letter of Submittal requirements for Section 3.2, we offer the following additional information for review:

3.2.1 Legal Offeror Name and Address: Wagman Heavy Civil, Inc., with an address of 3290 North Susquehanna Trail, York, PA 17406, is defined as the legal entity who will execute the contract.

3.2.2 Authorized Representative/Point of Contact:
**Glen Mays, DBIA, Vice President,
Design-Build Project Manager**
26000 Simpson Road, North Dinwiddie, VA 23803
(P) 804.631.0000 (F) 804.733.6281
(E) gkmays@wagman.com

3.2.3 Principal Officer Information:
Greg Andricos, PE, President & COO
3290 North Susquehanna Trail, York, PA 17406
(P) 717.767.8292; (F) 717.767.5546
(E) gmandricos@wagman.com

3.2.4 Offeror's Structure Financial Responsibility, Bonding Approach: Wagman Heavy Civil, Inc. will be the sole proposer/entity with VDOT will directly contract; will undertake the financial responsibility; and has no liability limitations. Wagman Heavy Civil, Inc. is a corporation and will provide a single 100% performance bond and 100% payment bond for the total DB contract value.

3.2.5 Full Legal Name of Lead Contractor: Wagman Heavy Civil, Inc. **Lead Designer** is Wallace, Montgomery & Associates, LLP.

3.2.6 Affiliated and Subsidiary Companies: The full legal name and address of all affiliated and/or subsidiary companies of Wagman Heavy Civil, Inc. are provided on Attachment 3.2.6 in the Appendix. Wallace, Montgomery & Associates, LLP has no affiliated or subsidiary companies.

3.2.7 Certificates Regarding Debarment: Signed Certificates Regarding Debarment Forms for Primary (Attachment 3.2.7 (a)) and the Lower Tier firms (Attachment 3.2.7 (b)) are included in the Appendix.

3.2.8 VDOT Prequalification Certifications: Wagman Heavy Civil, Inc. (W002) is active, in good standing, and prequalified to bid on the Project. Evidence of prequalification is included in the Appendix.

3.2.9 Evidence of Obtaining Bonding: Evidence of a letter of surety is found in the Appendix stating Wagman Heavy Civil, Inc. is capable of obtaining a performance and payment bond based on the current estimated DB contract value referenced. This bond will cover the project and any warranty period.

3.2.10 Compliance with Laws and Required Registration: Current SCC Certificates, DPOR licenses, and staff license are included in the Appendix.

3.2.11 Achieving a Six Percent (6%) DBE Participation Goal: Wagman Heavy Civil, Inc. is committed to achieving the 6% DBE participation goal for the entire contract value.

Wagman Heavy Civil, Inc. has a successful history serving Virginians on numerous projects. As a single, integrated DB Team, we will design and construct this project and ensure the greatest opportunity for success, including the potential for an expedited delivery. Thank you for the opportunity to submit our Statement of Qualifications.

Sincerely,
Wagman Heavy Civil, Inc.


Glen Mays, DBIA, Vice President Virginia Operations, Design-Build Project Manager

3.3

Offeror's Team Structure

The Wagman Design-Build Team

The Wagman Design-Build Team (hereafter referred to as the DBT) understands the importance of the 325 mile I-81 corridor in Virginia and its impact on local residents, commuters, institutions of higher education, and the national trucking industry. This Project is located in Augusta County, just east of the City of Staunton, and includes the interchange of I-81 with I-64, US 250, and Route 262 within its project limits. Stakeholders along this incredibly important segment of I-81 deserve an extraordinary team that has experience delivering similar projects safely, on time, and within budget while limiting impacts to the traveling public, businesses, and local communities, allowing them to make use of the additional lane of capacity. We are that Team. Wagman has extensive experience working on heavy civil projects across the east coast for over 100 years and will bring the knowledge, skills, and expertise we have learned along the way to provide the overall best value to VDOT. *We offer VDOT a truly integrated DBT that has previously established relationships and produced successful results working together.* Wagman has significant experience working directly with our Lead Designer, Wallace Montgomery (WM), and Quality Assurance Manager, Quinn Consulting (Quinn) on recent projects:

- I-95 Express Toll Lanes (ETL) in Baltimore, Maryland. Federally funded \$220M design-bid-build project completed to widen I-95 and provide new ETLs through the corridor, including a major interchange at I-95/I-695. Wagman was the managing partner of a tri-venture construction team. WM was responsible for coordinating corridor-wide maintenance of traffic during construction including all adjacent projects.
- MD 404 Dualization Design-Build Project on the Eastern Shore of Maryland. Federally funded \$114M design-build project to transform 9-miles of existing two-lane roadway into a four-lane divided highway. Wagman led a tri-venture construction team and WM served as Lead Designer designing and constructing the project in 18 months.
- I-95 Southbound Rappahannock River Crossing (RRC) in Stafford County, Virginia. Federally funded \$132M design-build project to reduce congestion on I-95 in Fredericksburg by providing additional travel lanes on I-95 between Route 17 and Route 3 and a new southbound bridge over the Rappahannock River. Wagman was the design builder and Scott Shropshire with Quinn served as the Quality Assurance Manager. The team achieved a CQIP score of 97.23.
- I-95 Northbound RRC in Stafford County, Virginia. Federally funded \$127M design-build project is constructing a new northbound I-95 bridge over the Rappahannock River and is providing additional interstate travel lanes on I-95 between Exit 130 in Fredericksburg and Exit 133 in Stafford. Wagman is the design builder and Scott Shropshire with Quinn is serving as the Quality Assurance Manager. The team improved upon the I-95 Southbound RRC CQIP score and achieved a current CQIP score of 97.29, one of the highest CQIP scores in Virginia.

Wagman Heavy Civil, Inc. (Wagman), founded in 1902, has two offices in Virginia and is recognized as a regional leader in design-build project delivery. Their recent VDOT design-build projects include: Odd Fellows Road over US 29/460; Route 7 Widening and Bridge Rehabilitation over Dulles Toll Road and Airport Access Highway; I-95 Southbound RRC; I-95 Northbound RRC; and Route 7 and Battlefield Boulevard Interchange.

Wallace Montgomery (WM), founded in 1975, is a top-rated, mid-Atlantic, multi-disciplined transportation engineering firm. They have experience working on the design-build teams that successfully delivered the I-64/Zion Crossroads Diverging Diamond Interchange and the I-95/Temple Avenue Triple Lane Roundabout and are currently serving as the Lead Designer on the Albemarle Intersection Bundling design-build project.

Quinn Consulting (Quinn), founded in 1997, is a woman-owned DBE/SWaM providing QA/QC and construction inspection services. Over the past 10 years, they have served as a trusted advisor providing support with over 40 DB and P3 projects. In addition to the I-95 Southbound RRC and I-95 Northbound RRC design-build projects where they are working with Wagman, Quinn has provided QAM services for numerous VDOT design-build projects including Route 7 Battlefield Parkway; I-64 Widening Segment III; and I-66 Outside the Beltway Widening projects.

3.3.1 Key Personnel

The DBT is excited to bring experienced Key Personnel to VDOT with certified Design Build Institute of American (DBIA) credentials that will ensure the successful delivery of the I-81 Widening Mile Marker 221 to Mile Marker 225 project. Each of our proposed Key Personnel have over 15 years of experience and have held similar roles and responsibilities on recent similar projects. We are committed to keeping these individuals on the team throughout the pursuit and execution phases if awarded the project. Although we are interested in exploring the possibility of adding deputies to strengthen our team during the second phase of procurement for this project, we want to emphasize that the job duties of our Key Personnel will never be delegated to others. The Key Personnel for our Team includes:

3.3 Offeror's Team Structure

Design-Build Project Manager (DBPM): Glen Mays, DBIA has 37 years of experience and will serve as VDOT's primary point of contact for the Project. He has proven experience successfully delivering high-profile design-build projects for VDOT on-time and on-budget. He will supervise the overall design and construction, project management, stakeholder communication, quality management, contract administration, and all other services. Glen has the authority to answer all questions and resolve disputes with VDOT personnel.

Entrusted Engineer in Charge (EIC): Jerry Whitlock, PE, DBIA, PMP, CCM has 17 years of experience and will be responsible for ensuring that all engineering work integrated into the project is in conformance with all Contract Documents. He will make engineering decisions, is fully capable of answering any design inquiries, and will compile, seal, and sign the cover sheet of Final Plans and Construction Plans submitted to VDOT. Jerry reports to the DBPM and has open and direct lines of communication with the DM, CM, and QAM. Jerry will be assigned to the Project full-time for the duration of the Project once design activities begin. He will be on the Project site full time from construction commencement to final acceptance.

Quality Assurance Manager (QAM): S. Scott Shropshire, PE, CCM has 30 years of experience, reports to the DBPM, and will operate completely independent from construction operations and QC inspection and testing. He will develop the QA/QC plan for the Project and has full responsibility for all QA performed, including supervising the QA inspection and QA testing for all materials used. He is responsible for monitoring the contractor's QC program for the Project, ensuring adherence to all environmental permits, confirming that all work, materials, testing, and sampling are performed in accordance with contract requirements and responsible for the Materials Notebook. Scott will certify each monthly Payment Application and be on-site full-time for the duration of construction operations.

Design Manager (DM): Eric Sender, PE, DBIA has 32 years of experience and reports to the DBPM while maintaining continuous communication with the EIC, CM, QAM, and the Project Public Outreach Coordinator. He will be fully responsible for managing the overall project design, design QA/QC, working plans, shop drawings, specifications, and constructability of the Project, and will coordinate with the individual design disciplines to ensure that the design is in conformance with the Contract Documents.

Construction Manager (CM): Mike Dugan has over 40 years of experience and reports to the DBPM and will be responsible for managing the construction process, project CPM and QC activities to ensure the materials and work performed meet contract requirements, the "approved for construction" plans and specifications. Mike will be on the Project site for the duration of construction operations.

3.3.2 Organizational Chart

The key to successfully delivering the I-81 Widening MM 221 to MM 225 Project will be providing VDOT with a well-integrated organization that is capable of seamlessly coordinating all project elements. As we have demonstrated, Wagman has significant successful experience working with both the Lead Designer and the Quality Assurance Manager. The greatest indicator of future performance is past performance, and our previous working experience doesn't end with these firms. Our entire DBT has significant experience working together on previous projects. This extends beyond the top tier of our organization to proven relationships with major subcontractors and suppliers, specialty subconsultants and a wide array of Disadvantaged Business Enterprises (DBEs) that we rely on to deliver components of the Project. Several examples of these relationships include:

- Wagman, Quinn Consulting (QA), and CES Consulting (QC) have worked together on the two highest scoring design-build projects in Virginia to date. The team achieved CQIP scores of 97.23 & 97.29. Additionally, Wagman has worked separately with Quinn and with CES on three other design-build projects in Virginia that have all achieved CQIP scores well above statewide goals.
- Wallace Montgomery (Lead Designer), Bowman Consulting (major subconsultant), CES Consulting (major subconsultant), and Floura Teeter Landscape Architects (major subconsultant) are all currently working together to deliver the Albemarle Intersection Bundling Design-Build project for VDOT. The positive working relationships that have been forged on that project will help foster communication and expedite delivery on the I-81 Widening Project.

In addition to the integrated experience our DBT brings to VDOT, we offer all pertinent disciplines and several value-added personnel and firms that you will not find on any other teams. These value-added personnel and firms include:

- Robert Ridgell, PE, CCM, DBIA (WM) and Steve Pletcher (W) – Constructability: The ability to develop final design plans that are easily constructible is critical to the on-time delivery of this project. We are devoting design and construction resources to review plans before they are submitted to VDOT to make sure they are constructible. Robert Ridgell (WM) has led the construction of major transportation projects

as an owner's representative working directly for VDOT and performed over 30 constructability reviews for VDOT's Fredericksburg District. Steve Pletcher (W) has over 25 years working directly for contractors. He works with field personnel to develop work plans and 3D modeling illustrating ingress and egress, constructability, and safe work zones.

- Randy Sprinkle (W) – Document Controls: Our DBT is committed to integrating a seamless document controls process to ensure submittals are continuously tracked, every comment is addressed, and every person involved with the project is looking at the current set of plans and contract documents. Randy Sprinkle will lead this effort for the DBT. He is proficient with SharePoint based systems and workflow implementation.
- Ian Millikan, PE, CCM, DBIA (WM) – Value Engineering: As a former Assistant State Construction Engineer for VDOT, Ian understands the importance of considering and incorporating value engineering concepts into projects. He has participated on numerous value engineering teams in his career and also oversaw the statewide Value Engineering program for a period of time during his tenure. He will review the design and any associated plan revisions to make sure that construction means and methods, economies of scale, and lifecycle costs are always taken into consideration and that quality is never jeopardized.
- Matt McLaughlin, CCM (CES) – Utility Coordinator: Matt has over 35 years of experience managing complex utility relocation for design-build projects including I-495 HOT Lanes Project, two phases of the Springfield Interchange, three sections of I-66, and three sections of I-95.
- David Colbert (CES) – QC Manager: David is a highly experienced QC Manager and has been the QC Manager on the following VDOT design-build projects: I-95 Northbound RRC (\$109 million), I-95 Southbound RRC (\$114.7 million), Route 29 Solutions (\$117 million) and I-64/I-264 Pavement Rehab (\$31 million). His last two projects involved widening and new construction of interstate highway and bridges which is similar to the I-81 Widening Project. David was the QCM for I-95 Southbound RRC and I-95 Northbound RRC projects and was integral to the CQIP scores of 97.23 and 97.29 respectively.
- Kevin Miller, PE, PG (PSI) – Kevin has more than 40 years of geotechnical engineering experience and specializes in assessing karst formations and preparing geotechnical design within karst locations.

Functional Relationships and Team Communications | Our approach to coordination and decision-making emphasizes teamwork within our DBT and partnering with VDOT and project stakeholders. Solid lines on the org chart identify the reporting relationships of our DBT and dashed lines represent the many ways our team effectively communicates. The chart shows a clear separation and independent relationship between the construction QC and QA programs. *We have learned through experience that an environment of mutual trust and a willingness to make decisions in real-time results in successful project delivery that exceeds VDOT's expectations for quality, schedule, and budget.*

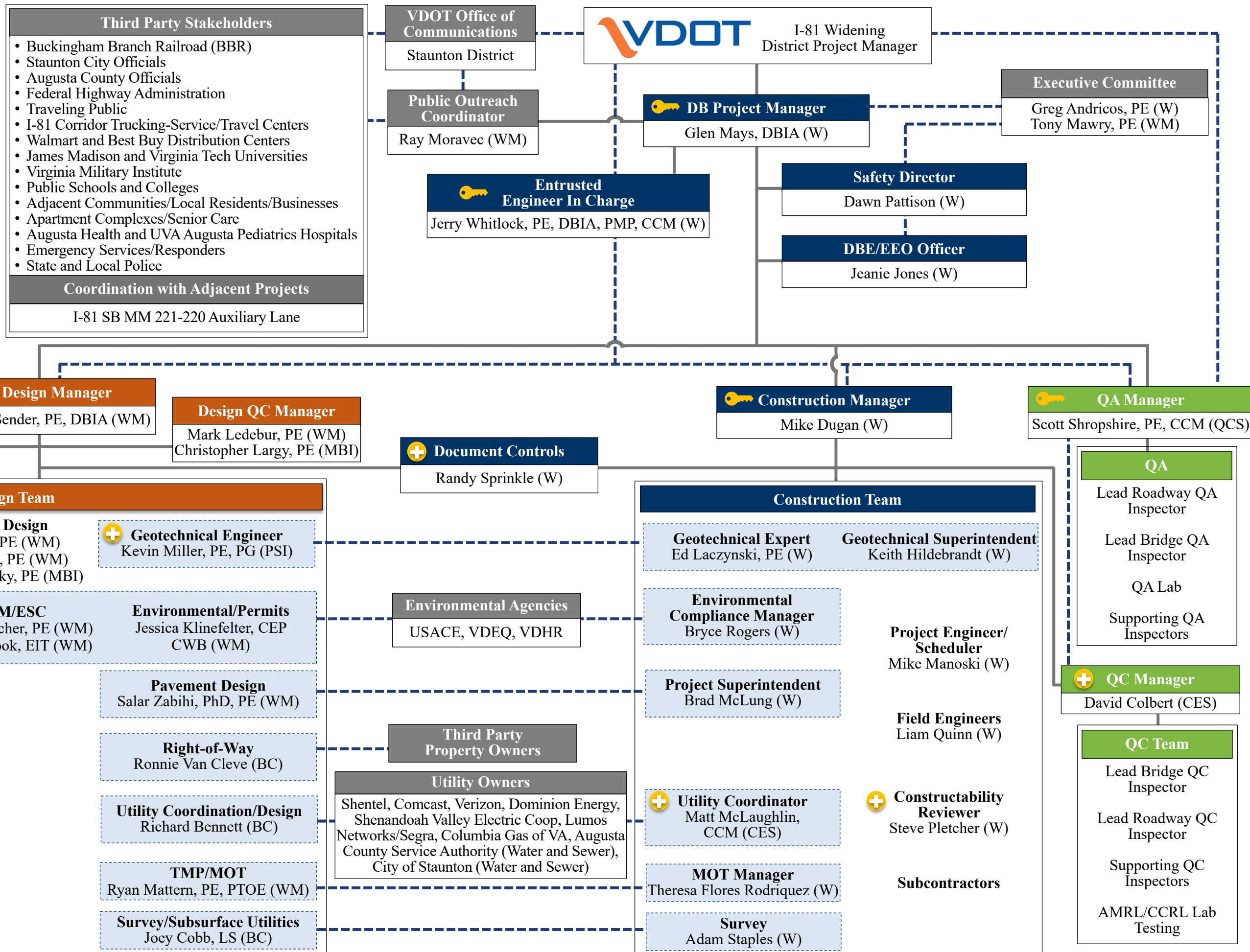
Our DBPM, Glen Mays will coordinate with VDOT for all aspects of design and construction. We will hold internal biweekly design and weekly construction progress meetings to discuss contract administration; safety; schedule updates; conflict resolution; stakeholder concerns; and progress updates for every pertinent discipline. The meetings will specifically address status of design work packages; permit approvals; ROW; utility coordination; construction activities; and upcoming public outreach efforts. Glen will ensure there are open lines of communication between the QAM and VDOT. Our Public Outreach Coordinator, Ray Moravec will assist Glen with external outreach efforts, including the coordination of "pardon our dust" meetings. Primary positions reporting to the DBPM are Jerry Whitlock, EIC; Eric Sender, DM; Mike Dugan, CM; and Scott Shropshire, QAM. QA inspectors/labs report through the QAM. Our QAM also monitors the construction QC program to ensure all work and materials, testing, and sampling are performed in accordance with the contract requirements and the "approved for construction" plans and specs. The QAM will also have the authority to stop work not in conformance with safety standards or contract documents. QA coordinates with, but works independently of, the daily QC and construction efforts. The QAM leads all preparatory inspection meetings, maintains required logs/materials book and coordinates with the CM to ensure QA staff is on site and QC hold points are maintained.

The DBT's management structure recognizes that collaborative design-build approach is critical to project success. Our design and construction staff coordinate with the EIC and collaborate to build constructability and safety into the design; minimize delays or rework; streamline reviews; ensure environmental compliance; and eliminate potential field issues. This approach provides a consistent, reliable, and compliant design, ensuring conflicts are anticipated before they happen; VDOT and other stakeholder's expectations are met; and promote design/construction quality. As the construction begins, managers, superintendents, Maintenance of Traffic (MOT) and utility coordinators, QC personnel, and the QAM regularly attends the weekly meetings. Regularly scheduled project progress meetings with the DBT, VDOT, QAM, and stakeholders will be leveraged to enhance partnering, promote over-the shoulder reviews, and resolve all pertinent issues.

Legend

- Key Personnel
- Value Add Staff
- Design Team
- Construction Team
- Construction QA/QC
- Direct Reporting
- Communication
- * DBE/SWaM

- W = Wagman
- WM = Wallace Montgomery
- AAI* = Alvi Associates, Inc.
- BC = Bowman Consulting
- CES* = CES Consulting, LLC
- FT* = Floura Teeter Landscape Architects
- PSI = Intertek PSI
- MBI = Michael Baker, Inc
- QCS* = Quinn Consulting Services, Inc.



3.4

Experience of Offeror's Team

3.4 Experience of Offeror's Team

The DBT has been assembled for the sole intention of uniting established, well-respected firms with specific resources, who are best suited to design and build this Project. Our Team offers tremendous experience in design-build, leading to a portfolio that makes us the premier team in the Mid-Atlantic. The relationship between the firms and assigned individuals is one of long-standing cooperation and respect. Our common past experiences provide for seamless integration, best-in-class collaboration and partnering. Our Team has relevant experience in successfully mitigating the specific risks associated with this Project, with demonstrated ability to deliver. In addition to the experience provided on the resume and work history forms, Our Team offers the following project examples demonstrating previous experience while working together on complex, high profile projects.

VDOT I-95 over Meherrin River \$22.8M Major Elements: Interstate expressway; new SB I-95 roadway and shoulder reconstruction of NB I-95; replacement of both SB and NB existing mainline bridges; survey; drainage; E&S; bridge demolition. Heavily travelled corridor with extensive truck traffic. Construction: Greg Andricos, PE; Glen Mays, DBIA; Mike Dugan	Objectives	1	X	VDOT Odd Fellows Road Interchange at US Route 29/460 Design-Build (DB) \$29.9M Major Elements: DB; reconstructing secondary road; constructing a new interchange with a major arterial; roadway; utility relocations; survey; ROW; signing/ lighting; QA/QC. Construction: Greg Andricos, PE; Glen Mays, DBIA, Jerry Whitlock PE, DBIA	Objectives	1	X
		2	X			2	X
		3	X			3	X
		4	X			4	X
		5	X			5	X
VDOT Route 7 Widening and Bridge Rehabilitation DB \$142.1M Major Elements: DB; widening of Route 7 over the heavily travelled Dulles Toll Road; retaining walls; noise barriers; utilities; lighting; overhead signs; ITS; tolling structures; geotechnical; micropiles; SWM; MOT phasing. Construction: Greg Andricos, PE; Ed Laczynski, PE, Jerry Whitlock PE, DBIA	Objectives	1	X	BCDOT Triple Bridges \$35.3M Major Elements: Multi-phase bridge demolition and replacement over interstate; precast concrete bulb-Ts and arched fascia panels; roadway; geotechnical; utilities; TMP; public involvement/relations; heavily travelled roadway. Construction: Greg Andricos, PE; Mike Dugan	Objectives	1	X
		2	X			2	X
		3	X			3	X
		4	X			4	X
		5	X			5	O
MDOT SHA I-270 at Watkins Mill Interchange DB \$92M Major Elements: DB; new urban interchange; 14 structures with complex TMP/MOT; roadway; environmental; SWM/ESC; utilities; ITS; signage/lighting; innovative geotechnical solutions. Construction: Greg Andricos, PE; Ed Laczynski, PE; Keith Hildebrandt Engineering: Tony Mawry, PE, Jerry Whitlock PE, DBIA	Objectives	1	X	I-95 NB Rappahannock River Crossing DB \$127M Major Elements: DB project; 6.5 miles interstate widening; major structure (1,220-ft), ramp/interchange reconstruction; environmental; utilities; TMP; multi-phased MOT; survey; public involvement/relations. Construction: Greg Andricos, PE; Glen Mays, DBIA; Mike Dugan; Jerry Whitlock, PE, DBIA Engineering: Robert Ridgell, PE, CCM, DBIA	Objectives	1	X
		2	X			2	X
		3	X			3	X
		4	X			4	X
		5	X			5	O
VDOT Route 7 & Battlefield Parkway Interchange DB \$65M Major Elements: DB; high volume MOT/TMP to construct new interchange (single point urban interchange (SPUI)); roadway; utilities; environmental compliance; and geotechnical. Construction: Greg Andricos, PE; Ed Laczynski, PE, Jerry Whitlock PE, DBIA	Objectives	1	X	MDOT SHA MD 32 Dualization from Linden Church Road to I-70 DB \$80.8M Major Elements: DB; urban interstate interchange; structures & bridges; retaining walls; TMP/MOT; utilities; signage/lighting; roadway; innovative geotechnical solutions. Construction: Greg Andricos, PE; Mike Dugan; Ed Laczynski, PE; Keith Hildebrandt	Objectives	1	X
		2	X			2	X
		3	X			3	X
		4	X			4	X
		5	X			5	X

I-81 Widening MM 221 to MM 225 Objectives							
1. Use of innovative design and construction solutions 2. Limit impacts to traveling public and stakeholders 3. Implement and maintain effective QA/QC plan 4. Develop and manage effective communication with stakeholders 5. Finishing contracts on time or early							
X = Achieved maximum early completion incentive O = Ongoing project							

3.5

Project Risks

3.5 Project Risks

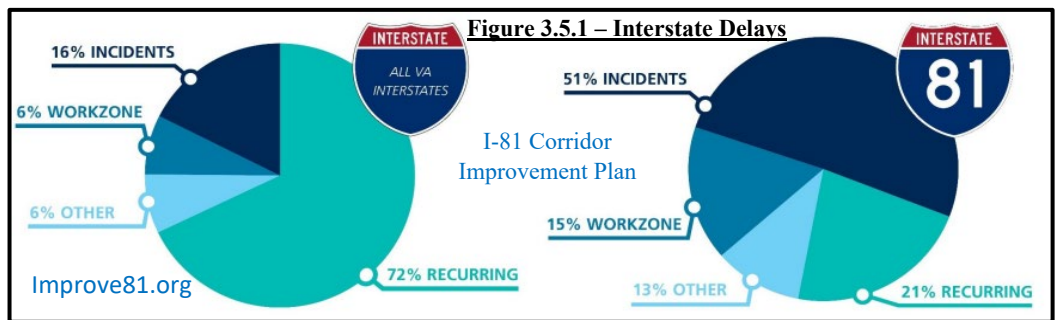
Our DBT conducted Risk Workshops modeled on the system used by VDOT to assess and assign risks. From our risk evaluation process, the following three risks were determined to be the most critical.

Critical Risk #1 – Safely Maintaining Interstate Traffic

Widening I-81 is a priority for VDOT to improve safety, capacity, and reliability along this busy corridor in western Virginia. Although many segments are completed, many more are planned or currently under construction. It is undeniable that there is a lot of activity happening on this corridor, disrupting traffic, and forcing users to experience continuous construction work zones. Additionally, there are other VDOT projects in vicinity of this Project, including the I-81 Mile Marker 221 to 220 Auxiliary Lane Improvements, that may have overlapping work zones and require complex construction coordination to safely maintain traffic.

As a critical north-south backbone of the East Coast’s freight network, I-81 carries a large volume of heavy vehicles, with 41% of the total traffic being trucks in the Staunton area. I-81 has the highest per capita truck volume in Virginia. Not only are they larger and heavier, but commercial trucks also have large blind spots, slower maneuverability and have more difficulty negotiating turns and performing weaving movements commonly associated with MOT.

I-81 also experiences a lot of serious crashes, such as roadway departure fixed object and rear end collisions that often involve trucks. Based on our review of recent crash data within the Project limits, the highest crash segment is located just north of the US 250 interchange (MM 223.14 to MM 223.50).



This segment experienced one fatality, and 34% of crashes resulted in injuries. Additionally, 23% of crashes in this segment included at least one large truck. As shown in **Figure 3.5.1**, I-81 experiences substantially more delays caused by incidents and within work zones than other Virginia interstates. The main causes of I-81 work zone crashes are driver inattention and exceeding the speed limit.

The project limits interface with three interchanges at I-64 (Exit 222), US 250 (Exit 223) and Route 262 (Exit 225) that have ramp access along the outside of I-81 in both directions. The closely spaced I-64 and US 250 interchanges have ramps 1/3 mile apart, creating weave lanes in both directions. With two travel lanes in each direction, I-81 includes full width outside shoulders but minimal inside shoulders that are as narrow as 2.5 feet.

With the relaxation of COVID-19 restrictions, more people are returning to the office and people will be traveling to visit with family, outdoor destinations, and annual events (like JMU, VMI, UVA, and Virginia Tech football games in the Fall) that will occur during this Project’s duration. These will require close coordination with adjacent projects to keep the traveling public moving safely and swiftly through the work zones. Travelers will experience slower traffic and more delays in work zones.

WHY THIS RISK IS CRITICAL | Much of the roadway work will occur in the confined median, which places much of the construction access in the faster left lanes. The minimal existing inner shoulder does not provide much lateral buffer for construction vehicles to access the work area. Shifting lanes to the outside, using the existing outer shoulders, to maintain two travel lanes in each direction and protecting the construction areas with concrete barrier and attenuators for the long duration of median work removes the safety buffer for vehicles. This creates unsafe travel conditions within the work zones with minimal shoulders to accommodate pull-off maneuvers for unexpected slow or stopped traffic conditions, especially for the high volume of wider and slower heavy trucks trying to negotiate these constrained conditions along I-81. Speed differentials between mainline and construction vehicles accessing the median work zones along short speed change lanes are a concern along this already high accident corridor. This will likely cause “near misses” from drivers who run off the road into the median to turn into rear-end or sideswipe collisions when the median is barrier protected and not available for drivers to make corrective actions.

The significant influx of traffic onto and off of I-81 from I-64 and US 250 at the closely spaced interchanges creates additional congestion and turbulence throughout the work zone because traffic must weave in and out of

3.5 Project Risks

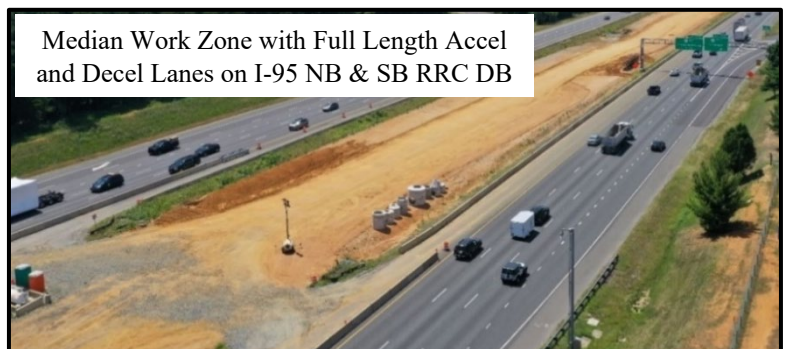
mainline I-81 to access on-and-off ramps in a small influence area. Any reduction in capacity or increase in complexity of ramp access from the work zones will create severe delays and queues in this area.

Timely coordination with adjacent projects, emergency services, and motorists is essential. Lack of coordination between adjacent projects and stakeholders will create unsafe conditions and impact the travelling public.

RISK IMPACT | The potential impacts of poorly designed and maintained Temporary Traffic Control (TTC) include unnecessary and avoidable delays to motorists during construction, which can result in increased crashes and traffic queues. This is especially true with the more complex interactions between the construction access areas with the higher, weaving volumes along the closely spaced I-64 and US 250 interchange ramps. Delays and crashes from such conditions will result in higher injury rates, negative public perception, and negative press. Failure to proactively coordinate our schedule and design with adjacent projects will negatively impact the Project's completion date and budget. Impacting mobility will impact the local and regional economy because I-81 is a heavily traveled truck route that is used to deliver goods across the east coast. If schedule and Maintenance of Traffic (MOT) Plan updates are not immediately communicated and coordinated with adjacent projects, we jeopardize the safety, mobility, budget, and project completion schedule.



RISK MITIGATION STRATEGY | Our Team, led by DBPM Glen Mays, brings recent and relevant experience working in confined interstate median spaces and coordinating with adjacent interstate projects in Virginia that will minimize work zone crashes for this Project. In fact, Glen and other team members, Jerry Whitlock, Mike Dugan and Scott Shropshire are safely maintaining work zone traffic right now on I-95 in the Fredericksburg District. The design-build team led by Wagman is constructing the Northbound (NB) and recently completed Southbound (SB) I-95 Widening over the Rappahannock River Crossing (RRC). This design-build project requires simultaneous coordination of work zones, traffic shifts, and environmental permits with the adjacent I-95 Express Lanes Fredericksburg Extension (Fred Ex) concurrently under construction and managed by Transurban. A successful enhancement that Wagman implemented on the I-95 NB and SB RRC design-build projects was the use of innovative construction entrances that allow work vehicles to enter and exit work zones at mainline speeds by providing full length acceleration and deceleration lanes within the median of I-95. Our DBT will implement a similar strategy along I-81 and we will establish relationships that foster open communication amongst key staff on adjacent projects to ensure all work zones are seamlessly coordinated. We are fully committed to creating an environment where safety and collaboration along the entire I-81 corridor is a daily exercise.



Corridor-wide Constructability Reviews and Schedule Coordination: Our constructability team will be led by Steve Pletcher (Wagman). In addition to reviewing the plans for the Project, Steve will have a comprehensive understanding of the project schedule and associated sequence of construction (SOC) for this Project as well as all adjacent projects. As our Project's baseline schedule is developed, we will carefully review the MOT phasing to ensure a logical SOC that encompasses erosion and sediment control (ESC) and maintenance of drainage during the various construction phases. We will review a real time Primavera P6 schedule during the monthly Progress Meeting with VDOT, as well as when meeting with the adjacent project teams, to identify issues and implement appropriate changes quickly and easily. Coordination meetings will include a two- and four-week "look-ahead" to ensure that there are no breaks in MOT setups.

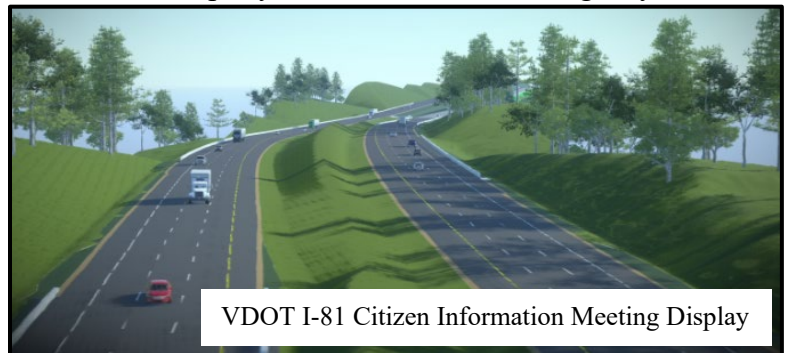
Glen Mays (DBPM), Jerry Whitlock (EIC), and Mike Dugan (CM) will also conduct constructability reviews of the SOC and MOT phasing to ensure our safe and efficient design also considers their construction means and

3.5 Project Risks

methods and provides safe access for construction vehicles. The presence of high truck and interchange volumes will continuously be on the reviewer's mind to minimize constraints at these locations and more vulnerable drivers. The DBT has extensive experience managing projects with overlapping work zones with adjacent projects and will embrace proactive partnering by working in tandem with the adjacent I-81 projects and implementing phase shifts in a manner that does not hinder concurrent, future construction activities or MOT phases.

Coordinating and Communicating Traffic Shifts and Public Outreach: When it comes to providing real-time project information, travelers are not concerned about what project segment they are in; they want to know how long it will take to get from Point A to Point B. Coordinating our project Transportation Management Plan (TMP) with the approved or pending TMPs of adjacent projects will help to minimize delays and present a “united approach” for outreach. Our TMP Public Outreach Plan (POP) will be designed in conjunction with the overall I-81 Corridor Project to provide clear messaging for safe passage through the active construction zones and advise motorists of changing conditions to reduce user delays and improve safety. Our strategies will be based on the *Virginia Work Area Protection Manual (VWAPM)*, *VDOT Public Involvement Manual*, and the *Manual on Uniform Traffic Control Devices (MUTCD)*. ITS devices such as portable changeable message signs (PCMS), speed cameras, and side-fire radar, will be implemented and coordinated with adjacent projects as needed to notify stakeholders of major changes and advise of distances and travel times through the work zone and to points of interest beyond it.

Our public involvement and outreach communications team, led by Ray Moravec (WM), will coordinate with the communications teams, trucking industry, key Staunton area third-party stakeholders and emergency services along the I-81 corridor to ensure we develop a synchronized and comprehensive communications plan that raises awareness, mitigates corridor-wide impacts, and emphasizes the key benefits of the entire network. Our strategic approach will be comprised of integrated communication tools, a robust media relations program, and a wide range of print, broadcast, and interactive marketing campaigns. All with the ultimate goal of positively engaging and influencing stakeholders at all levels throughout all phases of the Project.



VDOT I-81 Citizen Information Meeting Display

Our stakeholder coordination has been incredibly successful on the I-95 SB RRC project. This VDOT Interstate design-build project has required significant public engagement with many agency and community stakeholders. The Fredericksburg Trails Alliance reported publicly on their website, *“We met the... Team back on May 21, 2018 at the jobsite...they have exceeded our expectations and have really done an amazing job by doing everything that they said they would do and more.”* The DBT will provide “web-ready” project updates, graphics, and simulation videos that show new traffic patterns for all major traffic shifts. Materials will be provided to VDOT Public Outreach for review and distribution to the public on the VDOT website and through e-mail blasts (Constant Contact) to the project listserv. We will use our experience to bring the same level of customer service to the I-81 Widening Project.

Transportation Management and Maintenance of Traffic Plans: We will develop a detailed TMP in collaboration with Project stakeholders that identifies the MOT “Red Flags” (e.g., no closures), as well as an “Alternatives Analysis” that summarizes the benefits of MOT phasing plans for a variety of effectiveness measures, such as impacts on time and cost, traffic, and the environment. We will analyze peak hour operations and queues during each MOT phase, to ensure that queues do not impact ramps. We will implement the minimum allowable travel lane widths while providing the widest possible lateral clearance to the adjacent barrier. We understand that VDOT will approve 11’ travel lanes, 2’ shy at bridges, for the Route 250 interchange and we will incorporate this appropriately into our MOT plans. We will provide multi-phased MOT plans in accordance with the VWAPM and MUTCD that detail the



I-81 Median Work Zone Within Interchanges in VA

3.5 Project Risks

required PCMS messages, design speed shifts and buffers, with proper temporary traffic control devices to channelize and protect the work zones.

The DBT will strategically phase the MOT to improve construction efficiency while keeping safe connectivity for drivers. We will consider completing faster outside roadway and ramp work (widening/shoulder strengthening, guardrail upgrades, overhead sign structures) throughout the Project limits first to reduce the amount of time drivers must travel adjacent to the positive barrier. Performing the outside work first will also help address the constrained travel widths. We can utilize the widened outside shoulders in later phases for long-term traffic shifts and create emergency pull-offs on the outside of the road that can be used while the median widening and bridge work is underway. This creates more room for construction vehicles to utilize the acceleration and deceleration lanes, allowing for safer and easier ingress and egress to the work zone. The acceleration and deceleration lanes for work trucks will not be marked as emergency pull-off zones and will not be placed in locations near ramp access to avoid driver confusion. We will also consider splitting the inside median widening into multiple manageable phases to reduce the work zone lengths for safety. The bridge and median work at the I-64 and US 250 interchanges will be completed together in the same work zones to keep consistent lane connectivity within this complex network and high traffic area.

Construction Vehicles and Emergency Responses: Haul routes will be clearly established for each operation and construction entrances will be clearly marked. Our Team will utilize the mainline construction entrances at posted speeds successfully implemented on the I-95 NB and SB Rappahannock design-build projects to minimize slow construction vehicles accessing I-81. Truck warning signs will be placed along mainline I-81, advising drivers that construction vehicles will be accessing the highway. We will provide clear instructions regarding haul routes for all trucks accessing the site and string flags prior to underpasses (and other overhead obstructions) as a reminder for operators to lower their booms/buckets. We will develop a corridor wide map to be distributed to all team members (including first responders), so they know how to access the work zone safely.

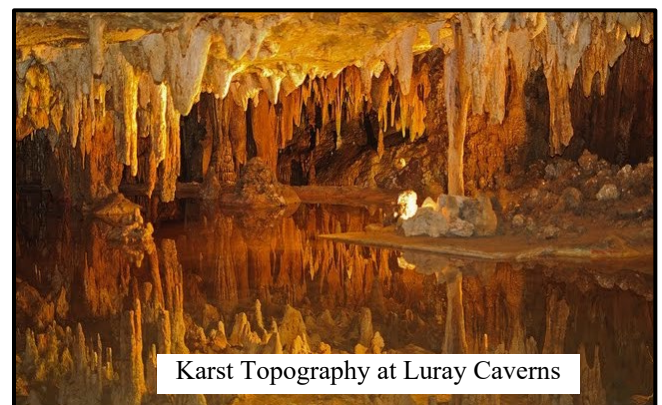
We will coordinate with VDOT Staunton District, Harrisonburg Residency, NWRO, Staunton TOC, and VDEM (Emergency Management) to collaborate with modifications to established IMPs for interstate incidents. We will work with adjacent I-81 projects, VDEM, Virginia State Police, Staunton, and nearby Fire Stations. First responders will be provided with a single point of contact for incident management within the corridor.

ROLE OF VDOT AND OTHER AGENCIES | We will invite VDOT to attend all coordination meetings concerning MOT and the SOC so they can make sure we are developing and delivering a safe and cohesive project corridor and providing a consistent message to stakeholders. VDOT will have full access to all our documents electronically, which will include minutes from coordination meetings. As part of the plan review process, VDOT will review, including over-the-shoulder reviews, the phased MOT plans. These submittals will include a statement that they have been reviewed in concert with the SOC of adjacent projects to confirm that travel lanes are contiguous throughout the project corridor.

Critical Risk #2 – Sink Holes, Voids & Caves Caused by Karst Topography

Based on the 2003 Digital Representation of the 1993 Geologic Map of Virginia, the proposed Project is predominantly underlain by the *Martinsburg and Oranda Formations* between I-81 Exits 222 and 225 and the *Edinburg Formation, Lincolnshire and New Market Limestones* between I-81 Exits 221 and 222. The Edinburg Formation, Lincolnshire and New Market Limestones contain soluble carbonate rocks encountered at or near the present ground surface that are typical of karst topography.

WHY THIS RISK IS CRITICAL | Our DBT has reviewed the historical borings drilled by VDOT in 1965, to specifically investigate the subsurface conditions within the project segment between Exits 221 and 222 of I-81. The borings in this location suggest the presence of upper residual plastic clays with shale underlain by medium- to light-gray, fine- to coarse-grained, or nodular limestone or gray or black weathered and calcareous shale with interbedded fine-grained sandstone. The light-gray, coarse-grained limestone probably denotes the presence of carbonate mounds (Murat limestone) and are representative of karst topography. Karst topography refers to subsurface conditions that are subject to extreme variability due to the



Karst Topography at Luray Caverns

3.5 Project Risks

presence of solution features. For this reason, karst topography is prone to sinkholes, underground voids, rock seams, and caves. The I-81 corridor is renowned for the caverns that are located nearby. Each year, thousands of tourists are amazed at the underground karst topography they can view firsthand at caverns located along I-81, such as Luray Caverns in Luray, Grand Caverns in Grottoes, and Endless Caverns in New Market. Although the caverns may appear majestic to onlookers, the presence of the karst topography makes design and construction of the I-81 Widening Project extremely challenging. These conditions make it difficult to determine the true depth of underlying bedrock required to support substructure elements associated with the bridge widenings at the interchanges of I-81 with I-64 and US 250 within our project limits. The cost and time associated with driving piles to support the bridge foundations for these structures will be highly dependent upon the conditions encountered in the field. Determining the likelihood of these potential differing site conditions early in design development allows for far more expedient and effective mitigation than identification during construction.

RISK IMPACT | The risks associated with karst topography are far reaching and can dramatically impact the Project's design, construction, long-term durability, budget, and schedule. These include:

- Hard and Extensive Excavation
- Soils that Require Site Improvement and/or Mitigation
- Safety Hazards Posed by Collapsing Sinkholes or Voids Uncovered During Construction
- Instability of Bridge Foundations
- Seepage Issues that are Detrimental for Stormwater Management Features
- Differential Movements that Causes Structure Distortion and/or Cracking
- Delays Caused by Additional Fabrication Time for Extended Piles

In addition to the risks identified above, karst features typically exhibit pinnacled rock where the depth to hard rock varies dramatically due to sloping peaks and valleys underground. This very similar condition presented significant issues on the nearby I-81 Truck Climbing Lanes project (Mile Marker 195 to Mile Marker 202) that was completed in 2012. Pinnacled rock presents a major challenge on any project and is especially problematic for the design and construction of foundations for median bridge widening on a major interstate, such as I-81. Even though VDOT will provide a thorough Geotechnical Data Report (GDR) as part of the RFP Information Package, and our DBT will conduct an extensive geotechnical investigation upon receiving NTP, pinnacled rock is difficult to categorize because the bearing depth can vary drastically in only a few lateral feet. This could result in pile driving rigs experiencing different conditions than forecasted in the Geotechnical Engineering Report.

RISK MITIGATION STRATEGY | To mitigate the risks associated with sinkholes, voids, and caves that are caused by karst topography, our DBT will prepare a detailed Subsurface Management Plan (SMP) that provides sound engineering solutions to the unforeseen conditions that the project will experience due to the karst topography. In order to provide the highest level of detail possible and mitigate this risk to the greatest extent, our DBT has enlisted Intertek-PSI (PSI) as a specialty subconsultant who have extensive experience with karst topography. PSI is an international geotechnical engineering powerhouse (ENR Ranked PSI #21 in the 2021 Top 500 Firms) that has over 2,300 skilled personnel at its disposal to assist with the geotechnical challenges faced by this Project. The PSI team includes engineers and geologists with extensive experiences in dealing with similar conditions on project located in Virginia, Alabama, Texas, Missouri, Kentucky, Arkansas, and Florida. PSI will manage the development of the SMP and make sure that all necessary field data is collected.

Our DBT's comprehensive risk mitigation efforts for karst topography, includes the following:

Subsurface Management Plan (SMP): Once short listed, our DBT will kick-off the development of the SMP during the development of our Technical Proposal using available data to better understand the existing conditions. This will include:

- Performing a desktop study and review of available karst, sinkhole, and cave data reports prepared or mapped by United States Geological Surveys (USGS) as well environmental reports and studies performed by the county or VDOT for the site or adjacent areas. Aerial photos of the site showing the visible variations in its features such as vegetation, landforms, etc.
- Mapping drainage patterns at the site by examining the topographic survey provided in the RFP Information Package. Mapping of the drainage patterns will affect site planning and reduce stormwater management impacts because existing stormwater may drain toward existing sinkholes.
- Reviewing any available hydrological assessment that may be provided in the RFP Information Package for the proposed site or surrounding areas.

3.5 Project Risks

Upon being awarded the Project and receiving NTP from VDOT, our DBT will immediately engage to perform an extensive non-intrusive field exploration to include geophysical surveys (e.g., electromagnetic terrain conductivity, electrical resistivity imaging, microgravity, or ground penetration radar-with very limited depths) along with intrusive testing such as geotechnical subsurface investigation to successfully characterize the subsurface conditions with more certainty. The subsurface exploration program consists of tightly spaced exploratory soil borings, using Standard Penetration Test (SPT) borings and/or Cone Penetration Test (CPT) or Pressuremeter Test (PMT) soundings along with rock coring in accordance with VDOT requirements and ASTM standard procedures. The SPT and CPT exploration will provide detailed characterization and quantitative measurements for use in the design of the proposed bridge piers and/or retaining walls at each specific location.

The test borings will be drilled using rotary-wash techniques to monitor the drilling water loss depths and quantities. The use of light mud may be used where necessary to keep the hole open. The water lost at the top of the rock is indicative of down-gradient channels or the gradual erosion of soils into open and fractured bedrock. The borehole may have to be cased where significant water loss is observed. Rock coring in limestone may be performed using double tube, split barrels. Laboratory tests will be performed on selected soil and rock core samples to delineate the character and mechanical properties of the subsurface materials. The CPT/PMT soundings will be used to supplement results of the soil borings and will provide continuous evaluation of the continuity, stratigraphy, and mechanical properties of the subsurface materials. CPT/PMT soundings will also be used to confirm results of geophysical testing and identify the presence of anomalies such as voids, joints, etc.

Implementation of the geotechnical subsurface investigations and geophysical survey programs will be performed within a 100-foot radius of areas where karst features or sinkholes were identified to delineate the possible impact on the project. All findings will be summarized in the SMP which will identify specific recommendations for the design and construction of all foundations on the Project.

Foundation Design Considerations: The preferred design option to support bridge piers and retaining walls is a deep foundation system on a reliable and redundant bearing. We will consider deep foundation systems that consist of pre-drilled driven piles, micropiles, low mobility grout, and cast-in-place (CIP) reinforced concrete drilled shafts that transfer structural loads to the sound and stable rock formation as delineated from subsurface conditions and identified in the SMP. Geotechnical analyses will be performed, and pertinent recommendations will be provided for use in the design of bridge piers and abutments, retaining walls, roadway embankments, pavement improvement, stormwater management features, etc. Our DBT will provide pertinent geotechnical analyses, recommendations, and construction guidance in accordance with the RFP Part 2 Technical Requirements. Specific analyses, recommendations and construction guidance will be provided regarding the project elements within the potentially unstable zones that are determined based on the results of the desktop study and the field exploration and laboratory testing programs.

Rock Socketed Piles: A design for Rock Socketed Piles may be developed for the Project and submitted to VDOT for approval as another option for bridge foundations throughout the project. PSI has had recent success using rock socketed piles with the approval of VDOT's Northern Virginia District on the Transform 66 – Outside the Beltway Project. Rock socketed piles may be used for conventional as well as fully integral bridge abutments. They are designed to be used in all different geology settings, including limestone and karst topography. The foundation will be initiated by pre-drilling to designed minimum tip elevation. The hole diameter will be determined by the pile cross section size. The required distance that the rock socket extends into rock will be calculated by reviewing rock cores, identifying signs of voids and cavities, and determining the bearing level with a specific rock quality based on recovery and rock-quality designation (RQD) techniques. Once the socket is achieved, the rock socket hole will be cleaned out to remove spoils and provide a clean bottom for seating the H-Pile or precast prestressed concrete piles. The rock socket hole will be measured and visually inspected by the engineer to verify the bearing materials and the absence of voids and solution cavities within the socketed length. Once the pile is placed and secured, the rock socket will be filled with VDOT T3 or A3 SCC concrete.

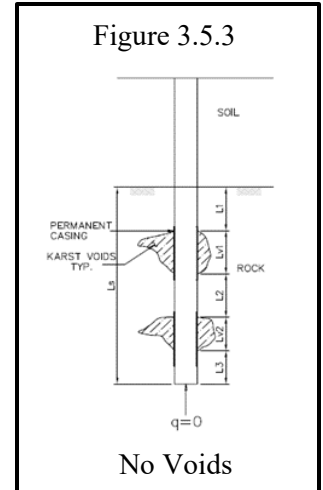
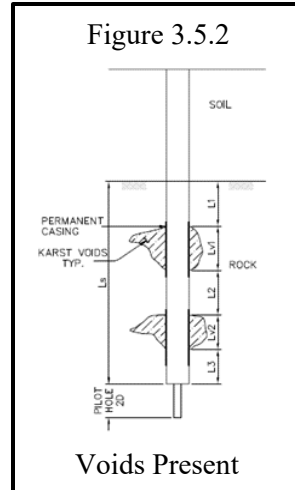
Low Mobility Grouting: A ground improvement technique that can be used to remediate voids and sinkholes beneath the surface by pumping low mobility grout through steel casing in lifts. As drilling occurs, logs record voids, cavities, and layers, while a log of grout take in lifts will indicate whether or not the bearing area is successfully remediated. Low Mobility grouting can also be utilized in tandem with other deep foundation techniques to improve capacity and reliability to limit risks.

Micropiles Socketed into Sound Rock: Another viable foundation solution our DBT will consider is the use of micropiles socketed into sound rock. Micropile installation in karst topography has a major advantage in its use as a foundation system. The ultimate capacity and performance of the micropiles entirely depends on the

3.5 Project Risks

development of an adequate bond between the grout and the rock socketed depth within the bond zone. Accordingly, specific installation techniques such as overburden systems (rotary eccentric percussive) will be provided to the contractor to effectively install the micropiles. This technique allows near good contact between the borehole and the surrounding ground throughout the installation process.

Drilled Shafts Socketed into Sound Rock: Our DBT will also consider the use of drilled shafts. Due to the karst topography, the design of drilled shafts will include special considerations for the use of permanent casing and performing pilot holes during shaft installation. In addition, the application of unit skin friction and unit bearing values will be used to determine the effect of axial load carrying capacity on the drilled shaft. The determination of the allowable unit skin friction and allowable end bearing values will depend on the karst conditions observed at the time of the drilled shaft installation. In order to use unit end bearing values in the design, our DBT will perform verification testing for end bearing by drilling Pilot Holes at each pier to a depth of two diameters below the bearing elevation to determine the presence of voids and solution cavities. If voids and solution cavities are present within the bearing depth, the shafts will be drilled to a deeper depth where there are no voids or solution cavities as illustrated in Figure 3.5.2. Alternatively, the shaft may be designed for only skin friction in the rock and neglecting the end bearing as illustrated in Figure 3.5.3.



When a geotechnical field investigation is planned and approved for the site, it will consider that drilling pilot holes in the areas of bridge foundations and other sensitive structures would also mitigate settlement risks.

ROLE OF VDOT AND OTHER AGENCIES | VDOT’s role will be to share available geotechnical documents and data related to the geographical area of the Project, sinkholes, voids and caves (karst topography), and review and approve our proposed field exploration program, geotechnical design approach, and selected foundation alternative for the support of bridge piers and abutments, retaining walls, and roadway embankments.

Critical Risk #3 – Managing Stormwater in the Median of I-81

Addressing stormwater management criteria on interstate median widening projects is challenging because the project’s footprint is geometrically constrained. The approach to stormwater management (SWM) identified in the PH Plans included in the RFQ Information Package revises the existing drainage patterns by concentrating runoff to fewer outfall points that will better manage post-construction stormwater quantity control. Proposed SWM facilities for quality and quantity control are shown in the median areas utilizing existing pipes to outfall. This is an excellent approach for the post-construction conditions, but it creates significant constructability challenges for the contractor to overcome during construction.

WHY THIS RISK IS CRITICAL | The median is a confined area with definitive boundaries of the existing roadways on both sides and will include the work zone for the roadway during construction. Final drainage configurations, post-construction SWM facilities, staging and stockpile areas, erosion and sediment control (ESC) measures, and all methods of managing temporary drainage will be located within the median. The design must provide adequate space for all these features while allocating space for safe and efficient construction operations. Improper design and management of stormwater controls during construction will harm the environment, delay construction, and potentially cause excess runoff to migrate out of the work zone and into active travel lanes during storms.

Temporary Management of Stormwater: Maintenance of drainage features and temporary ESC devices must be designed and constructed in concert with the Project’s sequence of construction. This is the only way to ensure that construction activities will not result in sediment laden stormwater runoff that endangers the downstream environment leaving the site. Phased ESC devices must be in place before work begins and functioning properly throughout the duration of construction to limit sediment runoff and keep the Project in compliance with the Virginia Pollution Discharge Elimination System (VPDES) permit. The confined space to place temporary controls within the median will be exacerbated by the contractor’s means and methods to construct the Project.

Post-Construction Stormwater Management: The conceptual post-construction SWM concept identified on the “PH Plans” included in the RFQ Information Package relies on existing culverts to convey drainage from the

3.5 Project Risks

median. We understand that these plans were provided for informational purposes only; however, the elevation of inverts, hydraulic capacity, and the physical condition of these existing pipes is currently unknown. This presents a significant risk because standard VDOT practice dictates that for the purposes of developing its Price Proposal, the Design-Builder “shall assume that existing roadway culverts within the Project limits... which are a functional element of the proposed drainage design, are structurally deficient” and are to be abandoned, removed, or replaced. New culverts under the interstate may be required to provide adequate outfalls for the SWM facilities constructed in the median.

As noted in Risk #2, the presence of karst topography will make design, construction, and maintenance of SWM facilities in the median even more challenging. Specifically, the use of infiltration facilities is discouraged in karst topography, so we will need to explore other alternatives for SWM between Exit 221 and Exit 222.

RISK IMPACT | Locating temporary and permanent SWM facilities within the median of I-81 complicates design and construction activities because all of the SWM controls must be located in a confined area adjacent to construction activities and the permanent location of the widened improvements. Specific impacts include:

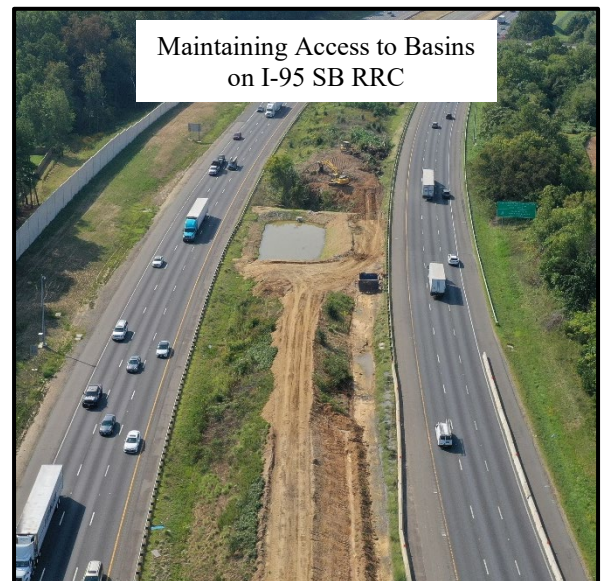
Environmental Compliance During Construction: Improper or incomplete phasing of the ESC measures to precisely match the contractor’s sequence of construction will lead to erosion within the work zone and result in sediment laden runoff leaving the Project limits. This will threaten the Project’s VPDES permit, require costly and time-consuming relocation and maintenance of ESC devices, and create hazards for the traveling public if stormwater backs up onto the mainline travel lanes of I-81.

Safety: Constructing and properly maintaining ESC devices within the median work area will create inherent hazards for the contractor because many activities will be taking place in one confined space. The SWM facilities will require significant excavation within the median that the contractor will have to work around to perform the roadway and bridge widening. This excavation and the need to jack and bore drainage pipes could also destabilize the underlying karst topography and result in dangerous sinkholes within the median.

Accessibility: Installation of temporary ESC measures in the median will concentrate runoff at localized areas. Unless the exact locations of ESC devices are specifically designed to consider the contractor’s means and methods to construct the Project, a segmented work area that is difficult to navigate for construction vehicles can result. Maneuverability will be impacted, production rates will decrease, and the contractor may be required to place additional locations for ingress/egress along the interstate. This will result in additional costs and delay overall construction of the Project.

RISK MITIGATION STRATEGY | Our DBT understands the constraints associated with interstate widening projects and knows how to overcome the challenges required to manage stormwater safely and efficiently in the median. The key is a well-integrated team of design and construction personnel that work with each other to anticipate issues and resolve problems proactively before they become problems in the field. This is the approach to effective SWM that Wagman is currently taking on the I-95 NB and SB RRC projects and Wallace Montgomery has embraced on the Albemarle Intersection Bundling project. Based on our combined experience, we plan to implement the following risk mitigation strategies on this Project:

Integrating Knowledgeable Staff Throughout Design & Construction: The SWM designers and environmental compliance staff on our DBT have a comprehensive understanding of the stormwater requirements for this Project and what it will take to effectively implement ESC within the median. They will work together to develop a phased ESC plan that dovetails perfectly with the sequence of construction. They will consider ideas such as elongated sediment traps and basins that stretch out longitudinally in the median to allow access on one side, and identify runoff reduction methods that can be used to reduce the size of proposed detention basins. Our CM, Mike Dugan, and EIC, Jerry Whitlock, will perform constructability reviews of the ESC phasing plans to ensure that the contractor’s means and methods consider the installation schedule for all ESC devices, and will make recommendations for improvements that facilitate construction. Once the Project is under construction, the SWM designers will perform periodic field reviews with the Environmental Compliance Manager (ECM), Bryce



3.5 Project Risks

Rogers, to make sure that all ESC devices are working as intended. Environmental compliance will be discussed at every Preparatory Inspection Meeting and Monthly Progress Meeting. We will also require all project personnel to complete Environmental Training as part of their orientation before beginning work on the project. The training will include a review of environmental controls that must be in place before land disturbing activities commence and identify signs that ESC measures are failing. The trainings will be led by the ECM and include Ian Westbrook, EIT (WM). Ian is an asset to our risk mitigation strategy because prior to joining WM as a SWM Designer, he worked for Wagman as the ECM on the I-95 NB and SB RRC as well as the MD 404 Dualization design-build projects.

Proactively Completing C-107 Compliance Reviews and Transparently Reporting Compliance: Overseen by Bryce Rogers (ECM), C-107 compliance checks will be completed twice weekly by QA, QC, and construction staff to identify deficiencies in ESC measures and areas where additional attention is necessary. As part of this effort, our Construction Manager will appoint an ESC Foreman for every shift of construction throughout the life of the project. The ESC Foreman will be onsite and communicate directly with the ECM to ensure all environmental precautions are taken and all ESC measures are well maintained and fully operational before construction activities commence in the area that day. Another example of our Team's proactive approach related to Compliance Reviews is providing the C-107, photographs, and follow-up actions required to address deficiencies electronically so the entire project team (including SWM designers, QA/QC personnel, and VDOT representatives) can monitor environmental compliance digitally from anywhere on the globe with internet access. We have successfully performed this on recent projects in Virginia by transparently uploading the C-107 documentation onto a software platform like PlanGrid or Fieldwire as soon as the field reviews are completed. We digitally time and date stamp each submission and provide instant access to all pertinent project and VDOT staff so there is never a question about when or where C-107 reviews were completed.

Promoting Safe Construction Operations in Karst Topography: There are four SWM detention basins proposed in the "PH Plans" included in the RFQ Information Package that are located between Exit 221 and Exit 222. While these plans were provided for informational purposes only, it is very likely that the project will require the construction of permanent detention basins in this area, which is known to experience karst topography. Once the final location of these basins have been determined, we will work with PSI to perform electric resistivity surveys of the area to determine whether voids and caverns exist underneath. If they are present, we will adjust the location of the SWM facilities accordingly. Prior to beginning excavation, all of our construction crews will be made aware of the potential for sinkholes. Specific safety measures will be discussed with all project personnel at Preparatory Inspection Meetings, and during weekly "Toolbox Talks" on the construction site.

Promptly Assessing the Condition and Adequacy of Existing Culverts: Immediately upon receiving NTP, our DBT will engage to determine the structural condition and adequacy of existing culverts proposed to outfall stormwater from the median in the "PH Plans" included in the RFQ Information Package. We will develop an "Existing Pipe Inventory" that logs each culvert, identifies its size and length, includes photographic documentation, and summarizes its structural condition and adequacy for conveyance. Photographic documentation will include a visual/video inspection of the existing culvert utilizing the assessment criteria for Post Installation Inspections identified in Section 302.03(d) of the VDOT Road and Bridge Specifications. The Existing Pipe Inventory will be reviewed by our DBT's structural engineer to determine the structural integrity of the culverts and used by our drainage engineers to determine whether the existing culverts are adequate and properly sized to convey the proposed stormwater. Any existing culverts that our DBT proposes to use in its final SWM design will be submitted to VDOT for review and approval along with the corresponding information from our Existing Pipe Inventory. This will include a certification from our structural engineer attesting to the structural integrity of the culvert and any specific recommendations for rehabilitation.

Our DBT will perform the Existing Pipe Inventory expeditiously and submit it to VDOT prior to the final design so any adjustments to our final drainage plans can be made without impacting the project schedule.

ROLE OF VDOT AND OTHER AGENCIES | Designing and implementing a safe, efficient, and effective SWM plan within the median of I-81 is the responsibility of the Design-Builder. VDOT's role will be limited to the review and approval of the associated submittals that will be required. This includes the Existing Pipe Inventory, final drainage design, and phased ESC plans. During construction, we will work with VDOT's OIA/OIV representatives, NPDES Inspectors, and DEQ Inspectors to immediately address any concerns and make sure the project stays in compliance with the VPDES permit. We will promptly notify the agencies if any sediment leaves the project limits during storm events and make sure that ESC devices are always functioning as designed. Digital copies of C-107 Compliance Reports will always be available for review online.

**Attachment
3.1.2**

SOQ Checklist

ATTACHMENT 3.1.2

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

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 15-page limit?	SOQ Page Reference
Statement of Qualifications Checklist and Contents	Attachment 3.1.2	Section 3.1.2	no	Appendix
Acknowledgement of RFQ, Revision and/or Addenda	Attachment 2.10 (Form C-78-RFQ)	Section 2.10	no	Appendix
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	Appendix
Debarment forms	Attachment 3.2.7(a) Attachment 3.2.7(b)	Section 3.2.7	no	Appendix
Offeror's VDOT prequalification evidence	NA	Section 3.2.8	no	Appendix
Evidence of obtaining bonding	NA	Section 3.2.9	no	Appendix

ATTACHMENT 3.1.2

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 15- page limit?	SOQ Page Reference
SCC and DPOR registration documentation (Appendix)	Attachment 3.2.10	Section 3.2.10	no	Appendix
Full size copies of SCC Registration	NA	Section 3.2.10.1	no	Appendix
Full size copies of DPOR Registration (Offices)	NA	Section 3.2.10.2	no	Appendix
Full size copies of DPOR Registration (Key Personnel)	NA	Section 3.2.10.3	no	Appendix
Full size copies of DPOR Registration (Non-APELSCIDLA)	NA	Section 3.2.10.4	no	Appendix
DBE statement within Letter of Submittal confirming Offeror is committed to achieving the 6% DBE goal	NA	Section 3.2.11	yes	1
Offeror's Team Structure				2-5
Identity of and qualifications of Key Personnel	NA	Section 3.3.1	yes	2-3
Key Personnel Resume – DB Project Manager	Attachment 3.3.1	Section 3.3.1.1	no	Appendix
Key Personnel Resume – Entrusted Engineer in Charge	Attachment 3.3.1	Section 3.3.1.2	no	Appendix
Key Personnel Resume – Quality Assurance Manager	Attachment 3.3.1	Section 3.3.1.3	no	Appendix
Key Personnel Resume – Design Manager	Attachment 3.3.1	Section 3.3.1.4	no	Appendix
Key Personnel Resume – Construction Manager	Attachment 3.3.1	Section 3.3.1.5	no	Appendix
Organizational chart	NA	Section 3.3.2	yes	5
Organizational chart narrative	NA	Section 3.3.2	yes	3-4

ATTACHMENT 3.1.2

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 15- page limit?	SOQ Page Reference
Experience of Offeror's Team				
Lead Contractor Work History Form	Attachment 3.4.1(a)	Section 3.4	no	Appendix
Lead Designer Work History Form	Attachment 3.4.1(b)	Section 3.4	no	Appendix
Project Risk				
Identify and discuss three critical risks for the Project	NA	Section 3.5.1	yes	8-15

**Attachment
2.10**

**Form C-78-RFQ
Acknowledgement of Revisions**

ATTACHMENT 2.10

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION**

PROJECT: I-81 Widening MM 221 to MM 225
CONTRACT ID: C00116269DB116
PROJECT NO.: 0081-007-013

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 – July 1, 2022
(Date)
2. Cover letter of Addendum No. 1 – August 9, 2022
(Date)
3. Cover letter of _____
(Date)



SIGNATURE

8/17/2022
DATE

Glen Mays, DBIA
PRINTED NAME

Design-Build Project Manager
TITLE

**Attachment
3.2.6**

**List of Affiliated and
Subsidiary Companies**

ATTACHMENT 3.2.6

Project: I-81 Widening MM 221 to MM 225

State Project No. 0081-007-013

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.

<input type="checkbox"/> The Offeror does not have any affiliated or subsidiary companies.		
<input checked="" type="checkbox"/> Affiliated and/ or subsidiary companies of the Offeror are listed below.		
Relationship with Offeror (Affiliate or Subsidiary)	Full Legal Name	Address
Affiliate	Wagman, Inc.	3290 North Susquehanna Trail, York, PA 17406
Affiliate	Wagman Construction, Inc.	3290 North Susquehanna Trail, York, PA 17406
Affiliate	Wagman – Allan Myers A Joint Venture	3290 North Susquehanna Trail, York, PA 17406
Affiliate	Wagman/Fay, a Joint Venture	3290 North Susquehanna Trail, York, PA 17406

Attachment
3.2.7 (a) (b)

Debarment Forms

ATTACHMENT 3.2.7(a)

CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

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.

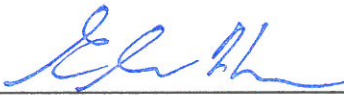
b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under 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 proposal.

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	<u>8/17/2022</u> _____ Date	<u>Design-Build Project Manager</u> _____ Title
---	-----------------------------------	---

Wagman Heavy Civil, Inc.

Name of Firm


ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 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 proposal.

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	8/17/2022 _____ Date	Partner _____ Title
--	----------------------------	---------------------------

Wallace, Montgomery & Associates, LLP

Name of Firm

ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 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 proposal.

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

August 3, 2022

Date

President & Chief Engineer

Title

Alvi Associates, Inc.

Name of Firm

ATTACHMENT 3.2.7(b)


CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 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 proposal.

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	August 8, 2022 _____ Date	Director of Right of Way and Utility Coordination _____ Title
--	---------------------------------	--

Bowman Consulting Group Ltd.

Name of Firm

ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 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 proposal.

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

July 21, 2022

Date

President

Title

CES Consulting, LLC

Name of Firm

ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 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 proposal.

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

August 4, 2022

Date

Partner

Title

Floura Teeter Landscape Architects, Inc.

Name of Firm

ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 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 proposal.

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.

Hamid Riahi

8/2/2022

Chief Engineer

Signature

Date

Title

Professional Service Industries, Inc. (PSI)

Name of Firm

ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 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 proposal.

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

August 4, 2022

Date

Vice President

Title

Michael Baker International, Inc.

Name of Firm

ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225

Project No.: 0081-007-013

- 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 proposal.

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

7/25/2022

Date

President

Title

Quinn Consulting Services, Inc.

Name of Firm

**Attachment
3.2.8**

**VDOT Prequalification
Evidence**



**Department's List of Prequalified Vendors
Includes All Qualified Levels As Of 8/3/2022**

- W -

Vendor ID: W002

Vendor Name: WAGMAN HEAVY CIVIL, INC.

Prequal Level: Prequalified

Prequal Exp: 10/31/2022

-- PREQ Address --

3290 NORTH SUSQUEHANNA TRAIL

YORK, PA 17406-9754

Phone: (717)764-8521

Fax: (717)764-2799

Work Classes (Listed But Not Limited To)

003 - MAJOR STRUCTURES

007 - MINOR STRUCTURES

011 - CLEARING AND GRUBBING

080 - DEMOLITION OF STRUCTURES

101 - EXCAVATING

Bus. Contact: BECKER, TODD EUGENE

Email: ESTIMATING@WAGMAN.COM

-- DBE Information --

DBE Type: N/A

DBE Contact: N/A

**Attachment
3.2.9**

Surety Letter

CNA SURETY

151 N. Franklin Street
Chicago, IL 60606

August 10, 2022

Joseph A. Clarke, PE, DBIA
Alternative Project Delivery Division
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

Re: A Design-Build Project
I-81 Widening MM 221 to MM 225
Augusta County, VA
State Project No.: State Project No.: 0081-007-013, B638, B639, B640, B641, B642, C501,
D602, D603, P101, R201
Federal Project No. : NHPP-081-2(329)
Contract ID Number: C00116269DB116

Dear Mr. Clarke

As surety for Wagman Heavy Civil, Inc., Western Surety 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 Bond in the amount of \$122,000,000 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.

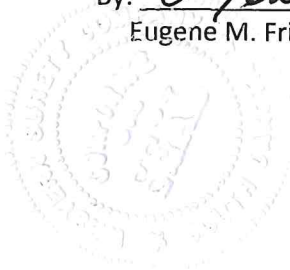
As always, Western Surety Company reserves the right to perform normal underwriting at the time of any bond request, including, without limitation, prior review and approval of relevant contract documents, bond forms, and project financing.

Sincerely,

Western Surety Company

By: 

Eugene M. Fritz, Attorney-in-Fact



Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Alson O Wolcott Jr, Robert N Striewig Jr, Eugene M Fritz, Patricia C Robinson, Donald R Wert, Kristen D Pedrick, Individually

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

- In Unlimited Amounts -

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

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 23rd day of June, 2021.



WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 23rd day of June, 2021, 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 the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

March 2, 2026



M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation 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 corporation this 10th day of August, 2022.



WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Authorizing By-Law

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

**Attachment
3.2.10**

SCC and DPOR Registration Documentation

ATTACHMENT 3.2.10

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

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
Wagman Heavy Civil Inc.	F0198988	Stock Corporation	Active	3290 North Susquehanna Trail, York, PA 17406	Class A Contractor Classification H/H	2701015887	01-31-2023
Wallace, Montgomery & Associates, LLP	K0007346	Limited Liability Partnership	Active	2920 W. Broad Street Suite 18 Richmond, VA 23230	Business Entity Branch ENG, LS	0411001629	02-29-2024
				8150 Leesburg Pike Suite 403 Vienna, VA 22182	Business Entity Branch ENG, LS	0411001087	02-29-2024
				10150 York Road Suite 200 Hunt Valley, MD 21030	Business Entity ENG, LS	0407005814	12-31-2023
Alvi Associates, Inc.	F179975	Stock Corporation	Active	110 West Road Suite 250 Towson, MD 21204	Business Entity ENG	0407002864	12-31-2023
Bowman Consulting Group, Ltd.	11139594	Stock Corporation	Active	3951 Westerre Pkwy Suite 150 Richmond, VA 23222	Business Entity Branch ENG, LS	0411000610	02-29-2024
CES Consulting, LLC	S3416007	Limited Liability Co.	Active	23475 Rock Haven Way, Suite 255 Dulles, VA 20166	Business Entity ENG	0407005783	12-31-2023

ATTACHMENT 3.2.10

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

SCC and DPOR Information

Floura Teeter Landscape Architects, Inc.	F1543497	Foreign Stock Corporation	Active	800 N. Charles St Ste 300 Baltimore, MD 21201	Professional Corp Registration LA	0405001874	12-31-2023
Professional Service Industries, Inc. (PSI)	F0449829	Stock Corporation	Active	2930 Eskridge Road Suite A, Fairfax, VA 22031	Business Entity ENG	0407003189	12-31-2023
Michael Baker International, Inc.	F0260747	Stock Corporation	Active	272 Bendix Rd, Ste 400, Virginia Beach, VA 23452	Business Entity Branch ENG	0411001245	02-29-2024
				3200 Rockbridge St, Ste 104, Richmond, VA 23230	Business Entity Branch ENG	0411001246	02-29-2024
Quinn Consulting Services, Inc.	04925517	Stock Corporation	Active	14160 Newbrook Drive, Suite 220 Chantilly, VA 20151	Business Entity	0407003733	12-31-2023
				3130 Halifax Road Suite A South Boston, VA 24592	Business Entity Branch	0411001544	02-29-2024

ATTACHMENT 3.2.10

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

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
Wagman Heavy Civil, Inc.	Jerry Whitlock	Richmond, VA	8302 Cherokee Road, Richmond, VA	Professional Engineer	0402043179	01-31-2024
Quinn Consulting Services, Inc.	Steven "Scott" Shropshire	Chantilly, Virginia	5203 Yellow Birch Drive Fredericksburg, VA 22407	Professional Engineer	0402035812	06-30-2023
Wallace Montgomery	Eric Sender	Richmond, VA	10150 York Road Suite 200 Hunt Valley, MD 21030	Professional Engineer	0402048790	04-30-2023

State Corporation Commission Clerk's Information System

Entity Information

Entity Information

Entity Name: Wagman Heavy Civil, Inc. Entity ID: F0198988
Entity Type: Stock Corporation Entity Status: **Active**
Series LLC: N/A Reason for Status: Active and In Good Standing
Formation Date: N/A Status Date: 10/08/2010
VA Qualification Date: 09/20/1967 Period of Duration: Perpetual
Industry Code: 0 - General Annual Report Due Date: 09/30/2022
Jurisdiction: PA Charter Fee: \$2500.00
Registration Fee Due Date: 09/30/2022

Registered Agent Information

RA Type: Entity Locality: RICHMOND CITY
RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED
TO TRANSACT BUSINESS IN VIRGINIA
Name: CORPORATION SERVICE COMPANY Registered Office Address: 100 Shockoe Slip Fl 2, Richmond, VA, 23219 - 4100, USA

Principal Office Address

Address: 3290 N Susquehanna Trl, York, PA, 17406 -
9754, USA

Principal Information

Title	Director	Name	Address	Last Updated
P/COO	No	GREGORY M. ANDRICOS	1117 WYNDHAM DR, YORK, PA, 17403 - 0000, USA	09/24/2019
SR. VP	No	TODD E. BECKER	2845 BARK HILL RD, YORK, PA, 17404 - 0000, USA	09/24/2019
SR VP/CFO/TRES	No	JOHN R. COPPAGE IV	1204 LANCASTER AVE, YORK, PA, 17403 - 0000, USA	09/24/2019
VP/GC/S	No	KEVIN J. MCKEON	2646 MAYFAIR LANE, YORK, PA, 17408 - 0000, USA	09/24/2019
Chief Executive Officer	Yes	Michael B Glezer	2784 Farnham Lane, York, PA, 17408, USA	07/16/2020
Vice President	No	Glen K. Mays	13616 Coby Way #302, Midlothian, VA, 23112, USA	07/16/2020
Secretary	No	Jeanie P. Jones	1542 Henrico Road, Buffalo Junction, VA, 24529, USA	07/16/2020
Vice President	No	Anthony W. Bednarik	6 Ashlea Drive, Glenmoore, PA, 19343, USA	07/16/2020
Vice President	No	Edward R. Laczynski	1011 Country Club Road, Camp Hill, PA, 17011, USA	07/16/2020
Vice President, Secretary	No	Lisa W. Glezer	2784 Farnham Lane, York, PA, 17408, USA	07/16/2020
	Yes	Richard E Wagman	1190 Overbrook Circle, York, PA, 17403, USA	07/16/2020
Vice President	Yes	Joseph G. Wagman	975 Summit Circle North, York, PA, 17403, USA	07/16/2020

Current Shares

Total Shares: 4000000

[Filing History](#)[RA History](#)[Name History](#)[Previous Registrations](#)[Garnishment Designees](#)[Image Request](#)[Back](#)[Return to Search](#)[Return to Results](#)[Back to Login](#)

State Corporation Commission Clerk's Information System

Entity Information

Entity Information

Entity Name:	Wallace, Montgomery & Associates, LLP	Entity ID:	K0007346
Entity Type:	General Partnership	Entity Status:	Active
Series LLC:	N/A	Reason for Status:	GP - LLP Status Only
Formation Date:	10/13/2010	Status Date:	10/13/2010
VA Qualification Date:	10/13/2010	Period of Duration:	N/A
Industry Code:	0 - General	Annual Continuation Report Due Date:	N/A
Jurisdiction:	MD	Charter Fee:	N/A
LLP Status:	Yes		
Registration Fee Due Date:	Not Required		

Registered Agent Information

RA Type:	Individual	Locality:	CHARLOTTESVILLE CITY
RA Qualification:	Member of the Virginia State Bar		
Name:	Joseph W. Cooch	Registered Office Address:	701 E Water St Ste 101, Charlottesville, VA, 22902 - 5499, USA

Principal Office Address

Address: 10150 YORK RD STE 200, HUNT VALLEY, MD, 21030, USA

Virginia Office Address

Address:

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State Corporation Commission Clerk's Information System

Entity Information

Entity Information

Entity Name: ALVI ASSOCIATES, INC. Entity ID: F1799750
Entity Type: Stock Corporation Entity Status: **Active**
Series LLC: N/A Reason for Status: Active and In Good Standing
Formation Date: N/A Status Date: 10/15/2020
VA Qualification Date: 08/13/2009 Period of Duration: Perpetual
Industry Code: 0 - General Annual Report Due Date: N/A
Jurisdiction: MD Charter Fee: \$50.00
Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Entity Locality: HANOVER COUNTY
RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED
TO TRANSACT BUSINESS IN VIRGINIA
Name: INCORP SERVICES, INC. Registered Office Address: 7288 HANOVER GREEN DR, MECHANICSVILLE, VA, 23111 -
0000, USA

Principal Office Address

Address: 110 WEST ROAD SUITE 250, TOWSON, MD,
21204 - 0000, USA

Principal Information

Title	Director	Name	Address	Last Updated
President	Yes	IRFAN A. ALVI	110 WEST ROAD SUITE 250, TOWSON, MD, 21204 - 0000, USA	08/20/2019
Vice President	No	ANNABELLE B. ALVI	110 WEST ROAD, SUITE 250, TOWSON, MD, 21204 - 0000, USA	08/20/2019

Current Shares

Total Shares: 1000

[Filing History](#)[RA History](#)[Name History](#)[Previous Registrations](#)[Garnishment Designees](#)[Image Request](#)[Back](#)[Return to Search](#)[Return to Results](#)[Back to Login](#)

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State Corporation Commission Clerk's Information System

Entity Information

Entity Information

Entity Name: Bowman Consulting Group Ltd. Entity ID: 11139594
Entity Type: Stock Corporation Entity Status: **Active**
Series LLC: N/A Reason for Status: Active and In Good Standing
Formation Date: 11/13/2020 Status Date: 11/25/2020
VA Qualification Date: 11/25/2020 Period of Duration: Perpetual
Industry Code: 0 - General Annual Report Due Date: N/A
Jurisdiction: DE Charter Fee: \$750.00
Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Entity Locality: NORFOLK CITY
RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED
TO TRANSACT BUSINESS IN VIRGINIA
Name: LEGALINC CORPORATE SERVICES INC. Registered Office Address: 440 Monticello Ave Ste 1800, Norfolk, VA, 23510 - 2670,
USA

Principal Office Address

Address: 12355 Sunrise Valley Dr Ste 520, Reston, VA,
20191, USA

Principal Information

Title	Director	Name	Address	Last Updated
Treasurer, Executive Vice President	No	Bruce Labovitz	12355 Sunrise Valley Dr Ste 520, Reston, VA, 20191, USA	11/25/2020
Vice President	No	Charles E Powell	12355 Sunrise Valley Dr Ste 520, Reston, VA, 20191, USA	11/25/2020
President, Chairman	No	Gary P Bowman	12355 Sunrise Valley Dr Ste 520, Reston, VA, 20191, USA	11/25/2020
Executive Vice President	Yes	James DePietro	12355 Sunrise Valley Dr Ste 520, Reston, VA, 20191, USA	11/25/2020
Executive Vice President	Yes	Jesse Goldfarb	4450 W. EAU GALLIE BLVD, STE 232, Melbourne, FL, 32934, USA	11/10/2021
Vice President	No	M. Scott Delgado	13461 SUNRISE VALLEY DRIVE, Herndon, VA, 20171, USA	11/10/2021
Assistant Secretary, Executive Vice President	Yes	Michael G Bruen	12355 Sunrise Valley Dr Ste 520, Reston, VA, 20191, USA	11/25/2020
Executive Vice President	No	Patricia Hollar	12355 Sunrise Valley Dr Ste 520, Reston, VA, 20191, USA	11/25/2020
Executive Vice President	Yes	Patrick Quante	101 SOUTH STREET, S.E. , Leesburg, VA, 20175, USA	11/10/2021
Secretary, Executive Vice President	Yes	Robert A Hickey	12355 Sunrise Valley Dr Ste 520, Reston, VA, 20191, USA	11/25/2020

Current Shares

Total Shares: 360000

[Filing History](#)[RA History](#)[Name History](#)[Previous Registrations](#)[Garnishment Designees](#)[Image Request](#)[Back](#)[Return to Search](#)[Return to Results](#)[Back to Login](#)

State Corporation Commission Clerk's Information System

Entity Information

Entity Information

Entity Name:	CES Consulting, LLC	Entity ID:	S3416007
Entity Type:	Limited Liability Company	Entity Status:	Active
Series LLC:	No	Reason for Status:	Active
Formation Date:	10/14/2010	Status Date:	10/14/2010
VA Qualification Date:	10/14/2010	Period of Duration:	Perpetual
Industry Code:	70 - Other DULY LICENSED PROFESSIONAL ENTITY not listed below as SPECIFIED in Section 13.1-543 of the Code of Virginia	Annual Report Due Date:	N/A
Jurisdiction:	VA	Charter Fee:	N/A
Registration Fee Due Date:	10/31/2022		

Registered Agent Information

RA Type:	Individual	Locality:	FAIRFAX COUNTY
RA Qualification:	Member or Manager of the Limited Liability Company		
Name:	AVTAR SINGH	Registered Office Address:	12423 Henderson Rd, Clifton, VA, 20124 - 2021, USA

Principal Office Address

Address: 23475 ROCK HAVEN WAY, SUITE 255,
DULLES, VA, 20166 - 0000, USA

[Filing History](#)[RA History](#)[Name History](#)[Previous Registrations](#)[Protected Series](#)[Garnishment Designees](#)[Image Request](#)[Back](#)[Return to Search](#)[Return to Results](#)[Back to Login](#)[Privacy Policy](#) | [Contact Us](#)

State Corporation Commission Clerk's Information System

Entity Information

Entity Information

Entity Name: FLOURA TEETER LANDSCAPE ARCHITECTS, INC. Entity ID: F1543497
Entity Type: Stock Corporation Entity Status: **Active**
Series LLC: N/A Reason for Status: Active and In Good Standing
Formation Date: N/A Status Date: 12/21/2011
VA Qualification Date: 10/05/2006 Period of Duration: Perpetual
Industry Code: 73 - Architects Annual Report Due Date: 10/31/2022
Jurisdiction: MD Charter Fee: \$50.00
Registration Fee Due Date: 10/31/2022

Registered Agent Information

RA Type: Entity Locality: HENRICO COUNTY
RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED TO TRANSACT BUSINESS IN VIRGINIA
Name: C T CORPORATION SYSTEM Registered Office Address: 4701 Cox Rd Ste 285, Glen Allen, VA, 23060 - 6808, USA

Principal Office Address

Address: 800 N Charles St Ste 300, Baltimore, MD, 21201, USA

Principal Information

Title	Director	Name	Address	Last Updated
PRESIDENT/CEO	Yes	JOAN FLOURA	800 N Charles St Ste 300, Baltimore, MD, 21201, USA	08/18/2021
VP/SEC/TREAS	Yes	AARON TEETER	800 N. CHARLES ST., SUITE 300, BALTIMORE, MD, 21201 - 0000, USA	09/19/2019

Current Shares

Total Shares: 5000

[Filing History](#)[RA History](#)[Name History](#)[Previous Registrations](#)[Garnishment Designees](#)[Image Request](#)[Back](#)[Return to Search](#)[Return to Results](#)[Back to Login](#)

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State Corporation Commission Clerk's Information System

Entity Information

Entity Information

Entity Name: PROFESSIONAL SERVICE INDUSTRIES, INC. Entity ID: F0449829
Entity Type: Stock Corporation Entity Status: **Active**
Series LLC: N/A Reason for Status: Active and In Good Standing
Formation Date: N/A Status Date: 03/09/2017
VA Qualification Date: 02/23/1984 Period of Duration: Perpetual
Industry Code: 0 - General Annual Report Due Date: N/A
Jurisdiction: DE Charter Fee: \$0.00
Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Entity Locality: RICHMOND CITY
RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED
TO TRANSACT BUSINESS IN VIRGINIA
Name: CORPORATION SERVICE COMPANY Registered Office Address: 100 Shockoe Slip Fl 2, Richmond, VA, 23219 - 4100, USA

Principal Office Address

Address: 545 E Algonquin Rd, Arlington Heights, IL,
60005 - 4376, USA

Principal Information

Title	Director	Name	Address	Last Updated
President	Yes	CHRIS CARSTEN	545 E ALGONQUIN RD STE H, ARLINGTON HEIGHTS, IL, 60005 - 0000, USA	01/20/2021
	Yes	GAVIN CAMPBELL	545 E ALGONQUIN RD STE H, ARLINGTON HEIGHTS, IL, 60005 - 0000, USA	01/31/2022
Secretary	No	TODD ANDREWS	545 E ALGONQUIN RD STE H, ARLINGTON HEIGHTS, IL, 60005 - 0000, USA	01/20/2021
Chief Financial Officer	No	WHITNEY BERGFELD	545 E. ALGONQUIN RD, ARLINGTON HEIGHTS, IL, 60005 - 0000, USA	01/30/2020
Vice President	No	Juan Villegas	7950 NW 64th Street, Miami, FL, 33166, USA	01/31/2022

Current Shares

Total Shares: 100

[Filing History](#)[RA History](#)[Name History](#)[Previous Registrations](#)[Garnishment Designees](#)[Image Request](#)[Back](#)[Return to Search](#)[Return to Results](#)[Back to Login](#)

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State Corporation Commission Clerk's Information System

Entity Information

Entity Information

Entity Name: Michael Baker International, Inc. Entity ID: F0260747
Entity Type: Stock Corporation Entity Status: **Active**
Series LLC: N/A Reason for Status: Active and In Good Standing
Formation Date: N/A Status Date: 11/09/2020
VA Qualification Date: 10/13/1992 Period of Duration: Perpetual
Industry Code: 0 - General Annual Report Due Date: 10/31/2022
Jurisdiction: PA Charter Fee: \$30.00
Registration Fee Due Date: 10/31/2022

Registered Agent Information

RA Type: Entity Locality: HENRICO COUNTY
RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED
TO TRANSACT BUSINESS IN VIRGINIA
Name: C T CORPORATION SYSTEM Registered Office Address: 4701 Cox Rd Ste 285, Glen Allen, VA, 23060 - 6808, USA

Principal Office Address

Address: 500 Grant St Ste 5400, Pittsburgh, PA, 15219
- 2523, USA

Principal Information

Title	Director	Name	Address	Last Updated
President	Yes	Brian A. Lutes	500 Grant St Ste 5400, Pittsburgh, PA, 15219 - 2523, USA	09/23/2021
Secretary	Yes	John M. Tedder	500 Grant St Ste 5400, Pittsburgh, PA, 15219 - 2523, USA	09/23/2021
Treasurer	No	Jill G Bell	500 Grant St Ste 5400, Pittsburgh, PA, 15219 - 2523, USA	09/23/2021
Vice President	Yes	Amy N Davis	500 Grant St Ste 5400, Pittsburgh, PA, 15219 - 2523, USA	09/23/2021
Authorized Signer	No	Raymond G Shrift	500 Grant St Ste 5400, Pittsburgh, PA, 15219 - 2523, USA	09/02/2021

Current Shares

Total Shares: 100

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State Corporation Commission Clerk's Information System

Entity Information

Entity Information

Entity Name: QUINN CONSULTING SERVICES INCORPORATED Entity ID: 04925517
Entity Type: Stock Corporation Entity Status: **Active**
Series LLC: N/A Reason for Status: Active and In Good Standing
Formation Date: 10/24/1997 Status Date: 12/01/2008
VA Qualification Date: 10/24/1997 Period of Duration: Perpetual
Industry Code: 0 - General Annual Report Due Date: 10/31/2022
Jurisdiction: VA Charter Fee: \$50.00
Registration Fee Due Date: 10/31/2022

Registered Agent Information

RA Type: Individual Locality: ARLINGTON COUNTY
RA Qualification: Member of the Virginia State Bar
Name: JOHN H QUINN JR Registered Office Address: 2208 S KNOLL ST, ARLINGTON, VA, 22202 - 2134, USA

Principal Office Address

Address: 14160 NEWBROOK DRIVE, SUITE 220,
CHANTILLY, VA, 20151 - 0000, USA

Principal Information

Title	Director	Name	Address	Last Updated
COB/P/T	Yes	ELIZABETH QUINN VICINSKI	14160 NEWBROOK DRIVE, SUITE 220, CHANTILLY, VA, 20151 - 0000, USA	09/15/2017
Secretary	No	FRANCISCA I OTERO	888 17TH STREET NW, SUITE 640, WASHINGTON, DC, 20006 - 0000, USA	09/15/2017

Current Shares

Total Shares: 5000

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COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

01-31-2023

NUMBER

2701015887

BOARD FOR CONTRACTORS
CLASS A CONTRACTOR
CLASSIFICATIONS H/H



WAGMAN HEAVY CIVIL INC
3290 NORTH SUSQUEHANNA TRAIL
YORK, PA 17406



Mary Broz-Vaughan
Mary Broz-Vaughan, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (02/2017)

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CLASS A BOARD FOR CONTRACTORS
CONTRACTOR

CLASSIFICATIONS H/H

NUMBER: 2701015887 EXPIRES: 01-31-2023

WAGMAN HEAVY CIVIL INC
3290 NORTH SUSQUEHANNA TRAIL
YORK, PA 17406



(FOLD)

VOID

Status can be verified at <http://www.dpor.virginia.gov>

DPOR-PC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

02-29-2024

NUMBER

0411001629

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

PROFESSIONS: ENG



WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030



Demetrios J. Mellis
Demetrios J. Mellis, Director

Status can be verified at <http://www.dpor.virginia.gov>

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

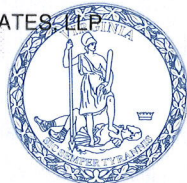
DPOR-LIC (02/2017)



COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA
BUSINESS ENTITY BRANCH OFFICE REGISTRATION
NUMBER: 0411001629 EXPIRES: 02-29-2024
PROFESSIONS: ENG
WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030



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DPOR-PC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

02-29-2024

NUMBER

0411001087

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

PROFESSIONS: ENG



WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030



Demetrios J. Melis
Demetrios J. Melis, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (02/2017)

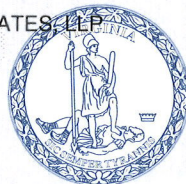
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COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA
BUSINESS ENTITY BRANCH OFFICE REGISTRATION
NUMBER: 0411001087 EXPIRES: 02-29-2024
PROFESSIONS: ENG
WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030



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DPOR-PC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

12-31-2023

NUMBER

0407005814

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

PROFESSIONS: ENG



WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030



Mary Broz-Vaughan
Mary Broz-Vaughan, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (02/2017)

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COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR APPLSCIDLA
BUSINESS ENTITY REGISTRATION
NUMBER: 0407005814 EXPIRES: 12-31-2023
PROFESSIONS: ENG
WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030



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DPOR-PC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

12-31-2023

NUMBER

0407002864

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

PROFESSIONS: ENG



ALVI ASSOCIATES, INC.
110 WEST RD STE 250
TOWSON, MD 21204



Mary Broz-Vaughan
Mary Broz-Vaughan, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (02/2017)



COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

BOARD FOR AP/LS/CID/LA

BUSINESS ENTITY REGISTRATION

NUMBER: 0407002864 EXPIRES: 12-31-2023

PROFESSIONS: ENG

ALVI ASSOCIATES, INC.

110 WEST RD STE 250

TOWSON, MD 21204



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DPOR-PC (02/2017)

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COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
02-29-2024


NUMBER
0411000610

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

PROFESSIONS: ENG, LS



BOWMAN CONSULTING GROUP LTD
3951 WESTERRE PKWY
SUITE 150
RICHMOND, VA 23233



Mary Broz-Vaughan
Mary Broz-Vaughan, Director

Status can be verified at <http://www.dpor.virginia.gov>

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

12-31-2023

NUMBER

0407005783

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

PROFESSIONS: ENG



CES CONSULTING LLC
23475 ROCK HAVEN WAY
SUITE 255
DULLES, VA 20166



Mary Broz-Vaughan
Mary Broz-Vaughan, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (02/2017)

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DPOR COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR AP/ELSCIDLA
BUSINESS ENTITY REGISTRATION
NUMBER: 0407005783 EXPIRES: 12-31-2023
PROFESSIONS: ENG
CES CONSULTING LLC
23475 ROCK HAVEN WAY
SUITE 255
DULLES, VA 20166



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DPOR-PC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

12-31-2023

NUMBER

0405001874

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

PROFESSIONS: LA



FLOURA TEETER LANDSCAPE ARCHITECTS, INC
800 N. CHARLES ST.
STE 300
BALTIMORE, MD 21201




Mary Broz-Vaughan, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (02/2017)

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 COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA
PROFESSIONAL CORPORATION REGISTRATION
NUMBER: 0405001874 EXPIRES: 12-31-2023
PROFESSIONS: LA
FLOURA TEETER LANDSCAPE ARCHITECTS, INC
800 N. CHARLES ST.
STE 300
BALTIMORE, MD 21201



(FOLD)

Status can be verified at <http://www.dpor.virginia.gov>

DPOR-PC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

12-31-2023

NUMBER

0407003189


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

PROFESSIONS - ENG



PROFESSIONAL SERVICE INDUSTRIES INC
ATTN: LINDA ELLIS
545 E ALGONQUIN RD
ARLINGTON HEIGHTS, IL 60005




Mary Broz-Vaughan, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (02/2017)

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 COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA
BUSINESS ENTITY REGISTRATION
NUMBER: 0407003189 EXPIRES: 12-31-2023
PROFESSIONS: ENG
PROFESSIONAL SERVICE INDUSTRIES INC
ATTN: LINDA ELLIS
545 E ALGONQUIN RD
ARLINGTON HEIGHTS, IL 60005



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Status can be verified at <http://www.dpor.virginia.gov>

DPOR-PC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

02-29-2024

NUMBER

0411001245

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

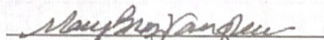
PROFESSIONS: ENG



MICHAEL BAKER INTERNATIONAL, INC
272 BENDIX ROAD
STE 400
VIRGINIA BEACH, VA 23452



Status can be verified at <http://www.dpor.virginia.gov>


Mary Broz-Vaughan, Director

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

02-29-2024

NUMBER

0411001246

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

PROFESSIONS: ENG



MICHAEL BAKER INTERNATIONAL, INC
3200 ROCKBRIDGE STE STE 104
RICHMOND, VA 23230



Status can be verified at <http://www.dpor.virginia.gov>

Demetrios J. Melis
Demetrios J. Melis, Director

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON

12-31-2023

NUMBER

0407003733

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

PROFESSIONS: ENG



QUINN CONSULTING SERVICES INCORPORATED
14160 NEWBROOK DR
STE 220
CHANTILLY, VA 20151



Status can be verified at <http://www.dpor.virginia.gov>

Mary Broz-Vasbosh
Mary Broz-Vasbosh, Director

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DPOR-LIC (02/2017)

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 COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR APESCIDLA
BUSINESS ENTITY REGISTRATION
NUMBER: 0407003733 EXPIRES: 12-31-2023
PROFESSIONS: ENG
QUINN CONSULTING SERVICES INCORPORATED
14160 NEWBROOK DR
STE 220
CHANTILLY, VA 20151



(FOLD)

Status can be verified at <http://www.dpor.virginia.gov>

DPOR-PC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

02-29-2024

NUMBER

0411001544

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

PROFESSIONS-ENG



QUINN CONSULTING SERVICES INCORPORATED
3130 HALIFAX RD STE A
SOUTH BOSTON, VA 24592



Demetrios J. Mello
Demetrios J. Mello, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

01-31-2024

NUMBER

0402043179

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



JERRY TODD WHITLOCK
8302 CHEROKEE ROAD
RICHMOND, VA 23235



Status can be verified at <http://www.dpor.virginia.gov>


Mary Broz-Vaughan, Director

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DPOR-LIC (02/2017)

 COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

(DETACH HERE)

BOARD FOR APESCIDLA
PROFESSIONAL ENGINEER LICENSE
NUMBER: 0402043179 EXPIRES: 01-31-2024

JERRY TODD WHITLOCK
8302 CHEROKEE ROAD
RICHMOND, VA 23235



(FOLD)

Status can be verified at <http://www.dpor.virginia.gov>

DPOR-PC (02/2017)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

06-30-2023

NUMBER

0402035812

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



STEVEN SCOTT SHROPSHIRE
5203 YELLOW BIRCH DRIVE
FREDERICKSBURG, VA 22407



Status can be verified at <http://www.dpor.virginia.gov>


Mary Broz-Vaughan, Director

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

04-30-2023

NUMBER

0402048790

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



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Mary Broz-Vaughan
Mary Broz-Vaughan, Director

Status can be verified at <http://www.dpor.virginia.gov>

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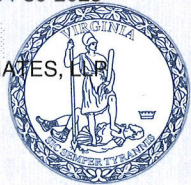
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**Attachment
3.3.1**

Key Personnel Resumes

ATTACHMENT 3.3.1
VDOT Contract ID C00116269DB116 – I-81 Widening MM 221 to MM 225 Design-Build
KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.	
a. Name & Title: Glen Mays, DBIA, Vice President/General Manager	
b. Project Assignment: Design-Build Project Manager	
c. Name of the Firm with which you are employed at the time of submitting SOQ.: Wagman Heavy Civil, Inc.	
d. Employment History: With this Firm 8 Years With Other Firms 29 Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment of the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below): <u>Wagman Heavy Civil, Inc.</u> Start Date: December 2014 End Date: Present Position: DBPM Responsibilities: Company officer with principal responsibility for civil operations in Virginia including safety, quality control, estimating, engineering, and construction for Design-Build and conventional projects. Glen reports directly to the President/COO of Wagman Heavy Civil and leads a team of over 100 construction professionals including: managers, engineers, estimators, surveyors, administrators, and field personnel. Glen has over 35 years of experience in the management of heavy civil projects ranging from \$5M to over \$200M. These projects include VDOT, Design-Build, and major interstate projects. <u>Granite Construction Company</u> Start Date: December 2010 End Date: 2014 Position: DBPM Responsibilities: Primary Point of Contact (POC) with principal responsibility for supervising all design and construction efforts from proposal through final acceptance, including Quality Control for \$45M FDOT Design Build Project on 1-75. Also responsible for the supervision of design, construction, quality management, contract administration and procuring contract resources. <u>Hubbard Construction</u> Start Date: 2009 End Date: 2010 Position: Tampa Division Manager Responsibilities: Division Manager responsible for all aspects of civil work on a \$110M urban highway Design-Bid-Build financed project for FDOT in Tampa. Led public outreach efforts, and was responsible for resolving all contract conflicts, and led partnering for the avoidance of disputes. <u>Skanska USA Civil</u> Start Date: 2008 End Date: 2009 Position: Senior Project Manager Responsibilities: Senior Project Manager responsible for the civil work on the \$214M Tampa Interchange project being performed via a Joint Venture with Flatiron. <u>Cherry Hill Construction, Inc.</u> Start Date: 1994 End Date: 2008 Position: Design Build Project Manager, Projects Director, Division Manager Responsibilities: Glen had 13 years of experience in estimating, managing, and administering numerous projects inclusive of conventional bid-build and Design-Build for various private and public clients including VDOT and Maryland State Highway Administration. Also responsible for the supervision of design, construction, quality management, contract administration and procuring contract resources. Glen also managed partnering and public outreach.	
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: Virginia Military Institute, Lexington, Virginia/B.S./1983/Civil Engineering	
f. Active Registrations: Year First Registered/Discipline/VA Registration # 2019/Design-Build Institute of America (DBIA)/D-2872 2018/Virginia DEQ Responsible Land Disturber/RLD10897	
g. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i> (List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.)	
VDOT-I-95 Northbound Rappahannock River Crossing Design-Build, Stafford County, VA (\$109M)	
Project Role: DBPM	With Current Firm? Yes
Beginning Date: 05/2020	End Date: 03/2022

Specific Responsibilities: Glen served as the Design-Build Project Manager (DBPM) until March 25, 2022 due to long-term medical leave. During his duration as DBPM he was responsible for the overall design and construction of this \$109M project that includes construction of approximately five miles of new interstate roadway, a major I-95 bridge structure over the Rappahannock River, as well as one additional I-95 bridge structure over US Route 17. Involved with the project since the pursuit phase, Glen led an integrated Design-Build team to successfully achieve project goals. He was responsible for ensuring that the team met or exceeded QA/QC project requirements. Glen was the primary point of contact for VDOT and all third-party stakeholders. He coordinated with adjacent projects including the I-95 Express Lanes Fredericksburg Extension project whose limits encroach into Wagman’s project requiring significant coordination for ITS and tolling infrastructure. Glen also led the team’s public outreach efforts to effectively communicate with the numerous stakeholders. Glen led the application of MOT and SWM lesson learned from I-95 SB to the NB project.

Similarities with the I-81 Design-Build Project:

Interstate Roadway Widening Inside and Outside	Design-Build Project	Bridge Widening
Coordination with Adjacent Projects	Hydraulics	Permitting/Environmental
Support of Excavation including Cofferdams	Utility Coordination/Relocation	SWM/ESC
Coordinated TMP/MOT/Traffic Control Devices	Survey/ROW	Geotechnical
Construction Engineering and Inspection	Stakeholder Coordination	
Signage & Lighting	Noisewalls	

VDOT-I-95 Southbound Rappahannock River Crossing Design-Build, Stafford County, VA (\$114.7M)

Project Role: DBPM	With Current Firm? Yes
Beginning Date: 11/2018	End Date: 05/2022

Specific Responsibilities: As DBPM, Glen was responsible for the overall project management and all design and construction of this \$101M project that included construction of approximately five miles of new interstate roadway, a major I-95 bridge structure over the Rappahannock River, as well as three additional I-95 bridge structures over US Route 17. Involved with the project since the pursuit phase, Glen led an integrated Design-Build team to successfully achieve project goals. He was responsible for ensuring that the team met or exceeded QA/QC project requirements. Glen was the primary point of contact for VDOT and all third-party stakeholders, overseeing public involvement and relations. He coordinated with adjacent projects including the I-95 Express Lanes Fredericksburg Extension project whose limits encroach into Wagman’s project requiring significant coordination for ITS infrastructure. Glen also led the team’s public outreach efforts to effectively communicate with the numerous stakeholders. Glen brought his MOT experience from work in Florida to the innovative entrances on this project. Glen also led changes to the SWM reducing the project’s ROW requirements.

Similarities with the I-81 Design-Build Project:

Interstate Roadway Widening Inside and Outside	Design-Build Project	Bridge Widening
Coordination with Adjacent Projects	Hydraulics	Permitting/Environmental
Support of Excavation including Cofferdams	Utility Coordination/Relocation	SWM/ESC
Coordinated TMP/MOT/Traffic Control Devices	Survey/ROW	Geotechnical
Construction Engineering and Inspection	Stakeholder Coordination	
Signage & Lighting	Noisewalls	

FDOT-I-75 Reconstruction and Widening Design-Build, Pasco County, FL (\$45M)

Project Role: DBPM	With Current Firm? No, Granite Construction Company
Beginning Date: 01/2013	End Date: 11/2014

Specific Responsibilities: Glen served as the primary point of contact (POC) to FDOT, and supervised a staff consisting of engineers, public relation professionals, ROW specialists, utility coordinators, and field personnel. He managed the project from the proposal through all phases of permitting, design, utility relocations, and phased construction. This project involved the widening and reconstruction of over 7.5 miles of both Northbound and Southbound Interstate 75. This required multiphase MOT with engineered construction entrances to facilitate the safe ingress and egress of construction traffic with regards to the high-speed Interstate traffic. Physical construction activities included erosion & sediment control; dewatering; clearing and grubbing; excavation and embankment; over nine miles of storm drain piping; a dozen SWM ponds using bio-retention best practices; soil stabilization; aggregate base; asphalt paving; pavement markings; guardrail; lighting; ITS; and overhead truss/cantilever sign structures.

Similarities with the I-81 Design-Build Project:

Interstate Roadway Widening	Design-Build Project	ITS
Coordination with Adjacent Projects	Overhead Signage	Permitting/Environmental
Support of Excavation	Utility Coordination	Drainage/ESC
Coordinated TMP	ROW	Phase Construction
Earthwork/Embankments	Stakeholder Coordination	

* 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. **N/A.**

ATTACHMENT 3.3.1

**VDOT Contract ID C00116269DB116 – I-81 Widening MM 221 to MM 225 Design-Build
KEY PERSONNEL RESUME FORM**

Brief Resume of Key Personnel anticipated for the Project.	
a. Name & Title: Jerry T. Whitlock, PE, DBIA, PMP, CCM, Design-Build Project Manager	
b. Project Assignment: Entrusted Engineer In Charge	
c. Name of the Firm with which you are employed at the time of submitting SOQ.: Wagman Heavy Civil, Inc.	
d. Employment History: With this Firm <u>7</u> Years With Other Firms <u>10</u> Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment of the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below): <u>Wagman Heavy Civil, Inc.</u> Start Date: July 2015 End Date: Present Position: Design-Build Integration Manager Responsibilities: Primary Point of Contact responsible directly to the Design-Build Project Manager (DBPM) for overseeing Design-Build projects from award through design, construction, and final acceptance, including direct supervision and control of multiple design consultants, QA/QC programs and procedures, schedule, budget, and all construction engineering. <u>Cherry Hill Construction, Inc.</u> Start Date: January 2012 End Date: June 2015 Position: Construction Manager/Project Manager Responsibilities: Exercise second level management over Design-Build projects from award through final acceptance with principal responsibility over construction and QC activities including project schedule and budget. Construction Manager on \$9M interstate interchange project, Mark Center Short and Mid-term Improvements project. Start Date: June 2005 End Date: December 2011 Position: Senior Project Engineer Responsibilities: Exercise first level management over Design-Build projects from award through final acceptance with principal responsibility for QC, submittals, project schedule, construction engineering, requests for information (RFI), maintenance of traffic (MOT) and survey. Jerry served as Quality Control Manager (QCM) and Lead Project Engineer for the \$58M 9 th Street Bridge Replacement Design-Build, then Lead Project Engineer for the \$112M Fairfax County Parkway Extension Design-Build, then Construction Manager for \$9M Mark Center Short and Mid-Term Improvements Design-Build. <u>United States Navy</u> Start Date: December 2005 End Date: Present Position: Civil Engineer Corp Officer Responsibilities: Managed assigned Department of Navy construction, facilities, and personnel. This includes self-performed construction and design (horizontal and vertical), contracting of construction and design services, acquisition of major end items, leadership, and management of units up to 630 personnel, and facilities management, inspection, and operations. All services performed in permissive, austere and/or hostile environments both overseas and in the continental US. Jerry has managed over \$250M in Design-Build construction projects as Construction Manager, QAM, DBPM, and Owner’s representative.	
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: West Virginia University, Morgantown, WV/MS/2003/Civil Engineering Virginia Military Institute, Lexington, VA/BS/2002/Civil Engineering	
f. Active Registrations: Year First Registered/Discipline/VA Registration # 2008/Virginia Registered Professional Engineer #0402043179 (Also registered in DE, DC, FL, and MD) 2013/Virginia DEQ Responsible Land Disturber/RLD#39701	
g. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i> (List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.)	
VDOT–I-95 Northbound Rappahannock River Crossing Design-Build, Stafford County, VA (\$109M)	
Project Role: DBPM and EIC	With Current Firm? Yes
Beginning Date: 04/2020 (EIC), 03/2022 (DBPM)	End Date: Present
Specific Responsibilities: As a VDOT approved change, Jerry took on the DBPM role as of March 2022 while also serving as the EIC. Jerry is responsible for the overall design and construction of this \$109M project that includes construction of approximately five miles of new interstate roadway, a major I-95 bridge structure over the Rappahannock	

River, as well as one additional I-95 bridge structure over US Route 17. Involved with the project since the pursuit phase, Jerry is leading an integrated Design-Build team to successfully achieve project goals. He is responsible for ensuring that the team meets or exceeds QA/QC project requirements. Jerry is the primary point of contact for VDOT and all third-party stakeholders. He coordinates with adjacent projects including the I-95 Express Lanes Fredericksburg Extension project whose limits encroach into Wagman's project requiring significant coordination for ITS and tolling infrastructure. Jerry also leads the team's public outreach efforts to effectively communicate with the numerous stakeholders. As EIC, Jerry is responsible to VDOT for ensuring that all engineering work for the project is integrated and otherwise deliver a safe, functional project. Responsible for all engineering decisions on the project and ensuring they are made by responsible and qualified responsible charge engineers, considering all aspects of the project, and made in a timely manner, including MOT and SWM modifications.

Similarities with the I-81 Design-Build Project:

Interstate Widening (Inside/Outside)	Design-Build Project	Bridge Widening
Coordination with Adjacent Projects	Hydraulics	Permitting/Environmental
Support of Excavation including Cofferdams	Utility Coordination/Relocation	SWM/E&S/Drainage
Coordinated TMP/MOT/Traffic Control Devices	Survey/ROW	Geotechnical
Construction Engineering and Inspection	Stakeholder Coordination	Signage/Lighting
Soundwalls		

VDOT-I-95 Southbound Rappahannock River Crossing Design-Build, Stafford County, VA (\$114.7M)

Project Role: Deputy DBPM	With Current Firm? Yes
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Beginning Date: 01/2018	End Date: 05/2022
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Specific Responsibilities: Serving as Deputy DBPM, Jerry was directly responsible to the DBPM for supervising and controlling design firms to ensure that all engineering services meet the contract requirements and are constructible within the project's schedule and budget. He was responsible for integrating completed and on-going construction activities into the design and vice versa as both progressed concurrently. Upon design approval, Jerry was responsible for approval, escalation, and resolution of field adjustments to the design as required. He was responsible for clarifying design during construction as well as providing assistance to the DBPM in supervising and ensuring that design and construction activities were well integrated and coordinated with adjacent projects. He ensured QA and QC activities were integrated into all facets of the project, including making sure that design consultants followed the project's QA/QC Plan and document control during design. Jerry was responsible for driving the projects SWM modifications and finalizing critical crossover and opening MOT to avoid rework and minimize impact to the public.

Similarities with the I-81 Design-Build Project:

Interstate Widening (Inside/Outside)	Design-Build Project	Bridge Widening
Coordination with Adjacent Projects	Hydraulics	Permitting/Environmental
Support of Excavation including Cofferdams	Utility Coordination/Relocation	SWM/E&S/Drainage
Coordinated TMP/MOT/Traffic Control Devices	Survey/ROW	Geotechnical
Construction Engineering and Inspection	Stakeholder Coordination	Signage/Lighting
Soundwalls		

MDOT SHA MD 404 Dualization Design-Build, Caroline, Queen Anne's and Talbot Counties, MD (\$105M)

Project Role: Design-Build Integration Manager	With Current Firm? Yes
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Beginning Date: 04/2016	End Date: 07/2018
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Specific Responsibilities: Jerry served as the Design Build Integration Manager and was directly responsible to the DBPM for supervising and controlling all three joint venture design firms to ensure that all engineering services meet the contract requirements and are constructible within the project's schedule and budget. Jerry ensured all design consultants followed the project's QA/QC Plan. He was directly responsible for integrating completed and on-going construction activities into the design and vice versa as both progressed concurrently. This was especially critical to the project's SWM design. Upon design approval, Jerry was responsible for making or determining design changes as required.

Similarities with the I-81 Design-Build Project:

Interstate Roadway Widening	Design-Build Project	ITS
Coordination with Adjacent Projects	Overhead Signage	Permitting/Environmental
Support of Excavation	Utility Coordination	SWM/E&S/Drainage
Coordinated TMP	ROW	Phase Construction
Earthwork/Embankments	Stakeholder Coordination	

* 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. **I-95 NB RRC, DBPM and EIC, 05/2024**

ATTACHMENT 3.3.1

**VDOT Contract ID C00116269DB116 – I-81 Widening MM 221 to MM 225 Design-Build
KEY PERSONNEL RESUME FORM**

Brief Resume of Key Personnel anticipated for the Project.
a. Name & Title: S. Scott Shropshire, PE, CCM, Quality Assurance Manager
b. Project Assignment: Quality Assurance Manager
c. Name of the Firm with which you are employed at the time of submitting SOQ.: Quinn Consulting Services, Inc.
d. Employment History: With this Firm <u>4</u> Years With Other Firms <u>26</u> Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment of the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below): Quinn Consulting Services, Inc. Start Date: April 2018 End Date: Present Position: Professional Engineer/Quality Assurance Manager Responsibilities: Scott’s responsibilities as Quality Assurance Manager (QAM) include providing construction quality oversight on contract work with varying degrees of complexity and scope. Responsible for the quality assurance inspection and testing of all materials and work performed on the project. Ensured all work, materials, sampling, and testing are in conformance with the Approved for Construction plans, specifications, and contract documents. Verified all design related work packages submitted for payment have been certified by the Design Manager. Planned and conducted Preparatory Inspection Meetings prior to the start of scheduled work activities. Monitor the construction quality control program. Issue Non-Conformance Reports for deficient work and determine acceptance following corrective action. Reviewed project inspection documentation and maintained the project’s Materials Notebook. Certify all work has been completed in conformance with the contractual documents for request for payment. Rinker Design Associates Start Date: 2015 End Date: 2018 Position: Director of Construction – Southern Virginia Region Responsibilities: Scott oversaw all construction inspection, quality assurance and quality control activities. He provided leadership and direction on all construction engineering assurance and inspection activities, coupled with seamlessly working with design staff in accomplishing constructability reviews and providing construction recommendations/suggestions during development of project plans, ensuring all construction inspection and testing were performed, completed, and recorded in accordance with contract documents. A. Morton Thomas & Associates, Inc. Start Date: 2014 End Date: 2015 Position: Quality Control Engineer Responsibilities: Scott focused on the delivery of transportation related projects through Design-Build procurements. He performed as the Quality Control Manager, accountable to the Design-Build Project Manager, reporting inspection and testing results during construction operations. Implemented inspection and testing requirements for contract related work in accordance with the approved, project specific QA/QC Plan. Virginia Department of Transportation Start Date: 2006 End Date: 2014 Position: Area Construction Engineer/Acting Residency Administrator Responsibilities: Scott was the construction program Responsible Charge Engineer for a 14-county area. He provided leadership and technical guidance for inspectors, construction managers, contract administration and consultant staff in the delivery of the six-year highway construction program via traditional Design-Bid-Build and Design-Build procurements. Start Date: 2004 End Date: 2006 Position: Acting Residency Administrator/Assistant Residency Administrator Responsibilities: Scott was responsible for delivering the residency maintenance program. He conducted assessments and reviews of complaints to develop cost effective solutions for maintenance problems. Directed maintenance and engineering staff in the resolution of maintenance issues for a wide range of projects of varying complexity.
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: Virginia Military Institute, Lexington, VA/B.S./1996/Civil Engineering
f. Active Registrations: Year First Registered/Discipline/VA Registration # 2005/Registered Professional Engineer/VA Registration #0402035812
g. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i> (List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.)

VDOT-I-95 Northbound Rappahannock River Crossing Design-Build, Stafford County, VA (\$109M)		
Project Role: Quality Assurance Manager	With Current Firm? Yes	
Beginning Date: 05/2020	End Date: Present	
<p>Specific Responsibilities: Scott's role as QAM involved management of quality assurance inspection and testing staff to ensure all materials used and work performed on the project met the project requirements. Scott was responsible for adherence to the project specific QA/QC plan, including monitoring of the contractor's Quality Control (QC) program and the NCR process. This \$109 million bridge replacement and roadway improvement project built additional travel lanes between exit 130 in Fredericksburg and exit 133 in Stafford and included a new bridge span over the Rappahannock River. The goal of the I-95 Northbound Rappahannock River Crossing project was to reduce northbound I-95 congestion between the exit 130 (Route 3) interchange in the City of Fredericksburg and the exit 133 (Route 17) interchange in Stafford County, which are two of the busiest interchanges in the region.</p>		
Similarities with the I-81 Design-Build Project:		
Design-Build	Interstate Widening (Inside/Outside)	Bridge Widening
Coordination with Adjacent Projects	Drainage/E&S/SWM	Environmental Permitting
Excavation (Cofferdams)	Utility Relocation Coordination	Survey/ROW
TMP/MOT/Traffic Control Devices	Geotechnical	Stakeholder Coordination
Signage/Lighting	Soundwalls	
VDOT-I-95 Southbound CD Lanes Rappahannock River Crossing Design-Build, Stafford County, VA (\$114.7M)		
Project Role: Quality Assurance Manager	With Current Firm? Yes	
Beginning Date: 11/2018	End Date: 05/2022	
<p>Specific Responsibilities: Scott's role as QAM involved Quality Assurance inspection and testing of all materials used and work performed on the Project, to include monitoring of the contractor's Quality Control (QC) program. He ensured that all work and materials, testing, and sampling were performed in conformance with the contract requirements, the "Approved for Construction" plans and specifications. The goal of this \$114.7 million project was to reduce I-95 congestion at Fredericksburg by providing local traffic with an additional route to travel between Route 17 and Route 3 without merging into the interstate's general-purpose lanes. Three new I-95 southbound lanes were constructed at the median of I-95 for through traffic between just north of Exit 133 (Route 17) in Stafford County and just south of Exit 130 (Route 33) in the City of Fredericksburg. The three existing I-95 southbound lanes from north of Route 17 to south of Route 3 were converted to three southbound lanes for local traffic. An additional bridge over the Rappahannock River were constructed parallel to the existing I-95 southbound bridge to carry the new lanes for through traffic. The existing I-95 interchanges at Route 17 and Route 3 were also modified, as well as ramps to the Safety Rest Area and Virginia Welcome Center.</p>		
Similarities with the I-81 Design-Build Project:		
Design-Build	Interstate Widening (Inside/Outside)	Bridge Widening
Coordination with Adjacent Projects	Drainage/E&S/SWM	Environmental Permitting
Excavation (Cofferdams)	Utility Relocation Coordination	Survey/ROW
TMP/MOT/Traffic Control Devices	Geotechnical	Stakeholder Coordination
Signage/Lighting	Soundwalls	
VDOT-I-95/Route 630 (Courthouse Road) Interchange Design-Build, Fredericksburg, VA (\$185.3M)		
Project Role: Quality Assurance Manager	With Current Firm? Yes	
Beginning Date: 04/2018	End Date: 07/2020	
<p>Specific Responsibilities: Scott led the QA/QC team and reviewed project documentation for this \$185.3M bridge and roadway reconstruction project. He was responsible for assuring compliance with the VDOT Minimum Standards on Design-Build Projects and the project QA/QC Plan. In addition, Scott chaired Preparatory Meetings, reviewed and approved monthly pay estimates, and issued and documented the resolution of project Non-Compliance Reports (NCR's). Project work activities included but were not limited to erosion and sediment control; MOT operations; clearing and grubbing; grading and drainage; subbase and paving; structure demolition; steel H-pile driving; concrete construction for various bridge elements; precast bulb-T girder erection; striping; and signage. This project relocated the I-95 Exit 140 interchange slightly southward of the existing interchange. It also relocated the intersection of Courthouse Road and Route US 1 southward to align with Hospital Center Blvd. The new interchange bridges were constructed in a diverging diamond interchange (DDI) configuration. Bridge abutments and piers were supported by MSE walls at each approach. Courthouse Road was widened to four lanes between US Route 1 and I-95. West of I-95, Courthouse Road was widened to four lanes as well to just west of Ramoth Church/Winding Creek Roads. As part of the construction, the intersection of Ramoth Church/Winding Creek Roads was realigned at a traffic signal. This work relocated and expanded the VDOT Park & Ride lot on Courthouse Road.</p>		
Similarities with the I-81 Design-Build Project:		
Design-Build	Interstate Interchange	Roadway Widening
Drainage/E&S/SWM	Environmental Permitting	Utility Relocation Coordination
Survey/ROW	TMP/MOT/Traffic Control Devices	Geotechnical
Stakeholder Coordination	Signage/Lighting	
* 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. I-95 Northbound Rappahannock River Crossing – QAM, contractual assignment until December 2023.		

ATTACHMENT 3.3.1

**VDOT Contract ID C00116269DBI16 – I-81 Widening MM 221 to MM 225 Design-Build
KEY PERSONNEL RESUME FORM**

Brief Resume of Key Personnel anticipated for the Project.	
a. Name & Title: Eric Sender, PE, DBIA, Senior Vice President	
b. Project Assignment: Design Manager	
c. Name of the Firm with which you are employed at the time of submitting SOQ.: Wallace Montgomery	
d. Employment History: With this Firm 29 Years With Other Firms 3 Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment of the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below): Wallace Montgomery Start Date: June 1994 End Date: Present Position: Senior Vice President/Design Manager Responsibilities: Eric has designed and managed both Design-Bid-Build and Design-Build (DB) contracting approaches for many types of transportation projects, including new urban roadways and interchanges, interchange modifications, interstate-expressway roadway realignments and capacity-widening improvements, electronic tolling/ITS retrofits, rehabilitation/safety improvements, and bridge structure rehabilitation/widening/replacements. He has developed roadway, structure location, and traffic studies; geometric, drainage, and maintenance of traffic (MOT) designs for enhanced traffic operations/safety and avoiding/minimizing right-of-way (ROW), utility, and environmental impacts. Eric has managed many multidiscipline design efforts and facilitated coordination with project stakeholders, including adjacent project representatives, VDOT, City/County and Universities/Colleges' Officials, utility owners, federal government agencies (FHWA/FAA/GSA/NPS), citizen advisory and roadway user advocacy groups, and adjacent/corridor property and business owners. He is well versed in AASHTO's highways/streets and roadside design policies/guidelines as well as the VDOT's Roadway Design and Drainage Manuals and Road & Bridge Standards. Eric offers over 32 years of transportation projects design experience, including the last 22 years as a Design Manager (DM) dedicated to delivering DB projects. From 1999 to 2004, he provided engineering consultant services to the Maryland Department of Transportation State Highway Administration (MDOT SHA) to develop DB concept designs, NEPA clearance, performance specifications, and ROW, utility relocation, and environmental permitting requirements. Eric has spent the past 19 years as a DM delivering DB final design efforts on roadway traffic operations/safety enhancement and congestion relief projects. He is focused on ensuring that the DB submittals are coordinated between design disciplines and construction forces and conform with the RFP, stakeholder commitments and the QA/QC plan. <i>He offers a great understanding in managing multi-disciplined transportation DB projects and can anticipate potential design pitfalls, while maintaining project objectives and critical paths.</i>	
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: University of Pittsburgh, Pittsburgh, PA, BS/1990/Civil Engineering	
f. Active Registrations: Year First Registered/Discipline/VA Registration # 2011/Registered Professional Engineer/VA Registration #0402048790 2017/Design-Build Institute of America (DBIA) Designated Design-Build Professional/2370	
g. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i> (List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.)	
MDOT SHA–MD 404 Dualization Design-Build, Caroline, Queen Anne’s, and Talbot Counties, MD (\$105M)	
Project Role: Design Manager	With Current Firm? Yes
Beginning Date: 04/2016	End Date: 07/2018
Specific Responsibilities: Eric supervised the complete multi-discipline, multi-consultant design efforts and ensured RFP conformance on this operations/safety project constructing two new lanes along nine miles of existing MD 404 to create a 4-lane divided highway. Engineering efforts included highway, structural, H&HA-drainage-stormwater management (SWM), erosion sediment control (ESC), transportation management plan (TMP)/MOT, traffic (lighting, ITS-dynamic message signing/cameras, signalization, signing/markings), pavement rehabilitation/reconstruction/widening, geotechnical, noise abatement, and landscaping designs, and securing environmental permits and monitoring compliance. Eric facilitated the integration of the competing roadway, drainage-SWM, and ITS-signing features along with utility relocations/access ways within a preestablished confined ROW corridor and the development of innovative, cost-effective paving and guard rail/concrete barrier solutions, which saved \$11M. He assisted the stakeholder/public outreach coordinator and TMP manager to ensure the project objective of avoiding project length traffic delays greater than five minutes during construction. The project was substantially completed within an aggressive 18-month timeframe. Eric developed a comprehensive “rolling” submissions of final design plans using two other major and 11 DBE subconsultants to support a joint venture three contractor-three segmented project. The approach facilitated	

continuous, concurrent work efforts of grading; 11 bridge and multi cell pipe/box culvert crossing replacements/extensions to eliminate 100-year storm event flooding; and paving. Eric recognized that the structural and ITS/lighting/overhead signing construction was paramount to expedite material acquisitions. So, he developed the design schedule with the structural crossings and final traffic features submittals independent from the final roadway/drainage. ***The project received a 2018 AASHTO America's Transportation Award for Quality of Life/Community Development.***

Similarities with the I-81 Design-Build Project:

Design-Build On Time & Budget	Fast Track Project Schedule	Noise Abatement Analysis/Design
Geotechnical Exploration/Design	Existing Bridge Structure Widening	TMP/MOT Modeling/Design
Drainage/SWM/E&S Design	Operational/Capacity/Safety Improvements	Environmental Permitting
Utility Relocation Coordination	Travel Reliability Improvements	Stakeholder/Public Outreach

MDOT SHA-I-95/I-495 and Maryland 5 Branch Avenue Metro Access, Prince George's County, MD (\$68M)

Project Role: Design Manager	With Current Firm? Yes
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Beginning Date: 07/2004	End Date: 11/2016
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Specific Responsibilities: Eric oversaw the design of this project to increase traffic capacity and provide congestion relief improvements for the I-95/I-495 Capital Beltway and the Maryland 5 (Branch Ave) urban expressway corridors in conjunction with the opening of the Branch Ave Metro Station. The project involved modifying the Capital Beltway and MD 5 interchange with Beltway widening and rehabilitation improvements through the interchange as well as MD 5 reconstruction/widening for connecting a new, half-mile, four-lane divided access road (Woods Way) from southbound MD 5 (over northbound MD 5) to the Branch Ave Station. The interchange modifications consisted of a new semi-direct flyover ramp from the Beltway Inner Loop to MD 5 southbound (SB), and the realignments of a directional ramp from the Outer Loop to MD 5 SB and a cloverleaf ramp from MD 5 northbound (NB) to the Inner Loop. Eric managed design efforts that included traffic analysis; constructability reviews; NEPA/CE reevaluations; design exceptions development and coordination; highway, structural, drainage-SWM-ESC, and TMP-MOT designs; noise abatement analysis and feasible/reasonable evaluations; geotechnical and traffic (signals, lighting, ITS, signing, marking) engineering; and storm drain inspections/retrofits. Eric facilitated the designs to minimized impacts along the Beltway, MD 5 to the adjacent commercial and residential district. To avoid excessive impacts to businesses along MD 5 NB and to the Woodlane residential community adjacent to MD 5 SB, Eric's team designed five retaining walls to support the MD 5 NB grade cut and the new MD 5 SB and Woods Way intersection. The construction of the directional ramp and the flyover ramp includes five bridges, MSE Retaining Walls and reinforced earth slopes. Eric provided hands-on efforts in developing the final roadway-interchange geometrics, drainage, and construction/MOT staging designs. Eric used a context-sensitive approach, including common-sense engineering. He oversaw the stakeholder coordination process with WMATA, Prince George's County, utilities, and MNCPPC to develop solutions that maximized accessibility and minimized impacts and ensured compatibility with the Metro Station's planned transit-oriented development.

Similarities with the I-81 Design-Build Project:

Interstate Widening/Reconstruction	Operational/Capacity/Safety Improvements	Drainage/SWM/E&S Design
Adjoining Access Ramps/Loops	TMP/Phased MOT Modeling/Design	Environmental Permitting
Utility Relocation Coordination/Design	Geotechnical Exploration/Design	Stakeholder/Public Outreach
Travel Reliability Improvements	ITS/Lighting/Overhead Signing Design	Noise Abatement Analysis

MDOT SHA-I-95/Contee Road Design-Build, Prince George's County, MD (\$34M)

Project Role: Design Manager	With Current Firm? Yes
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Beginning Date: 01/2012	End Date: 11/2014
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Specific Responsibilities: Eric managed the multi-disciplinary design team for this Design-Build contract for the construction of Contee Road, an urban arterial roadway, and its grade-separated connection with I-95 using a partial cloverleaf interchange configuration. The Contee Road interchange connects within the I-95 collector-distributor (CD) roadways between the Intercounty Connector (ICC)/MD 200 and MD 198. The project increased the capacity of the collective roadway system being influenced by the traffic demands generated by the Washington DC and Baltimore Metropolitan areas. Eric oversaw the complete final design efforts including field surveys; highway, structural, H&HA, drainage-SWM, ESC, TMP/MOT, geotechnical, traffic (lighting, ITS, signals, signing/markings), utility relocation coordination (private transmission/distribution and public distribution services), and landscaping; construction plans development; securing environmental permits; and providing construction support, including active participation at construction progress/partnering, utility coordination, and stakeholder/public outreach meetings. Eric coordinated the interchange tie-ins with the adjacent construction contracts for the continuation of the Contee Road/Virginia Manor roadways and connections to the ICC/CD roadways. Eric orchestrated innovative, cost-effective solutions and scheduling that resulted in over \$4M in cost savings and ensured the time critical opening of the new ICC toll roadway and the interchange. These solutions included reducing bridge costs and refining/reworking proposed roadway geometrics and SWM features to minimize significant earthwork, pavement reconstruction, construction staging; and maintain existing traffic operations and accessibility at all times. Eric facilitated the shortening of the new Contee Road bridge overpass by 82' and providing symmetrical spans with modifying the under-passing I-95 NB CD road and adjoining interchange ramps connections.

Similarities with the I-81 Design-Build Project:

Design-Build On Time & Budget	Fast Track Project Schedule	Innovative Design Solutions
Geotechnical Exploration/Design	TMP/Phased MOT Modeling/Design	Adjoining Access Ramps/Loops
Drainage/SWM/E&S Design	Environmental Permitting	Structural Bridge Design
Utility Relocation Coordination/Design	Stakeholder/Public Outreach	Adjacent Projects Coordination

* 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. **N/A**

ATTACHMENT 3.3.1
VDOT Contract ID C00116269DB116 – I-81 Widening MM 221 to MM 225 Design-Build
KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.		
a. Name & Title: Mike Dugan, Construction Manager		
b. Project Assignment: Construction Manager		
c. Name of the Firm with which you are employed at the time of submitting SOQ.: Wagman Heavy Civil, Inc.		
d. Employment History: With this Firm <u>52</u> Years With Other Firms <u>0</u> Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment of the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below): <u>Wagman Heavy Civil, Inc.</u> Start Date: June 1970 End Date: Present Position: Construction Manager/General Superintendent Responsibilities: Responsible for overall management of projects from start to completion. Specifically responsible for project leadership; safety; quality control; project scheduling; cost control; subcontractor management and scheduling; crew management; estimating; and strategic project planning. He conducts risk assessments and mitigation, as well as maintenance of traffic (MOT) planning. Since completion of the I-95 Southbound Rappahannock River Crossing Design-Build Project, Mike was assigned to the I-95 Northbound Rappahannock River Crossing Design-Build Project as the Assistant Construction Manager.		
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: St. Francis, Loretto, Pennsylvania, BS/1969/Biology		
f. Active Registrations: Year First Registered/Discipline/VA Registration # 2022/Virginia DEQ Responsible Land Disturber/#RLD22520 Pending (Will be Secured Prior to Construction Commencement)/Virginia Erosion and Sedimentation Contractor Certification		
g. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i> (List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.)		
VDOT-I-95 Southbound Rappahannock River Crossing Design-Build, Fredericksburg, VA (\$114.7M)		
Project Role: Assistant Construction Manager	With Current Firm? Yes	
Beginning Date: 09/2020	End Date: 05/2022	
Specific Responsibilities: Mike served as Assistant Construction Manager responsible for developing phasing for all of the bridge construction as part of this design-build project that involves the construction of three miles of SB I-95 in the existing interstate median and conversion of three miles of existing I-95 into Collector Distributor (CD) lanes along with the reconstruction of the Route 17 interchange. The project has significant traffic and included major traffic switches so we could construct a major river crossing (1,200 ft steel bridge) with cofferdams; complex access plans; causeway; and temporary trestle with strict environmental requirements. The project also included complete removal and replacement of two existing interstate bridges over Route 17 and the construction of two new bridges for mainline I-95 over Route 17. The 1200-ft long bridge over the Rappahannock River required a complex access plan. Mike worked with our in-house engineers to develop a sequence of construction (SOC) that included a causeway with temporary bridges and cofferdams to build the bridge piers and erect the large steel girders. Mike provided constructability reviews and worked with the engineers to develop access plans to get to the work site within the median of I-95 in a safe and efficient manner. Mike’s first-hand knowledge of the SOC and MOT to align with the bridge access plan helped the engineers evaluate construction access and develop the most cost competitive and environmentally friendly system. He created plans to ensure access of local trails frequented by locals and these successful efforts have received public praise. Mike understands the risks associated with widening construction projects and with his 30+ years of interstate construction experience, he assisted the team in developing mitigation strategies to maintain the project schedule, reduce costs, keep the workers safe, keep traffic flowing without incident, and maintain environmental compliance.		
Similarities with the I-81 Design-Build Project:		
Interstate Widening (Inside/Outside)	Design-Build Project	Bridge Widening
Coordination with Adjacent Projects	Hydraulics	Environmental Permitting
Support of Excavation including Cofferdams	Utility Coordination/Relocation	SWM/E&S/Drainage
Coordinated TMP/MOT/Traffic Control Devices	Survey/ROW	Geotechnical
Construction Engineering and Inspection	Stakeholder Coordination	
Signage & Lighting	Soundwalls	

PennDOT–State Route 22 over Lehigh River, Canal and Norfolk Southern Rail, Lehigh County, PA (\$65M)		
Project Role: Construction Manager	With Current Firm? Yes	
Beginning Date: 06/2016	End Date: 09/2019	
<p>Specific Responsibilities: Mike served as Construction Manager responsible for developing work plans for road widening and bridge construction including a dual 700-ft long bridges over the Lehigh River and dual 600-ft long bridges over the Lehigh Canal and Norfolk Southern located within karst topography. This \$66M project replaced dual bridges on State Route 22 over the Lehigh River, Canal & Norfolk Southern and widened the existing highway to relieve congestion on Route 22 (ADT 233,000) and replace structurally deficient bridges. The scope included a 4-span bridge over the Lehigh River, Lehigh Canal and Norfolk Southern Rail line with a reconstructed Interchange with Fullerton Avenue that included multiple short-term detours and three retaining walls. The project involved complex MOT through a heavily travelled corridor and an environmentally sensitive watershed. This alternative delivery project (A+B) evaluated the project cost and schedule—ultimately Wagman was selected as the best value to PennDOT. Mike managed day-to day operations, allocating manpower and equipment to various work activities. He managed subcontractors and coordinated with third party stakeholders such as Norfolk Southern Railroad and utility owners. Mike provided updates to PennDOT to communicate major traffic switches, detours, or other project milestones. Many of the bridge elements required support of excavation or ground improvements due to the karst topography. Micropiles were installed for deep foundations due to the geology and constructability issues (clearance and access). Also installed Low Mobility Grout to improve ground conditions. Mike was involved in all construction planning including MOT; construction phasing; construction access; support of excavation; deep foundations; ground improvements; bridge demolition; cast in place concrete substructure; beam/girder erection; and deck placement. He worked with the internal geotechnical group to develop permanent retaining wall solutions. Mike’s experience gained in coordinating with Norfolk Southern railroad and developing mitigation strategies due to the karst topography of this project will bring invaluable lessons learned to the I-81 Widening Design-Build Project.</p>		
Similarities with the I-81 Design-Build Project:		
Major Roadway Widening	Bridge Widening	Railroad Coordination
Coordination with Adjacent Projects	Hydraulics	Environmental Permitting
Support of Excavation including Cofferdams	Utility Coordination/Relocation	SWM/E&S/Drainage
Coordinated TMP/MOT/Traffic Control Devices	Survey/ROW	Geotechnical
Construction Engineering and Inspection	Stakeholder Coordination	Signage/Lighting
MDOT SHA-Intercounty Connector (ICC) Contract A Design-Build, Montgomery County, MD (\$464M)		
Project Role: Construction Manager - Structures	With Current Firm? Yes	
Beginning Date: 04/2007	End Date: 12/2010	
<p>Specific Responsibilities: Mike served as Assistant Construction Manager for Structures responsible for bridge and structure construction as part of this new 8½ mile long corridor with 1½ mile on heavily travelled urban I-370. Existing I-370, which is concrete paving, was widened and rehabilitated with an asphalt overlay to increase capacity and improve safety. Along with the roadway widening, three bridges were widened and one bridge was replaced on the heavily travelled I-370. The work on I-370 included coordination with existing interchanges at both ends of the project and the reconstruction of one interchange into the WMATA rail station. Mike developed firsthand knowledge about the MOT operations within the urban portion of the project (I-370) and worked with the civil crews for drainage, excavation, and embankment issues related to the bridge construction. The entire project included 18 structures; 120,000 SF of retaining walls; 350,000 SF of noise walls; utility relocations; ROW acquisition; environmental permitting and monitoring; drainage; over 3M cubic yards of excavation; four new interchanges; and tied into existing I-370 and a WMATA station. Mike allocated resources based on the project schedule. All bridge structures were built on deep foundations—driven pile or drilled shafts and many of these structures involved complex erection plans due to MOT constraints, environmental constraints, utility conflicts or working around WMATA and CSX railroads. During preconstruction, Mike participated in constructability reviews of all bridge structures and MOT requirements to build the structures. Mike understands MOT limitations, deep foundations; construction access; bridge demolition; railroad coordination; utility coordination; complex girder erection; and placement of concrete decks.</p>		
Similarities with the I-81 Design-Build Project:		
Interstate Roadway	Design-Build Project	ITS
Coordination with Adjacent Projects	Overhead Signage	Environmental Permitting
Support of Excavation	Utility Coordination	Drainage/E&S
Coordinated TMP	ROW	Phase Construction
Earthwork/Embankments	Stakeholder Coordination	Railroad Coordination
* 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. I-95 NB RRC Structures Manager, 06/2023		

**Attachment
3.4.1**

Work History Forms


ATTACHMENT 3.4.1(a)

LEAD CONTRACTOR - WORK HISTORY FORM

(LIMIT 1 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 or Estimated)	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 or Estimated Contract Value	
I-95 Southbound Rappahannock River Crossing Design-Build Stafford, VA	Johnson, Mirmiran & Thompson	Name of Client: Virginia Department of Transportation (VDOT) Project Manager: Michael Coffey, PE Phone: 540.899.4288 Email: michaelt.coffey@vdot.virginia.gov	05/2022	05/2022	\$101,600	\$114,736 <small>(Due to owner initiated/approved change orders adding project enhancements: increased shoulder width on 2 bridges & span length on 3 bridges, full depth GP shoulder section, and increased station limits of contract work at both termini)</small>	\$114,736

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. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form. If the Offeror chooses to submit work performed as a Joint Venture or Partnership, identify how the Joint Venture or Partnership was structured and provide a description of the portion of the work performed only by the Offeror's firm.

	<p>Project Description</p> <p>Wagman Heavy Civil (Wagman) served as Lead Contractor for this \$114.7M VDOT Design-Build (DB) project that constructs three new I-95 SB General Purpose (GP) lanes for six miles between Route 3 and Route 17 in the City of Fredericksburg and Stafford County. The new GP lanes were constructed in the median of I-95, and the existing SB lanes were converted into a Collector-Distributor (CD) road. The scope of work included:</p> <ul style="list-style-type: none"> • Six miles of three-lane interstate constructed in the existing median • A new 1,200-ft long, 100-ft high bridge over the Rappahannock River • A new bridge over Route 17, with Demotion and replacement of two existing bridges over Route 17 • Complex TMP to safely manage high traffic volumes on I-95 and at the Route 17 and Route 3 interchanges • Signage, Lighting, Variable Message Boards and Camera • Quality Assurance/Quality Control and Construction Engineering and Inspection • Utilities Coordination and Relocation • Public Outreach/Relations and Right-of-Way <p>Specific project elements included:</p> <ul style="list-style-type: none"> • 414,000 CY of Regular Excavation • 223,000 Tons of Asphalt Paving • 26,000 LF of Traffic Barrier • 251,000 LF of Pavement Marking • 3,200 LF of Engineered Swales • 6,500 CY of Concrete for Bridges 	<p>Limiting Impacts to the Traveling Public & Effective Communication with Business and Stakeholders</p> <p>The Team worked with stakeholders to implement and maintain pedestrian MOT scheme for trail and river users during construction of the River Bridge. This included portages, temporary pedestrian bridges, widening of existing City infrastructure, and dedicated pedestrian routes through the construction zone. We coordinated with FHWA, VDOT, EPA, DEQ, USACE, Virginia Marine Resources Commission, Virginia Department of Game and Inland Fisheries, City of Fredericksburg, Stafford and Spotsylvania Counties. Wagman, along with VDOT conducted an active public involvement campaign for the project that includes a series of Pardon Our Dust (POD) public meetings that occurred at each major switch in traffic during construction to inform citizens what to expect and how to navigate the construction work zones.</p> <p>Stakeholders included homeowners concerned about the noise walls, environmental groups such as Friends of the Rappahannock, river and trail users groups and utility companies. Wagman coordinated with local first responders to maintain their access to interstate crossovers within the project limits, improve access to existing training facilities, plan for access points to work areas in case of emergency, and provide site specific training for first responders and Wagman personnel. Other activities include monthly newsletters, project website, and social media notifications.</p>
<p>Similarities to I-81 Widening Project</p> <ul style="list-style-type: none"> • VDOT Design-Build Project • Wagman Served as Lead Contractor on Design-Build Project over \$100M • Interstate Corridor (ADT of 324,000) • Minimized Impacts to Traveling Public • Leveraged Innovative Design Solutions and Construction Techniques to Expedite Project Schedule • Over Six Miles of Complex MOT Involving Coordination w/ Adjacent Projects to Maintain Safety & Mobility • Innovative Bridge Design Solutions and Construction/Access Techniques • Utility Relocation/Coordination • Environmental Compliance • Public Outreach/Coordination 	<p>Effective QA/QC Plan During Design and Construction</p> <p>An effective QA/QC program was essential to project success and avoided delays due to rework. Daily communication between the QA/QC team was maintained throughout construction to ensure that work met or exceeded quality requirements. The entire DBT partnered with VDOT to implement the use of PlanGrid software to ensure timely comprehensive collaboration among the project team. This allowed up to the minute collaboration in addition to our weekly QA/QC meetings held to discuss and resolve any issues. Wagman's four-week look ahead schedules were used to monitor and adjust QA/QC resources as needed based on workloads and work shifts. The project has required significant public engagement with many stakeholders including recreational users of the river. Due to our QA/QC efforts the project currently holds the highest CQIP score in the state at 97.2%.</p>	<p>Risk Identification and Mitigation</p> <p>Wagman identified and mitigated similar risks on this project as those discussed in Section 3.5 of this SOQ:</p> <ul style="list-style-type: none"> • Risk 1 Maintenance of Traffic: I-95 through the Fredericksburg area is one of the most congested and dangerous Interstates in the Country. The Wagman Team understands the importance of limiting disruptions to the traveling public, so we developed a unique design for the ingress and egress to the construction work in the median. This design included barrier wall separations along with asphalt pavement inside the travel lanes in the median to allow construction vehicles to enter and exit at posted speed limits. Temporary signage was also included to inform the traveling public of the ingress and egress areas to the median of I-95. This innovative approach was a huge success, limiting disruptions to the traveling public and allowing the I-95 traffic to continue through the work zones at posted speed limits. To reduce construction vehicles on NB and SB I-95 during peak congestion times, the DBT performed most of the critical earthwork moving at night. The Wagman DBT developed MOT plans through the busiest corridor in the Fredericksburg District to permit traffic to move safely and efficiently without causing major delays and back-ups along I-95. Our plan also allowed local traffic to safely enter and exit I-95 at the Route 3 and Route 17 Interchanges. • Risk 3 Stormwater Management: The project site had minimal outside ROW and the existing ROW between NB and SB I-95 was set aside for construction of the GP lanes and the future I-95 NB GP lanes. Even with these restrictions, Wagman was able to implement extensive SWM without the need for additional ROW acquisition. We successfully worked with our designer and VDOT to eliminate a SWM pond, several bio swales and ponds, and redesign our proposal concept to account for the majority of treatment requirements for the future I-95 NB GP lanes.
<p>Wagman's Role</p> <p>As the Design-Builder, Wagman was responsible for:</p> <ul style="list-style-type: none"> • Overall Project Management • Roadway grading and widening • Maintenance of Traffic • Bridge Demolition & Construction • Environmental Compliance • Safety 	<p>Innovative Design Solutions & Construction Techniques</p> <p>Through design refinement, Wagman was able to reduce the MOT phasing on Route 17 to one phase during construction of the new I-95 overpass bridges. We also reduced impacts to I-95 GP traffic by working with VDOT to construct the large buildups required to divert the interstate traffic during reconstruction of the GP bridges over weekend periods as opposed to the months long effort to build up in 2" increments one lane at a time.</p> <p>Proposed Staff for the I-81 Widening Project that Contributed to the Success of this Project</p> <p>Glen Mays, DBIA (W); Jerry Whitlock, PE, DBIA, PMP, CCM (W); Mike Dugan (W); Jeanie Jones (W); Randy Sprinkle (W); Brian Blankenship (W); David Creasey (W); Ed Laczynski, PE (W); Keith Hildebrandt (W); Steve Pletcher (W), Scott Shropshire (QCS); Greg Andricos, PE (W); Robert Ridgell, PE, DBIA, CCM (WM); Ian Westbrook, EIT (WM)</p>	<p>On-Time Completion</p> <p>Wagman began physical construction operations within six months after NTP by developing early work plan sets for drainage, erosion and sediment control, clearing, and earthwork. We employed a rolling design submission process that expedited construction and allowed us to achieve final completion earlier than the contract completion date, even with a 10% increase in scope.</p>



ATTACHMENT 3.4.1(a)

LEAD CONTRACTOR - WORK HISTORY FORM

(LIMIT 1 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 or Estimated)	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 or Estimated Contract Value	
Interstate I-95 and I-695 Interchange Reconstruction Baltimore, MD	Johnson Mirmiran & Thompson	Name of Client: Maryland Transportation Authority (MDTA) Project Manager: David LaBella, PE (Retired) Phone: 410.494.9093 Email: dlabela@wallacemontgomery.com	08/2010	08/2010	\$208,601	\$216,788 (Price increase due to added scope and owner issued change orders)	\$216,788

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. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form. If the Offeror chooses to submit work performed as a Joint Venture or Partnership, identify how the Joint Venture or Partnership was structured and provide a description of the portion of the work performed only by the Offeror's firm.

	<p>Project Description</p> <p>Wagman Heavy Civil (Wagman) served as Managing Partner of an integrated construction Joint-Venture that was formed to complete this \$216.7 million interchange reconstruction project north of Baltimore, MD. The I-95/I-695 interchange is one of the most heavily traveled interchanges (ADT 330,000) in the United States, including a high volume of tractor trailers, and is known for its high accident rate. Our project reconfigured the outdated double braided interchange with dedicated flyovers for each ramp movement. To alleviate the existing bottlenecks created by exits on the left side of I-95 and increase motorist safety, we relocated exits to the right. This provided a more conventional geometric design that aligned with driver expectations throughout the corridor which includes many tightly spaced interchanges. In addition, entrances for future expansion and Express Toll Lanes (ETLs) were constructed to expand road capacity and separate general purpose lanes from the ETLs.</p> <p>The scope of work included:</p> <ul style="list-style-type: none"> • 12 new lane-miles of interstate • 6 new interstate bridges and 4 reconstructed interstate bridges • Complex Maintenance of Traffic (MOT) on a congested urban interstate • Temporary and permanent stormwater management facilities in the median • Innovative geotechnical solutions to mitigate poor subsurface conditions • Significant public outreach efforts and coordination with adjacent projects <p>Specific project elements included:</p> <ul style="list-style-type: none"> • 1,100,000 CY of Regular Excavation • 50,075 CY of Bridge Concrete • 175,000 Tons of Asphalt Paving • 30,000 LF of Drainage Pipe • 75,000 LF of Retaining Walls 	<p>Limited Impacts to the Traveling Public & Effective Communication with Business and Stakeholders</p> <p>Due to the magnitude of the project, a proactive public involvement plan was imperative for success. The MDTA management team recognized the complexity of the design could slow down the establishment of a consensus among various stakeholders. In an effort to simplify the explanations of the engineering involved with this study, renderings and animations of cars utilizing the ramps were used during Focus Group Meetings, Public Workshops, and the Public Hearing. The early involvement allowed the planning team to respond to public and agencies' comments in the beginning stages of design, aiding in the public's acceptance of implementing Electronic Toll Lanes along this section of the I-95 corridor. The Joint Venture Partnership and MDTA management team collectively addressed customer concerns. The project team regularly communicated I-95/I-695 Interchange construction progress as well as operational changes which would occur after the project's completion. A Project Website, www.I95ExpressTollLanes.com, was utilized to announce construction updates, traffic alerts and conditions. An outreach team provided information and services including presentations to Community Groups that highlighted special studies addressing potential noise impacts, and showcased improvements that enhanced aesthetics.</p> 
<p>Similarities to the I-81 Project</p> <ul style="list-style-type: none"> • Wagman was Managing Partner on a project valued at over \$200M • Interstate Capacity Improvement • Interstate Corridor (ADT of 330,000) • Minimized Impacts to Traveling Public • Complex MOT involving Adjacent Project to Maintain Safety & Mobility • Leveraged Innovative Construction Techniques to Expedite Project Schedule • Innovative Bridge Design Solutions and Construction/Access Techniques • Utility Relocation/Coordination • Environmental Compliance • Public Outreach/Coordination 	<p>Effective QA/QC Plan During Design and Construction</p> <p>This was a visionary project to improve the safety, quality and maintenance at the interchange. The I-95/I-695 Interchange Design Team collectively developed a Mission Statement and all key stakeholders developed and signed a Partnering Charter that served as the foundation for our formal QA/QC program. One example of our QA/QC success involved utility impacts on the project. A major fiber optic communication line ran through the project. We collaborated with the utility owner to locate and avoid relocation of this important utility.</p>	<p>Similar Risks Mitigated</p> <p>Wagman identified and mitigated similar risks on this project as those discussed in Section 3.5 of this SOQ:</p> <ul style="list-style-type: none"> • Risk 1 Maintenance of Traffic: We maintained traffic on two major interstates (I-95 and I-695) and all traffic movements were maintained during construction. Working with the Designer and Owner, Wagman proposed a very successful alternate traffic scheme to minimize impact to the traveling public during steel erection operations. MOT was revised to improve mobility through the work zone and many major activities such as girder erection were conducted during off-peak travel hours. During construction, WM served as the corridor-wide MOT Manager, including Robert Evans, PE, PTOE, who was responsible for coordinating work zones between adjacent active construction projects along I-95. • Risk 3 Stormwater Management: This interchange project created unique challenges in stormwater management. Working closely with Maryland Department of the Environment (MDE) we were able to adjust erosion and sedimentation sequencing to align with earthmoving operations. Wagman was able to work directly with MDTA and MDE to economize the permanent stormwater management so that it fit within the open space between ramps and lessen impacts to the stream running through the project site.
<p>Wagman's Role</p> <p>As the Managing Partner of the Integrated Joint-Venture, Wagman was responsible for:</p> <ul style="list-style-type: none"> • Management and construction of all project elements • Self-performing all bridge construction • Allocation of all resources: labor, equipment and subcontractors • Coordination with owner and third-party stakeholders • Coordination with adjacent projects 	<p>Innovative Design Solutions & Construction Techniques</p> <p>The Joint Venture Partnership initiated and coordinated the establishment of an on-site concrete batch plant with the supplier, S&G Concrete and MDTA. It was located in the same complex as the project field offices. This vastly improved the level of service and enhanced safety as it reduced ready mix trucks traveling to and from the job-site and minimized the number of trucks needed. By avoiding the extreme traffic, the team delivered a superior concrete product. MDTA and the project team greatly benefited from this in terms of cost, schedule and safety.</p> <p>Proposed Staff for I-81 Project that Contributed to the Success of this Project</p> <p>Mike Dugan (W); Robert Evans, PE, PTOE (WM); Jerry Scheff, PE (AAI)</p>	<p>On-Time Completion</p> <p>Project was completed on time and all major milestone dates were achieved even though MDTA added scope to the project.</p> <p><i>The project won several awards including: 2011 National Partnership for Highway Quality (NPHQ) National Achievement Award – Special Recognition for Structure Project; 2011 Maryland Quality Initiative (MdQI) Award of Excellence Partnering Silver Award; 2011 MdQI Award of Excellence for Structure New/Rehab over \$5M; 2010 NPHQ Silver Award for Public Commencement; 2010 American Concrete Institute (ACI) Maryland Chapter Excellence in Concrete Award.</i></p>

ATTACHMENT 3.4.1(a)

LEAD CONTRACTOR - WORK HISTORY FORM

(LIMIT 1 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 or Estimated)	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 or Estimated Contract Value	
State Route 22 over Lehigh River, Canal and Norfolk Southern Allentown, PA	McCormick Taylor Two Commerce Square 2001 Market St Philadelphia, PA 19103	Name of Client: Pennsylvania Department of Transportation (PennDOT) Project Manager: Mike Guidon Phone: 610.972.6066 Email: mguidon@pa.gov	09/2019	09/2019 (Explanation if needed)	\$64,693	\$66,899 Owner approved change orders and early completion incentive (Explanation if needed)	\$66,899

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. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form. If the Offeror chooses to submit work performed as a Joint Venture or Partnership, identify how the Joint Venture or Partnership was structured and provide a description of the portion of the work performed only by the Offeror's firm.



Project Description

Wagman Heavy Civil was responsible for this \$66M Pennsylvania Department of Transportation (PennDOT) project that was designed to alleviate congestion along the heavily traveled Route 22 in Allentown, PA. The existing roadway was reconstructed and widened from four lanes to six lanes, and an existing interchange with Fullerton Avenue was reconstructed to improve traffic flow. Four bridges were replaced over the Lehigh River, the Lehigh Canal, and Norfolk Southern Rail. The interchange between Fullerton Avenue and Route 22 and associated ramps were reconstructed to improve traffic flow. Three permanent retaining walls were constructed to allow the widening of SR 22. Existing State Route 22 was widened through the project to allow the additional travel lanes. Lighting, signals and ITS devices were installed along the corridor, improving communications with the traveling public. The scope of work included:

- Bridge demolition and reconstruction on and over railroad ROW.
- Scheduling and coordination of construction with the railroad flagging.
- Specialty construction techniques to mitigate karst topography issues.
- Control of temporary stormwater and implementation of permanent stormwater management within the existing roadway footprint.
- Development and implementation of a Transportation Management Plan and MOT plans that minimize impacts to the traveling public and account for railroad traffic.
- Management of all public relations for the project including the traveling public, local business, and other government agencies.

Specific project elements included:

- 150,000 CY of Regular Excavation
- 40,000 Tons of Asphalt Paving
- 25,000 LF of Traffic Barrier
- 225,000 LF of Pavement Marking
- 38,895 LF of Micropiles in Karst
- 3,736 CY of Low Mobility Grout due to Karst

Innovative Design Solutions & Construction Techniques

Wagman combined MOT phasing to increase work areas and to remove a complex retaining wall from the critical path. This revision to the MOT sequencing improved construction in later phases further improving the project schedule. Due to karst topography, Wagman used low mobility grout to improve the existing underground conditions. Wagman designed specialty temporary works closely coordinated with Norfolk Southern in order to minimize railroad flagging requirements, improve the schedule, and ensure protection of the railroad and sensitive environmental areas.

Proposed Staff for I-81 Project that Contributed to the Success of this Project

Mike Dugan (W); Ed Laczynski, PE (W); Keith Hildebrandt (W); Steve Pletcher (W); Greg Andricos, PE (W)

Limiting Impacts to the Traveling Public & Effective Communication with Business and Stakeholders

With an ADT of more than 90,000, the project required that lanes only be closed at night to minimize traffic delays. The reconstruction also included lengthening of the acceleration and deceleration lanes on US 22 at the Fullerton Avenue interchange. Interchange work included phased construction of Fullerton Bridge, two retaining walls, and complete reconstruction of four ramps with minor detours for each ramp. We opened every ramp on time or early minimizing disruption to the travelling public. The project drastically improves driver safety allowing for double the distance to merge and exit busy highways and replaces deteriorating bridges. At the very beginning of the project, Wagman established a field office and yard and established monthly partnering meetings with weekly coordination meetings. The team reached out to all third-party stakeholders including NS, USACE, Lehigh County, PA Department of the Environment, utility owners travelling public and the local community. Wagman worked side by side with PennDOT to alert the public to new traffic patterns and major traffic switches during construction. We held monthly meetings where stakeholders were invited to attend. To keep all team members informed Wagman would publish a three week look ahead schedule to all stakeholders to identify upcoming work and changes to traffic patterns.

Risk Identification and Mitigation

Wagman identified and mitigated similar risks on this project as those discussed in Section 3.5 of this SOQ:

- **Risk 1 Maintenance of Traffic:** Traffic control was a major undertaking on this heavily travelled highway. We planned all major traffic switches and lane closures to ensure safe passage through the work zone. Our ATTSA certified MOT managers helped in the planning and the implementation of the traffic pattern, and their training allowed them to resolve field issues if they arose. We had multiple short-term detours while constructing the Fullerton Avenue Interchange. Ramps were detoured to allow construction to proceed while minimizing impacts to the travelling public. Every ramp was opened on time or ahead of schedule further minimizing the disruption to the motorists.
- **Risk 2 Working in Karst Region:** Due to karst topography, many of the bridge piers required either low mobility grout ground improvements or the installation of very long micro-piles or a combination. Both operations were self-performed by Wagman's geotechnical group; mitigating schedule risk and reducing project costs. Other foundations in the karst topography required driven pile or drilled pile, which is also self-performed by Wagman, ensuring cost certainty.
- **Risk 3 Stormwater Management:** This project widened an existing highway from four to six lanes. Existing and future drainage and SWM facilities had to be installed within limited and confined areas. Ponds were constructed within loops of the existing interchange and SWM ditches were installed along the outside of the roadway between the shoulder and ROW.



On-Time Completion

Wagman's innovative construction sequence allowed us to successfully deliver this project 463 days earlier than anticipated by PennDOT; reducing cost, improving schedule, minimizing disruption to traffic and alleviating a longer duration of environmental resource exposure.

Similarities to the I-81 Project

- Wagman Served as Lead Contractor on an this Alternative Procurement Project (A+B) Design-Build Project.
- Minimized Impacts to Traveling Public
- Leveraged Innovative Design Solutions and Construction Techniques to Expedite Project Schedule
- Complex MOT to Maintain Safety & Mobility
- Innovative Bridge Design Solutions and Construction/Access Techniques
- Utility Relocation/Coordination
- Environmental Compliance
- Public Outreach/Coordination
- Coordination with Railroads
- Karst Topography

Wagman's Role

- Wagman self-performed all construction, including:
- Road Widening and Structure Replacement
 - Management of All Subcontractors
 - Coordination with PennDOT and other Agencies

ATTACHMENT 3.4.1(b)
LEAD DESIGNER - WORK HISTORY FORM
(LIMIT 1 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 Start Date	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)	
Maryland 404 Dualization Design-Build Project Talbot, Queen Anne's, and Caroline Counties, MD	MD 404 Corridor Safety Constructors (CSC) Tri-Venture of Wagman Heavy Civil, Inc.; Allen Myers MD, Inc.; and David A. Bramble, Inc.	Name of Client: MDOT State Highway Administration Project Manager: Sean Campion, PE Phone: 410-545-8863 Email: scampion@mdot.maryland.gov	04/2016	11/2017 Substantial (On Time) 07/2018 Final (On Time)	\$104,998	\$105,688 (The client negotiated ROW acquisition Enhancements)	\$5,597

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. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form.



- Similarities to I-81 Widening Project**
- Design-Build Delivery
 - Lead Contractor and Lead Designer Teaming Experience on a \$100M Project
 - Aggressive Completion Schedule
 - Major Traffic Capacity Improvements
 - Innovative Design and Construction Solutions to Expedite Project Schedule
 - Major Roadway, Structural, Traffic, and Stormwater Engineering Components
 - Effective Communication Strategies w/ Traveling Public and Key Stakeholders
 - ITS Systems Features and Integration
 - Noise Abatement Analysis & Mitigation
- WM's Role**

WM served as the Lead Designer and provided overall design management for the MD 404 CSC Design-Build Team. WM was responsible for:

- Surveying/Subsurface Utility Locating
- Roadway, Structural, Pavement, Drainage and H&H Design
- Stormwater Management and Erosion Sediment Control Design
- TMP, MOT, Traffic Analysis/Design (Lighting, Signing/Marking, ITS with Integration to Existing Systems)
- Environmental Permitting & Compliance
- Private Utility Relocations Coordination
- Construction Support

Project Narrative and Scope

Wallace Montgomery (WM) was Lead Designer for the MD 404 Corridor Safety Constructors (CSC) Design-Build Team (led by Wagman Heavy Civil) to design and construct two additional lanes for 9 miles on MD 404 **in less than 18 months**. The new four-lane divided highway from US 50 to east of Holly Road improves roadway safety and operations, and significantly reduces delays, particularly during peak traffic volumes on summer weekends. MD 404 is a high speed (55-mph posted speed limit) principal arterial that serves commuters, commercial trucking, and summer vacationers. The scope of work included:

- Nine miles of new, reconstruction, and rehabilitated roadway paving
- Roadway tie-ins with the existing dualized four-lane highway sections
- New service roads to consolidate access points with MD 404 from the adjacent properties
- Innovative RCUT and Continuous Green "T" intersections to eliminate unprotected side streets movements
- 115' single-span precast prestressed concrete Bulb-T girder bridge over Norwich Creek
- Two new multi-cell precast/CIP box culvert and four existing box culvert extensions
- Five multi-cell concrete pipes roadway cross culvert systems
- Combination of closed/open drainage systems creating positive flows along the project site's flat terrain
- Stormwater quality and quantity micro-scale facilities
- Intersection lighting, signing, pavement marking, traffic signal modification
- ITS devices including Dynamic Message Signs and CCTVs
- Noise abatement using earth berms/concrete screening fence and landscaping.

Specific project elements included:

- 450,000 CY of Regular Excavation
- 235,000 Tons of Asphalt Paving
- 60,000 LF of Traffic Barrier
- 300,000 LF of Pavement Marking
- 160,000 LF of Engineered Swales

Innovative Design Solutions & Construction Techniques

Although impacts to wetland/waterways were permitted, the environmental agencies requested more minimization than shown on the RFP concept plans. Our final design further reduced impacts by 33% through adjusting the new roadway profiles; minimizing culvert lengths; maximizing headwall heights; re-routing runoff to eliminate proposed cross culverts; and performance based design criteria to reduce the width of service roads. The WM team applied innovative and cost-effective solutions that reduced maintenance and improved user mobility during construction. These focus on 1) pavement section enhancements that maximize soil cement and capping borrow; 2) use of ultra-thin resurfacing paving to improve life-cycle costs; and 3) minimizing full depth reconstruction and wedge/leveling of the existing mainline road to minimize MOT.

In order to accommodate the project's aggressive schedule, we pre-consolidated the subsurface soils for the roadway embankment at the Norwich Creek Bridge and adjoining box culvert extensions to avoid down drag on the pile foundation. Since the abutments, culverts, and the roadway embankment were under construction simultaneously, WM developed a sheet pile cut-off wall system to act as a slip joint between the settling embankment and the substructures/boxes.

Proposed Staff for the I-81 Widening Project that Contributed to the Success of this Project

Eric Sender, PE, DBIA (WM); Jerry Whitlock, PE, DBIA, PMP, CCM (W); Glen Mays, DBIA (W); David Borusiewicz, PE, DBIA (WM); Diane Durscher, PE (WM); Jessica Klinefelter, CEP, CWB (WM); Matt Davis, PE (WM); Robert Evans, PE, PTOE (WM); Joe Grant, PE (WM); Antonio Mawry, PE (WM); Jeff Stump, PLS, LEED, DBIA (FT); Greg Andricos, PE (W); Ed Laczynski, PE (W); Ian Westbrook, EIT (WM)

Limiting Impacts to the Traveling Public & Effective Communication with Businesses and Stakeholders

CSC collaborated with MDOT SHA to provide timely information to the public throughout design and construction. The project website was continually updated with anticipated lane closures and provided real-time traffic information with links to cameras placed along the corridor. Our TMP was proactive in regards to first responders. We established protocols that allowed them to move through the project work zones without delay.

WM supported CSC and MDOT SHA in developing and implementing a public outreach plan that addressed provided ongoing and transparent information to the public via the Project website; stakeholder meetings; social media; email updates; and more traditional methods such as fliers and postcards.

Risk Identification and Mitigation

WM identified and mitigated similar risks on this project as those discussed in Section 3.5 of this SOQ:

- **Risk 1 Maintenance of Traffic:** The construction/MOT sequencing limited the number of traffic shifts and maintained traffic on the existing road while constructing the new dualization road and then shifting traffic onto the newly built road to rehabilitate the existing road. WM sequenced the project in conjunction with roadway profile refinements to reduce vertical differential and meeting grades between existing and proposed roads so we could always maintain traffic; complete the work in the minimum number of stages; facilitate smooth transitions with existing roadways; and maximize accessibility with adjacent properties.
- **Risk 3 Stormwater Management:** WM's SWM approach provided quality/quantity treatment exceeding requirements. The final project controlled the new road's increase in storm discharges by maximizing the use of roadside stormwater treatment micro-scale practices such as bio-swale, wet-swale, and enhanced grass swale facilities. Using the micro-scale facilities, instead of concentrating the treatment in end-of-line ponds, reduced the project footprint, which minimized impacts and created space for utility relocations, parallel roadside drainage collection/conveyance swales and noise abatement features.

On-Time Completion

When this project was originally conceived, MDOT SHA informed the public that construction would take approximately three years to complete. Based on a comparative analysis of similar projects, a 36 month schedule would seem appropriate. Prior to advertisement, however, completion of the project became political and an incentivized 18-month contract duration (NTP to Substantial Completion) was established. As noted above, CSC divided the project into three construction segments between the contractor tri-venture team. WM developed and led an innovative "rolling" final design submission approach to facilitate continuous, concurrent work efforts of grading; bridge/culvert construction; and paving in each of the segments. The result was a complete success and the project deservedly won a host of awards for accomplishing this astounding achievement.

2018 AASHTO America's Transportation Award for Quality of Life/Community Development; 2018 Associated Builders and Contractor Chesapeake Shores Chapter Excellence in Construction & Safety Project of the Year over \$100M; 2019 Maryland Quality Initiative (MdQI) Project of the Year Award over \$5M; 2019 MdQI Partnering Bronze Award; and 2019 ACEC/MD Grand Award.



Maryland Governor Larry Hogan led the ribbon-cutting celebration shortly before Thanksgiving 2017, saying: **"For decades, improvements to this vital corridor were slow to move forward, and our administration heard your calls loud and clear. With the completion of the MD 404 upgrade, our administration is proud to deliver on the number one priority for Queen Anne's, Talbot, and Caroline counties – complete and A YEAR AND A HALF AHEAD OF SCHEDULE."**

ATTACHMENT 3.4.1(b)
LEAD DESIGNER - WORK HISTORY FORM
(LIMIT 1 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 Start Date	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-95/I-395 Interstate and Bridge Rehabilitation Baltimore City, MD	Wagman Heavy Civil, Inc.	Name of Client: Maryland Transportation Authority (MDTA) Project Manager: Nafiz Alqasem, PE Phone: 410-537-8200 Email: nalqasem@mdta.state.md.us	03/2014	06/2016	\$51,000	\$55,000 (Additional Owner Directed Work Added Enhancements)	\$1,200

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. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form.



Project Narrative and Scope

Wallace Montgomery (WM) was responsible for all facets of project design beginning with the preliminary structural inspection through project scoping, conceptual design, public involvement, and final design. WM also provided construction support services for the \$55M, **4.4-mile long Interstate 95 rehabilitation project in the City of Baltimore**. WM developed value engineering solutions to extend the service life of the existing bridges, reduce future maintenance costs, accommodate anticipated future congestion relief projects, and minimize impacts to roadway users and local community during construction. Mainline roadway work involved shoulder reconstruction, mill and overlay of the existing roadway, new lane markings, and localized pavement repairs. WM coordinated with the Maryland Department of the Environment (MDE) to obtain a waiver for stormwater management, an Industrial Waste Permit for hydro-demolition, and developed erosion and sediment control plans for all disturbed areas, including numerous drainage structure repair locations. The scope of work included:

- Evaluation of Rehabilitation Alternatives
- Complex Maintenance of Traffic (MOT) on a Congested Urban Interstate
- Design of Temporary and Permanent Roadway and Bridge Signing
- Roadway, Pavement, and Structural Engineering
- Drainage Design, Stormwater Management, and Erosion and Sediment Control (ESC) Design
- Modification of Existing Facilities within the Existing ITS and Tolling System Network
- Environmental Permitting
- Extensive Public Outreach with Local Residents, Business Owners, Railroads, and Emergency Services
- Estimating, Scheduling, Contract Development and Construction Support Services

- Specific project elements included:
- 237,000 SY of Deck Rehabilitation including 15,700 CY of Latex Modified Concrete
 - 1,250,000 LF of Temporary Pavement Markings and 107,000 LF of Permanent Pavement Markings
 - 13,500 Tons of Asphalt
 - 275,000 LF of Concrete Traffic Barrier
 - 75 Drainage Structure Replacements or Upgrades

Limiting Impacts to Traveling Public & Effective Communication with Businesses and Stakeholders

The project was specifically designed by WM to limit impacts to the surrounding community. Work zones were established to maximize accessibility during peak travel times, including major sporting events at the Ravens' and Orioles' stadiums. A well-coordinated public outreach campaign was implemented including informational meetings at local communities, strategic distribution of mailers/pamphlets/flyers, and notification to the traveling public using Digital Message Signs, radio alerts, social media, and newspapers. Clear messaging detailing the dates and times to expect heavy congestion and to utilize alternate routes was provided to the community, commuters, and businesses.

Proposed Staff for the I-81 Widening Project that Contributed to the Success of this Project

Eric Sender, PE, DBIA (WM); Jerry Whitlock, PE, DBIA, PMP, CCM (W); Robert Evans, PE, PTOE (WM); Diane Durscher, PE (WM); Jessica Klinefelter, CEP, CWB (WM); Mike Lewis (WM); Matt Davis, PE (WM); Greg Andricos, PE (W)

Innovative Design Solutions & Construction Techniques

WM developed an innovative process to determine the most efficient and cost effective appropriate to repair bridges and roadways and select materials. We implemented an advanced pilot project to document the sequence of work, duration, crew size, production rates, and recorded noise levels. The data was used to set an aggressive but feasible schedule with incentives. Due to the limited schedule and to minimize traffic disruptions, we implemented multiple innovative materials and construction methods to expedite the work. This included the use of rapid setting cementitious materials including Wagman's proprietary early strength latex mix, to accelerate production. We developed custom specifications for surface preparation, predetermined maximum construction loading on the milled deck, custom hydro-demo effluent removal using penetrations in the deck, and specialized curing requirements for the LMC. These innovative solutions were developed collaboratively by WM and Wagman to facilitate construction, overcome field challenges, and complete the project on-time and within budget.

Risk Identification and Mitigation

WM identified and mitigated similar risks on this project as those discussed in Section 3.5 of this SOQ:

- **Risk 1 Maintenance of Traffic:** A complex TMP was designed to safely convey 170,000 daily vehicles through the project. WM developed five stages of MOT Plans that never closed a travel lane (temporary nighttime single lane closures were permitted). In total, the project included 47 separate work zones along the interstate roadway. The design provided constructible work areas with pull-off-areas for emergencies and contractor access. WM developed a "Work Area Conflict Matrix" in the MOT plans, that allowed the contractor to clearly identify work areas that could be performed simultaneously. MOT plans included extensive modifications of overhead signs to accommodate lane assignment messages and coordination with DMS's through the work zone.
- **Risk 3 Stormwater Management:** Control of stormwater runoff and drainage was a major consideration in the design and construction of the project. Numerous drainage structures were located along the corridor and were in need of repair and maintenance. Each asset was inspected to determine repairs, which were completed as a pre-phase work activity. We ensured the devices were functioning properly and were structurally adequate prior to implementing lane closures or traffic shifts. WM successfully obtained a SWM waiver from MDE for the project through early coordination. Erosion and sediment control devices were utilized to control runoff within the project area. We developed systems to collect and treat waste water from hydro-demolition and were able to discharge into existing storm drainage conveyance systems in accordance with our Industrial Waste discharge permit.



On-Time Completion

It was critical to complete the rehabilitation in advance of an adjacent major interstate improvement on I-895. WM expedited the design by combining milestone reviews, performing over the shoulder reviews with MDTA staff, rigorously tracking comments/responses, and proactively addressing resolution of major comments. WM's sub-consultants worked within our office as part of the design team to maximize productivity. The design maximized available work areas, used rapid setting materials, and included multiple incentivized work areas to ensure the project was completed on time. During construction, WM engineers were on-site during major work operations to provide answers in the field and avoid any construction delays. The project was completed ahead of schedule and Wagman earned the full project incentive for early completion.

The project won multiple awards including: 2016 ENR Mid-Atlantic Region Best Specialty Contracting Project; 2017 CMAA Baltimore Chapter Project Achievement Award under \$100M; 2017 ACI Maryland Chapter Honorable Mention; 2017 Maryland Quality Initiative (MdQI) Project of the Year, Partnering Gold Award; Modal Award, and MBE Contractor Award.

Similarities to I-81 Widening Project

- Lead Contractor & Lead Designer Coordination
- Aggressive Completion Schedule
- Congested Interstate Corridor with Significant Trucking Traffic Volumes
- ITS System Integration
- Complex Staging/MOT Design
- Developed/Managed an Effective Communications Strategy w/ Business Owners and Key Stakeholders
- 24/7 Construction Support to Accommodate Schedule & Stakeholders
- Major Roadway, Structural, Traffic, and Stormwater Engineering Components

WM's Role

As the Design Manager for MDTA, WM was responsible for:

- Overall Design Management
- Survey/Evaluation of Existing Bridges
- Roadway, Structural, Pavement, Drainage Design
- TMP, MOT, Traffic Analysis/Design (Integrated with ITS Infrastructure)
- Coordination with Adjacent Projects, Stakeholders, and Community Outreach
- Environmental Permitting & Compliance
- Construction Support

ATTACHMENT 3.4.1(b)
LEAD DESIGNER - WORK HISTORY FORM
(LIMIT 1 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 Start Date	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-95 at Contee Road Interchange Design-Build Prince George's County, MD	Allan Myers	Name of Client: MDOT State Highway Administration Project Manager: Dave Phillips Phone: 410-545-8823 Email: dphillips@mdot.maryland.gov	01/2012	11/2014 (Schedule was maintained with contractor advancing conduit installations for utility relocations)	\$30,700	\$33,744 (Overage due to owner directed updates for new bike lane requirements and upgrade of a WSSC watermain crossing)	\$5,500

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. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form.



- Similarities to I-81 Widening Project**
- Design-Build Delivery
 - Aggressive Completion Schedule
 - Congested Interstate Corridor with Significant Trucking Traffic Volumes
 - ITS System Features and Integration
 - Complex Staging/MOT Design
 - Leveraged Innovative Design Solutions to Expedite Project Schedule
 - Effective Communication Strategies w/ Businesses and Key Stakeholders
 - Major Roadway, Structural, Traffic, and Stormwater Engineering Components

WM's Role

- WM served as the lead engineer and provided overall design management for the Design-Build team. As Lead Designer, WM was responsible for:
- Field Data Collection Surveying
 - Roadway, Structural, Pavement, Drainage-and H&H Design
 - SWM and E&S Control Design
 - TMP, MOT, Traffic Analysis/Design (Lighting, Signing/Marking, ITS with Integration to Existing Systems)
 - NEPA Reevaluation Support and Environmental Permitting & Compliance
 - Private Utility Relocations Coordination and Public/Private Utility Design
 - Construction Support

Project Narrative and Scope

Wallace Montgomery (WM) was Lead Designer for the Design-Build Team to design and construct an arterial roadway, Contee Road (now known as Konterra Drive), and its grade separated partial cloverleaf interchange connection with I-95. The Contee Road interchange is located on I-95 halfway between Washington DC and Baltimore, approximately one mile north of the I-95 interchange with the Intercounty Connector (ICC)/MD 200 toll roadway and one mile south of the I-95 interchange with MD 198. The project increased the capacity of the collective roadway system being influenced by the traffic demands generated by the Washington DC and Baltimore Metropolitan areas. The scope of work included:

- Two New Directional Outer Ramps and Two New Cloverleaf Inner Loop Ramps
- A 4-Span 519' Steel Girder Bridge over I-95 and Demolition of the Existing Substandard Overpass
- Overhead Guide Sign and Gantry Tolling Equipment Structures/Infrastructure
- Integration of ITS (Dynamic Message Signs) into the ICC's Electronic Tolling System
- Development of a Transportation Management Plan (TMP) and Complex Maintenance of Traffic (MOT)/Work Area Staging on a Congested Interstate
- Roadway and interchange tie-ins and coordinated openings between with the adjacent construction contracts for the continuation of Contee Road/Virginia Manor roadways and connections to the ICC/CD roadways
- Roadway, Pavement, and Structural Engineering
- Drainage Design, Stormwater Management, and Erosion and Sediment Control Design
- Traffic Engineering Design for Signals, Interchange/CD Road Lighting, Signing, and Pavement Marking
- Significant Utility Engineering Coordination (PEPCO Overhead transmission lines; BGE and Verizon Overhead/Underground Service Lines) and Design (WSSC Water Mains; BGE and Verizon Conduits)
- Environmental Permitting and Ensuring Compliance

- Specific project elements included:
- 275,000 CY of Regular Excavation
 - 5,600 LF of Storm Sewer Pipe
 - 50,000 Tons of Asphalt Paving
 - 42,000 Tons of 21B Aggregate

Limiting Impacts to Traveling Public & Effective Communication with Businesses and Stakeholders

Relationships with stakeholders were fostered by the constant engagement and open invitations to meet with the Design Build Team (DBT). The DBT held "Pardon Our Dust" Progress Meetings that were fully open to all stakeholders. This was incredibly important due to the project's high visibility to the adjacent mixed use development, office buildings, local residential neighborhoods, and the Laurel Regional Hospital. In order to reduce traffic and construction visibility/noise impacts, WM specifically sequenced the project to reduce vertical differentials, complete the work in the minimum number of stages, facility smooth transitions between the existing infrastructure and new alignments and maintain adjacent properties accessibility at all times. The project's earthwork grading diagram was optimized to reduce on-road hauls that would have further impacted the traveling public and surrounding communities.

Proposed Staff for the I-81 Widening Project that Contributed to the Success of this Project

Eric Sender, PE, DBIA (WM); David Borusiewicz, PE, DBIA (WM); Diane Durscher, PE (WM); Jessica Klinefelter, CEP, CWB (WM); Matt Davis, PE (WM); Joe Grant, PE (WM); Robert Evans, PE, PTOE (WM); Antonio Mawry, PE (WM); Jeff Stump, PLS, LEED, DBIA (FT)

Innovative Design Solutions & Construction Techniques

WM applied innovative and cost-effective structural and pavement solutions that resulted in a significant reduction of the interchanges long-term maintenance costs. This included realigning the Collector-Distributor Roads adjacent to I-95 and new ramps so that the length of the Contee Road Bridge could be reduced by over 82 feet as well as provide more efficient, symmetrical spans.

Working over I-95 with limiting roadside areas required careful planning and design for the demolition of an existing complex, curved multi-span overpass bridge and the erection of new bridge's steel girders. WM assisted in the development and review of detailed demolition and erection plans. We developed the demolition sequence of the existing bridge using a complete 2-D analyses of the existing superstructure that considered potential construction equipment loading on the bridge.

WM developed an innovative stormwater management (SWM) approach with providing treatment in micro-scale practices adjacent to the roadways as well as the roadway profile refinements reducing vertical differential between existing and proposed grades. This minimized the project footprint and avoided impacts to the adjacent commercial and residential developments. Additionally, the approach reduced impacts to nearby environmentally sensitive areas such as streams and wetlands.

Risk Identification and Mitigation

WM identified and mitigated similar risks on this project as those discussed in Section 3.5 of this SOQ:

- **Risk 1 Maintenance of Traffic:** In order to keep all existing traffic movements/operations in service during all construction stages, WM developed a complex construction sequencing plan. This included temporary wire retaining walls between construction stages to protect travel lanes and allow for excavation adjacent to existing roadways. Our TMP included nighttime traffic drags along I-95 to coordinate the strategic placement of cranes and allow for efficient and safe demolition of the existing bridge and erection of the new steel girders over the interstate. All lanes on I-95 were re-opened well in advance of the morning peak traffic "rush" hour each day.
- **Risk 3 Stormwater Management:** Our innovative SWM approach minimized the project footprint; reduced environmental/property impacts; and increased available mitigation areas by providing water quality treatment via micro-scale BMPs along the roadways instead of concentrating the treatment in end-of-line pond facilities. We minimized the project footprint by maximizing low-impact development methods (i.e. bio-swales) facilities and minimizing ponds. Also, at the Project's eastern limits, we eliminated SWM ponds and were able to re-establish a primarily open-channel waterway with re-routing roadway runoff to upstream SWM facilities to control discharges to pre-conditions before entering the downstream waterway.

On-Time Completion

The Contee Road Bridge was on the project's critical path and had to be constructed on schedule so the existing overpass could be demolished and the realigned I-95 CD roadways could be completed. WM developed a "rolling" design submissions approach of abutment/pier areas, rough grading, and pile foundation approvals followed by separate superstructure submissions. This allowed the DBT to advance steel girder fabrication while substructure plans were finalized to expedite bridge construction. The new bridge was complete and the old bridge was demolished 1½ months ahead of the interim milestone date; 18 months from the Project's NTP.

WM received the 2016 Maryland Quality Initiative (MdQI) Partnering in Construction Gold Award of Excellence for exemplifying a high level of Achievement through their practice of the Partnering principles and also the Award of Excellence for MDOT SHA Project of the Year >\$5M Category.

