



## Statement of Qualifications

I-81 Widening MM 136.6 to MM 141.8

Roanoke County and City of Salem, Virginia

State Project No.: 0081-080-946, P101, R201, C501, B677, B678,  
B681, B682, B683, B684, B685, B686, B687, B688  
Federal Project No.: NHPP-0812 (323)  
Contract ID Number: C00116203DB108



## 3.2 Letter of Submittal



July 7, 2020

Commonwealth of Virginia  
Department of Transportation  
1401 East Broad Street  
Richmond, Virginia 23219  
Attention: Bryan Stevenson, PE DBIA

**I-81 Widening MM 136.6 to MM 141.8**  
RFQ No: C00116203DB108  
Statement of Qualifications  
3.2 Letter of Submittal

Dear Mr. Stevenson:

Offeror Ferrovial Construction US Corp. f/k/a/ Ferrovial Agroman US Corp. (Ferrovial Construction or Ferrovial) is pleased to submit our SOQ to VDOT. Ferrovial Construction's experience includes some of the largest, most complex transportation projects in the US. In the last 10 years, the firm has been awarded 11 major design-build contracts in the US totaling more than \$11.4B in construction value. At \$6.6B, Ferrovial Construction has one of the largest bonding capacities in the US, with a largely untapped capacity.

**3.2.1 Offeror:** Ferrovial Construction US Corp. f/k/a/ Ferrovial Agroman US Corp.,  
9600 Great Hills Trail, Suite 200E, Austin, TX 78759

**3.2.2 Point of Contact:** Roberto Martinez, Design-Build Project Manager  
3877 Fairfax Ridge Rd, 3rd Floor Central Tower, Fairfax, VA 22030  
Phone: 571-665-0096 | Fax: 703-890-2622 | [rmartinez@fam66.us](mailto:rmartinez@fam66.us)

**3.2.3 Principal Officer:** Domingo Rodriguez Torregrosa  
One Securities Centre 3490 Piedmont Road, Suite 350, Atlanta, GA 30305  
Phone: 404-434-8778 | Fax: 512-637-1499 | [domrodri@ferrovial.com](mailto:domrodri@ferrovial.com)

Lead Designer AMT  
brings approx. 500  
employees operating  
from eight VA offices  
and extensive  
experience in the  
Salem District.

**3.2.4** Ferrovial Construction US Corp., a corporation, will take financial responsibility for this Project and has no liability limitations. A single 100% performance bond and 100% payment bond will be provided.

**3.2.5** The Lead Contractor is Ferrovial Construction US Corp., and the Lead Designer is A. Morton Thomas and Associates, Inc. (AMT).

**3.2.6** Attachment 3.2.6 shows the legal name and address of Offeror's affiliated and/or subsidiary companies.

**3.2.7** Executed Attachments 3.2.7a and 3.2.7b regarding debarment are included in the Appendix.

**3.2.8** Ferrovial 's VDOT prequalification number is F1029. Our probationary status was waived for this project by Harold Caples on 07/02/20. Evidence of such prequalification and waiver are in the Appendix.

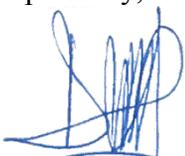
**3.2.9** The Appendix contains a surety letter stating the Offeror can obtain a performance and payment bond based on the contract value in Section 2.1. The bonds will cover the project and warranty period.

**3.2.10** SCC and DPOR registration for all business entities on the team is contained in Attachment 3.2.10. Copies of the registrations and licenses are in the Appendix.

**3.2.11** Ferrovial is committed to achieving the nine percent DBE participation goal for the entire value of the contract.

We appreciate the opportunity to submit our Statement of Qualifications.

Respectfully,



Domingo Rodriguez Torregrosa  
Authorized Representative

# 3.3 Offeror's Team Structure



### 3.3 OFFEROR’S TEAM STRUCTURE

The Offeror and Lead Contractor is **Ferrovial Construction US Corp. f/k/a Ferrovial Agroman US Corp. (Ferrovial Construction or Ferrovial)**. Ferrovial will execute the design-build contract with VDOT. Ferrovial will undertake full financial responsibility, inclusive of providing performance and payment bonds and required insurance.

To address the complex design issues related to the Project, the Ferrovial team includes world-class designers, **A. Morton Thomas and Associates, Inc. (AMT)** to serve as Lead Designer.

Additional details on the team are included in Section 3.4, Experience of the Offeror’s Team.

As experts at design-build, we promote a whole team approach to identifying and managing issues and providing project guidance. We use a flexible, integrated approach that can adapt quickly to change. The Ferrovial team organization is depicted on the Project Organizational Chart and described in the Organizational Narrative (pages 4-7).

#### 3.3.1 Key Personnel

At the root of successful experience and performance is the people that manage projects. Ferrovial has assembled a team with the necessary experience and “know-how” to problem-solve and deliver the most economic, aesthetic and sustainable solution. Our Key Personnel have worked on design-build projects that were successful and comparable to I-81 in terms of scope, size and complexity.

Our key personnel and their role and qualifications are summarized below. Resumes in Attachment 3.3.1 are located in the Appendix. Required training, certifications and/or classes are noted in Section F of the resume form.

I-81 PROJECT TEAM	
	Offeror and Lead Contractor
	Lead Designer
	ROW Acquisition Services
	Geotechnical Engineering and Pavement Design
	Noise Analysis and Mitigation Design

Key Personnel	Role	#Yrs	Work History Project
Roberto Martinez	DB Project Manager	20	Transform 66
Pablo Lopez Barro, PE	Entrusted Engineer-In-Charge	20	Transform 66
Josh Lester, PE, CCM, PSP	Quality Assurance Manager	14	I-81 Exit 114
Laura Mehiel, PE	Design Manager	34	I-81 Exit 114
Alex Gorski	Construction Manager	13	Transform 66
Korey White	Incident Management Coordinator	23	I-77 Express Lanes

#### Value-Added Staff

In addition to our key personnel, we have identified, and shown on our org chart, additional personnel in key roles, including but not limited to those profiled below.

**Roadway Design Engineer, Jeff McKay, PE**, has 25 years of experience in the design and management of significant highway improvement projects for VDOT and Virginia localities, including Route 123 Widening in Tyson’s Corner, Route 460/Southgate Drive DDI in Blacksburg, Northampton Blvd./I-64 Ramp Improvements at Lake Wright East, Route 288 Improvements in Chesterfield County, Route 28/625 Interchange in Loudoun County and the I-95 Bridges Rehabilitation project in Richmond. Jeff has worked on a number of transportation projects and understands VDOT Standards, Policies and Procedures including the process for identifying design exceptions and waivers. Jeff will report to the DM and serve as the second point of contact for design.

**Structures Design Engineer Khoss Babaei, PE**, has 41 years of bridge engineering experience with emphasis on bridge replacement, widening and rehabilitation. He will report to DM and be in charge of structural engineering for the project including but not limited to bridge, foundation, retaining wall and sound wall designs. He will lead production efforts for all structural engineering plans, estimates and specifications including the phased demolition of the existing bridge. Khoss's recent design-build experience includes, VDOT's I-81 Bridge Replacement at Exit 114 in the Salem District and FHWA/VDOT's US Route 1 Improvements at Fort Belvoir in Fairfax.

**Utility Coordinator Keith Sinclair, PE**, has significant experience in the coordination and design/relocation of utilities associated with transportation projects. He is well-versed in planning, studies and final engineering design for wet and dry utility infrastructure. He understands the importance of early coordination with utility agencies. He is conversant in VDOT's policies and procedures for utility relocations and very familiar with VDOT's Utility Manual of Instructions. Keith's project experience includes, VDOT's Design-Build I-81 Bridge Replacement at Exit 114 in the Salem district, FHWA/VDOT's US Route 1 Improvements at Fort Belvoir in Fairfax and US 460/Southgate Drive DDI in Blacksburg.

**Geotechnical Engineer Dr. Sushant Upadhyaya, PE, PhD** has 17 years of experience providing geotechnical engineering, pavement design, and project management services for roadway and transportation projects. His portfolio includes roadway extension/widening and new construction, bridges, stormwater management facilities, noise/sound walls, and other related infrastructure. He is accustomed to developing geotechnical solutions to address issues and subsurface challenges, including Karst conditions. Sushant has worked on 45 VDOT projects and is adept at providing services per AASHTO, FHWA, and the VDOT Manual of Instruction (MOI) Chapters 3 and 6, road and bridge specifications and other VDOT requirements.

**Public Involvement Manager Heather DeLapp**. With 18 years of community relations and stakeholder outreach experience, Heather recently served as the regional public relations manager for over \$4 billion in transportation infrastructure projects. In this role, Heather managed media relations, stakeholder and community outreach and engagement, public education and communications related to construction activities on the projects. Under her leadership, the LBJ Express project received the 2014 ARTBA "PRIDE Award" for outstanding community relations and public education.

**TMP/MOT Engineer Jordan Howard, PE**, will serve as the lead designer of Maintenance of Traffic and Work Zone Safety for the project. She will report to the DM and will be responsible for the design of temporary traffic control devices, transportation management plans and incident management plan. Jordan has strong credentials in design and work zone planning and is familiar with VDOT Work Zone and Road Design Manual standards Jordan will work closely with the construction team to work through sequence and staging issues and designing traffic control that are safe and efficient while allowing construction to progress on schedule and without interruption. Jordan's recent DB experience includes, VDOT's Design-Build I-81 Bridge Replacement at Exit 114 in the Salem district and MDOT SHA's I-68 / US 219 Interchange Improvements, Garrett County, MD.

**Environmental Compliance Manager (ECM) Francisco Metcalf** has 20 years of experience as ECM. His work on large, complex transportation projects has included ensuring and managing environmental compliance applicable with federal, state, and local environmental laws and regulations as well as environmental commitments during design and environmental conditions during construction. He has secured many Section 404 and Section 401 permits, conducted Section 7 ESA surveys, led NEPA reevaluations and obtained general VPDES permits. He serves as Response Manager for USEPA Region 6 coordinating emergency services in response to Katrina and Rita hurricane disasters. He currently serves as ECM on the \$2.3B Transform 66 project.

**DBE Manager Angela Berry-Roberson** has 27 years of experience in DBE management. She has extensive experience coordinating and managing DBE programs for large, complex DBFOM projects. She is responsible for developing, implementing, and managing business diversity strategy as well as compliance and reporting. She is an expert at outreach and contract compliance of civil rights requirements. Under Angela's management in eight design-build projects, either complete or currently under construction, over \$1B in DBE contracts have been committed to date. Additionally, to her credit, all completed Ferrovial projects have exceeded their DBE participation goals. Angela has a JD from Georgetown University Law Center, in Washington, DC and a BA in Political Science and History from Rice University in Houston, Texas.

**Safety Manager Kyle Freeman.** He has 22 years of FHWA roadway work zone safety and OSHA regulation compliance experience. Kyle is experienced managing safety on large, complex highway projects with high traffic volumes in dense urban areas. Kyle is skilled at developing, implementing and managing comprehensive safety programs and emergency procedures. He served as Safety Manager on the \$1B I-35W Segment 3A project which achieved an 0.8 OSHA recordable incident rate, while working 8.4M man-hours and \$1.5B NTE Segments 1&2 project which achieved an OSHA recordable incident rate of 0.8 and OSHA lost-time accident rate of 0.2 while working 9.1M man-hours. Kyle is a Board of Certified Safety Professionals (BCSP) Safety Management Specialist (license #785).

### 3.3.2 Organizational Chart

An organizational chart showing the “chain of command” of all companies, including individuals responsible for pertinent disciplines proposed on the Offeror’s team, is contained on page 7. Shown on the chart and described on the following pages are the major functions to be performed and the reporting relationships in managing, designing and constructing the Project.

#### Functional Relationships

Our structure facilitates stability and results in a highly-functional team able to effectively involve all stakeholders and third-parties, resolve issues at the project level, and work with VDOT to achieve timely delivery and a high-quality project. Led by **DBPM Roberto Martinez**, our management structure offers a balanced integration of design and construction that promotes safety, quality, innovation, efficiency and life-cycle benefits.

Roberto will be responsible for overall Project design and construction including quality management and construction administration meeting the Design-Builder’s obligations under the Contract and avoiding and resolving disputes under Section 12 10.2.2 of RFP Part 4 - General Conditions of Contract. He will ensure procurement and furnishing of all materials, equipment, services and labor in a timely manner. Roberto, in conjunction with our Public Involvement Manager Heather DeLapp, will coordinate any public outreach and public meetings.

Our collaborative approach to design and construction is led by **Entrusted Engineer in Charge (EIC) Pablo Lopez, PE**. He will be responsible for design and construction engineering decisions by the design teams, including subcontractors and subconsultants. Pablo will closely work together with the construction manager, the quality assurance manager and incident

Ferrovial has the necessary resources and financial capacity to successfully develop, design and construct the Project. VDOT can be confident that we have the full resources required for safe, on-time delivery of the project through our vast financial, staff and equipment resources available locally, regionally and internationally. Close monitoring of schedule updates and fluctuations will prompt when we need to tap into these resources.

manager coordinator to supervise all engineering related to the final work. He will ensure that all engineering work for the Project is integrated, is in conformance with the Contract Documents, and otherwise delivers a safe, constructible, and functional Project. He will be assigned to the Project full-time and shall be actively engaged in coordinating all engineering decisions for the life of the Project. He will compile the complete, aggregate collection of the final Released for Construction Plans, Specifications and other documents for the entirety of the Work and seal and sign the cover sheet. Pablo is registered Virginia PE and an employee of the Design-Builder.

The QA will team be led by **Quality Assurance Manager (QAM) Josh Lester, PE**. He will report directly to the EECE and VDOT and will have no involvement in the construction operations. He will be on the Project site full-time for the duration of construction operations. Josh shall be responsible for the QA inspection and testing of all materials used and work performed on the Project, to include monitoring of the Ferrovial’s QC program. The QAM will ensure that all work and materials, testing, and sampling are performed in conformance with the contract requirements and the “approved for construction” plans and specifications. He will prepare the QA/QC plan.

Josh will be supported by two to three Senior Level QA Inspectors and two Regular QA Inspectors. One Senior QA Inspectors will be assigned to structure and bridge elements and another to roadway elements. The inspectors will handle all of the field QA inspection and QA testing and would be on the project full time from start to finish. The QA team also includes the use of Trainee QA Inspectors to be utilized at busy times thought out the project.

**Design Manager (DM) Laura Mehiel, PE** will report to the DBPM. She is responsible for ensuring all design work is performed in accordance with current VDOT standards and specifications. She will manage all design and will be responsible for providing a quality product, meeting all design

milestones, and ensuring that the design QC program is followed. She will assign resources as needed, oversee the design subconsultants, develop and implement corrective measures following design QC review, if necessary, and ensure environmental compliance measures are integrated into the design. Laura will maintain involvement during construction to oversee plan revisions, shop drawings, and review construction activities with the Construction Manager.

**Construction Manager (CM) Alex Gorski** will report directly to the DBPM and be responsible for managing the construction process including QC activities to ensure the materials used and work performed meet contract requirements and the “approved for construction” plans and specifications. Alex will be on the Project site for the duration of construction operations. He will manage subcontractors and Ferrovial’s self-performance crews (typically Ferrovial performs structures, MOT, roadworks, earthworks and drainage). He will manage the field staff including segment managers, traffic coordinator, environmental compliance manager, construction coordinators, superintendents and foremen. Alex will obtain and hold a DEQ Responsible Land Disturber Certification and a VDOT ESCC Certification prior to the commencement of construction.

**IMC Korey White** will report directly to the DBPM and will be responsible for responding to all incidents within the project limits and applying NIMS principles and practices which provides a common, nationwide approach to enable the whole community to work together to manage all threats and hazards. He will be on the Project site for the duration of construction operations. He will complete FHWA SHRP2 “TIM” Responder Training; FEMA ICS/NIMS 100, 200 & 700; and FEMA/VDEM Hazardous Materials Awareness classes prior to the commencement of construction. He will apply the U.S. Department of Transportation’s Emergency Response Guidebook to identify hazardous materials risks and protective actions, utilizing hazard communication documents to identify hazardous materials risks protective actions and determining awareness-level personal and public protective actions.



*Transform 66 Outside the Beltway, Fairfax, VA*

**Management Structure.** The Project Management Plan (PMP) will serve as the project’s guiding document, clearly designating assumptions and decisions regarding management processes, approvals, dispute resolutions and overall project control. The PMP defines the roles and responsibilities of the relevant parties, procedures and processes. It contains separate plans for managing all aspects of the project. Addressing all phases of the project’s life cycle ensures that the project will be managed holistically and on a continuum, not incrementally as the project progresses, promoting a unified approach.

The PMP for Ferrovial’s I-635 LBJ Express project is currently utilized by FHWA as a best practice/ sample PMP.

Key features of our integrated organization include:

- An experienced team that brings design and construction lessons learned and best practices from multiple road and bridge projects.
- An award-winning and proven Culture of Safety driven by zero accidents goal and “safety first” attitude led by Safety Manager Kyle Freeman.
- Our organizational structure promotes clear lines of communication and embedded accountability at every level.
- A senior design team including roadway and bridge experts who are experienced at working in the fast-paced design-build environment.
- Design-build coordinators to drive design and construction integration, and develop innovative solutions that improve constructibility, quality, accelerate the schedule, and reduce cost and risk.
- A quality organization that brings design and construction best practices and compliance with ISO 9001.
- A comprehensive DBE utilization and outreach program that starts during the proposal.
- Highly experienced team members with proven past performance in the local market.
- Encourages VDOT’s participation on technical working groups and implement a comprehensive Partnering program.
- Ferrovial & AMT established working relationship from efforts on VDOT design-build projects: US 460 Corridor and Transform 66 Outside the Beltway
- Commitment to innovation and optimization

**Effective Communication.** We will immediately establish an effective and consistent communication program that will be maintained throughout the project. The communication program and protocols will be defined during the initial partnering session and the plan will be included in the PMP. The program will include regular meetings with VDOT and third-party stakeholders. Meetings will cover design; upcoming lane closures, construction schedule; quality and planning, among others. We will prepare agendas, minutes and action item lists for each of the meetings.

**Third Party Stakeholders.** Several stakeholders will have a keen interest in the project, and in understanding impacts and timing of activities. A number of potential stakeholders are shown on our organizational chart; specifically, we believe the most interested to be the impacted utility companies (especially Citizens Cooperative who has fiber optic in the median), emergency service and public safety providers, and the localities, namely, the City of Salem and Roanoke County. Based on our history in the area and the relationships we have established, we are well equipped to effectively involve these and stakeholders in the development of the project. Our process will:

- Engage localities, EMS and public safety agencies in the development of the TMP, including incident management plan and detours.
- Utilize periodic stakeholder meetings to inform the stakeholders of project elements and timing of construction impacts.
- Conduct a Preliminary UFI and a Final UFI as the framework for utility coordination, prior rights determination, impacts, and plans for relocation.
- Invite utility owners to participate in our Utility Task Force, for which we have already started to coordinate with Citizens Cooperative.

**Design and Construction Interaction/Integration**

As a truly integrated design and construction team, we emphasize coordinated and consistent communications and collaboration to deliver a high-quality project on-time and within budget. Our internal organizational systems that support a unified design-build approach include:

- Comprehensive project management plan.
- Exhaustive analysis of any potential delays
- Multiple design and construction segment teams
- Continuous coordination
- Technical working groups
- Local resources
- Highly collaborative relationship with VDOT
- Flexibility and openness to change

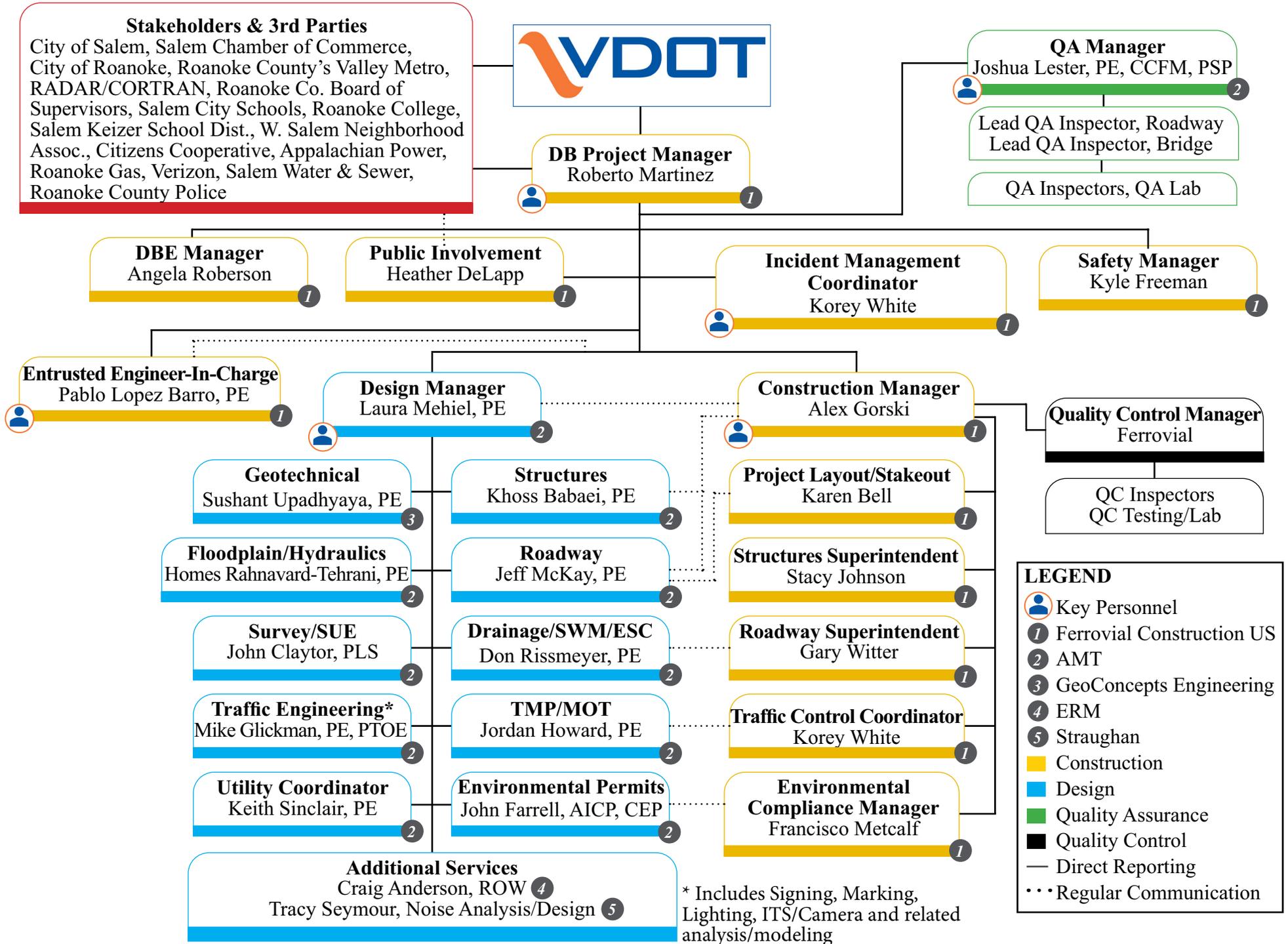
Our tools, procedures and organizational structure are designed to promote efficiency and integration between design and construction. It starts by having the Lead Contractor fully involved in the design of the Project as described below.

**Task Force Teams.** Task force teams are organized by project disciplines on developing specific solutions with all affected parties present. Based on our assessment of the project, the subjects for which task force teams add value include Traffic Control, Utilities and Stormwater Management. We will use the task force approach to facilitate communication, encourage real-time “plans in hand” design progress reviews, and quickly resolve issues while developing goals and design concepts into quantifiable outputs. VDOT, subcontractors and third-parties will be invited to engage in task forces.

**Construction Staff Involvement in Design.** The Construction Manager and Superintendents will provide over-the-shoulder reviews of design during project design development. Their reviews will focus on phasing, optimizing MOT sequencing, minimizing the construction impacts, constructability, and maximizing available roadway cross section for maintenance of traffic. Here our collaboration will result in optimizing personnel, equipment and material resources to ensure efficient construction activities and the limiting of impacts to residents, the traveling public and emergency responders. The continuity of having the Construction Manager engaged with the design team long before construction starts and then in turn have the key design leads involved throughout construction creates a true design-build approach that is key to a successful project.

**Design Staff Involvement in Construction.** AMT design team will assist Ferrovial in addressing field issues, participate in progress meetings, interact with stakeholders and remain an active part of the design-build team until project completion. This relationship will expedite the RFI process and ensure all parties are informed throughout the process, including shop drawing review, environmental and permit compliance, MOT implementation and public outreach. During construction, design staff will be heavily involved via regular field visits, continuous communication with construction staff, and monthly progress meetings. AMT and other design subconsultants will also support and participate in “Pardon Our Dust” meetings. AMT will prepare the As-Built plans.

Ferrovial’s NTE Segments 1&2 (\$1.5B) project, completed nine months early, was awarded the Best of the Best Highway/Bridge Project by ENR.



# 3.4 Experience of Offeror's Team



3.4 Experience of Offeror's Team



### 3.4 Team Experience

Ferrovial is a leading-edge global construction firm noted for innovation and ability to bring added value to clients. Ferrovial has been active in the North American transportation industry since 1999. The company’s experience includes some of the largest, most complex transportation projects in the United States including the \$2.3B Transform 66 Outside the Beltway for VDOT. Ferrovial has completed or is in the process of completing eleven major design-build contracts in the United States totaling more than \$11.4 billion. Ferrovial has a history of completing projects early, for example the \$2.1B I-635 LBJ Express (three months), \$1.5B North Tarrant Express (nine months) and I-35W Segment 3A (two months).

Ferrovial and its projects have received numerous awards for safety, environmental, public relations, DBE and design/construction, such as ENR Best Highway/Bridge Project; AGC Best Design-build Civil Project; ENR Texas and Louisiana Contractor of the Year; ARTBA Environmental Globe; ACEC Texas Engineering Excellence; ENR Texas and Louisiana Best Safety Award and Quality Asphalt Pavement Award.

#### DBE Participation

Ferrovial commits to comply with the DBE objectives and participation goals for this project. The team’s primary objective is to facilitate DBE participation in all project phases and scopes while providing the necessary resources to ensure these firms achieve economic growth and project success. We have a strong record of achieving DBE participation goals for both professional services and construction scopes through effective compliance with the contract requirements. In eight design-build projects either complete or currently under construction, Ferrovial committed to date over \$1B in DBE contracts; **all completed Ferrovial projects have exceeded the participated goal.** We will apply the established strategies, lessons learned and best practices from these successful projects.

Record of DBE Success		
Project	Goal	Achieved
NTE 1&2	12%	21%
LBJ	12%	20%
3A	6%	13%
I-77	12%	22%
I-66	15%	8.5%*

\*Committed to date; currently under construction.

AMT is a respected provider of transportation design and construction management in Virginia, having assisted VDOT and other regional clients with delivery of their most important highway infrastructure projects. AMT’s core competencies include all aspects of transportation design; structural design; survey and utility locating; and construction management. With approximately 500 employees and operating from eight offices in Virginia, AMT has demonstrated success on interstate and major arterial roadways for capacity and safety improvements, including several in the Salem District – such as I-81 Bridge Replacement at Exit 114 in Christiansburg, and Southgate Drive/US 460 Bypass Interchange in Blacksburg. They have verifiable success in development of innovative solutions for design-build projects, and are intimately familiar with the I-81 corridor, with staff traveling this portion of I-81 daily to carry out their duties on VDOT projects for the past 13 years.

#### GeoConcepts (A Terracon Company) | Geotechnical Engineering | Pavement Design

GeoConcepts brings experience on more than 60 VDOT projects, and in particular expertise evaluating subsurface conditions in the VDOT Salem District. These projects have ranged from roadway improvements, interchanges, pavement design, pavement evaluations, bridges and stormwater management facilities. GeoConcepts /Terracon has been a trusted partner of both Ferrovial and AMT on numerous past projects.

**ERM | ROW Acquisition** | A VDOT prequalified ROW contracting consultant, ERM is a full-service land and easement acquisition company with a proven record of success in providing professional negotiations for the acquisition of land, easements and ROWs throughout the state of Virginia. ERM has partnered with AMT on numerous projects, notably the recent I-81 Exit 114 and the I-66 Haymarket Park and Ride design-build projects.

**Straughan Environmental | Noise Analysis & Mitigation Design** | Straughan has been successfully executing acoustic and vibration consulting services for 20 years. Within the past five years, Straughan has worked on over 35 noise analysis projects for Federal and State Agencies. Their Lead Acoustical Engineer is on the VDOT list of persons qualified to perform highway traffic noise analyses. Straughan recently joined AMT to provide highway traffic noise analysis and noise barrier design for the U. Route 1 Road Widening at Fort Belvoir, VA design-build project.

Work History Forms, Attachment 3.4.1(a) and Attachment 3.4.1(b) for Ferrovial and AMT are included in Appendix and demonstrate the firm’s experience and capabilities.

# 3.5 Project Risks



### 3.5 Project Risks

Considering the project purpose and need, VDOT efforts to date during planning and preliminary design, and the project goals, the Ferrovia team prepared an initial risk assessment matrix. This analysis looked at the items that, in our experience, can often create a bottleneck in a project’s progress, or result in a less than favorable final product. Considered in this matrix are items such as utility relocations, geotechnical concerns, building roadways “under traffic”, and environmental regulations/ permits.

Once the potential risk items were identified, our team reviewed each potential risk element in detail, in relation to the I-81 project’s conceptual design layout, scope of work for each discipline, impacts, and available time for construction as stipulated in the RFQ. A summary of our assessment matrix, which forms the basis of our team’s Risk Register to be carried forward once the project begins, is provided herein.

Based on a detailed review, we have identified the three most critical risks to achieving project success as:

1. Relocation of Citizens Cooperative and VDOT Fiber currently located in the median
2. Achieving Stormwater Management compliance / approval
3. Design approach at Bridge over Goodwin Road

The Construction Management Association of American (CMAA) endorsed approach to risk management uses a “Risk Register” which includes identified risks, potential impacts, and mitigation. A robust process considers risks throughout the project’s life and delivery processes. The five (5) step Risk Management Approach includes:

1. Identify: name, determine cause /effect, categorize
2. Assess: assign probability of occurrence, severity of impact, and determine response
3. Analyze: quantify severity, determine exposure, establish tolerance level, and determine contingency (applicable during preliminary design and pricing)
4. Manage: define response plans and actions, establish risk ownership, and manage response
5. Monitor/Review: monitor/review/update risks, monitor response plans, update exposure, analyze trends, and produce reports

#### Initial Risk Register

Why Considered	Initial I-81 MM 136.6 to 141.8 Risk Assessment
<b>Issue: Utility Impacts and Relocations (Critical)</b>	
Timing of utility companies' work is typically beyond the control of both VDOT and the DBT, and relocation delays can stall progress.	Multiple utilities are present and could be impacted. Citizens fiber optic line for virtually entire project limits in the median will require relocation, which will need to be an early work item. Defining where the line will go without being in the way of ultimate construction, before design is complete, is a challenge. Identified as a critical risk.
<b>Issue: Stormwater Management (Critical)</b>	
Significant increase in paved area within embankment corridor triggers the need for SWM on site, in a constrained ROW.	Project must meet VDOT Part IIB criteria, using the energy balance method to reduce flow to natural channels. RFQ plans have identified SWM facilities, some in proposed Right-of-Way which the DBT must acquire. The stringent SWM requirements and the timeframe for approval to allow ground-breaking elevate this item to a critical risk.
<b>Issue: Design at Goodwin Road (Critical)</b>	
Major inconvenience to the local community due to road and bridge reconstruction with no ability to accommodate onsite detour.	Goodwin Road will be lowered several feet. MOT during bridge demo and construction is complicated by narrow bridge spans and substandard vertical clearance. Unclear if detour for several months is acceptable. Detour could impact public perception and would increase travel times. With no knowledge of the vetting of a detour with community, we have identified Goodwin Rd design as a critical risk.

Why Considered	Initial I-81 MM 136.6 to 141.8 Risk Assessment
<b>Issue: Karst Conditions (Medium)</b>	
<p>Zones of carbonate bedrock tend to dissolve creating solution cavities, sinkholes, rock shelves, and conduits for groundwater flows. Soil borings are only reflective of conditions at the site of the boring.</p>	<p>Bridges will generally be on existing alignments which are likely founded on rock. Micropiles work well Kart area, and GPR survey can be used to understand locations of rock and voids. Significant cuts and fills will be sparse. Extensions of storm pipes should flexible so they don't break in karst areas, and great care must be taken selecting SWM BMP types and locations. Based on our team's expertise in handling karst conditions, we identify this as a medium risk on the project.</p>
<b>Issue: Median Construction Zone on Interstate (Impacts on Traffic &amp; Safety) (Medium)</b>	
<p>Efficient and safe flow of traffic on Interstates is of utmost importance. The confined median work zones of this project introduce risks.</p>	<p>The existing median is depressed with drainage ditches carried to the exterior of the ROW with pipe crossings. The NB and SB roadways are bifurcated and are not significantly separated with median widths as narrow as 40 feet. The filling of the median with new lanes, bridge construction, and major drainage installations can result in safety risks to both motoring public and work crews. This is a major concern, however due to the expertise of our design and construction team we have not identified it as a critical risk.</p>
<b>Issue: Right of Way Acquisition (Medium)</b>	
<p>Timeframe required for ROW acquisition can hinder ability to proceed with construction.</p>	<p>The RFQ plans identify 37 parcels for partial acquisition, mostly for drainage easements or SWM fee areas. Since the bulk of construction is in the median, within existing ROW, this is assigned a medium risk level, though attention must be made to interim SWM provisions.</p>
<b>Issue: Meeting Geometric Standards on Ramps (Low to Medium)</b>	
<p>Facilities built decades ago often do not meet current day design standards.</p>	<p>Ramps, side roads, even the Interstate may have substandard superelevation. Ramps in particular should be closely checked to ensure adequate decel or accel lengths. With careful attention, this is deemed a low to medium risk.</p>
<b>Issue: Environmental Permits - Waters of the US, Wetlands ("404 permit") (Low)</b>	
<p>Individual permits can take up to a year to obtain, which can greatly hinder the ability to begin construction and/or impact wetlands/streams.</p>	<p>Review of the project shows existing streams at only 3 locations based on NWIS wetland inventory. Additional waters of the US and wetlands may be present, but a cursory review reveals they will not be extensive. A programmatic permit appears to apply to the project. This issue is therefore assigned a lower risk level at this time.</p>
<b>Issue: Time of Year Restrictions (tree clearing) associated with T&amp;E's (Low)</b>	
<p>Presence of bats or their habitat can result in clearing time-of-year restrictions in Spring/Summer months.</p>	<p>Based on available materials and current regulatory requirements, presence of bats near the Interstate has been identified as a low risk item. We note that as regulations evolve, new regulations/restrictions could move this item to a medium or critical risk.</p>

**RISK 1 | Risk Category: Utilities | Risk Topic: Relocation of Fiber Lines in Median**

**Risk Identification:** Underground fiber optic cable belonging to Citizen’s Cooperative runs in the median of I-81 most of the project length. Part of the “Middle Mile Fiber”, the line was established as a backbone along I-81 to attract business to the region. It is a direct buried 240 count ribbon fiber cable, with service feeds located at the interchanges. We anticipate this entire line will need to be relocated due to the nature of the work in the median. VDOT also has facilities (cable, fiber and electric) as part of their ITS system for I-81 within the projects limits. Since limited median construction can occur without disrupting these facilities, timing for relocation of these facilities will have a direct impact on the schedule.

**Why it is Critical:** Due to the timeframe required for coordination with the utility owners/operators, and to conduct sufficient design to allocate -- and potentially prepare (via advance grading, for example) -- a corridor for the VDOT and Citizen’s fiber optic lines, and the timeframe to actually relocate the lines, the relocation of the lines is deemed as a critical risk to the final completion of December 2025.

**Risk Impact:** The table below demonstrates the myriad of activities that will need to take place for the relocation of these two utilities. Although it will be possible to introduce some overlap within the timeframes to streamline the dates, it is clear that the relocation of these lines has the potential to inhibit full-fledged construction of the widening for up to 21 months following NTP and could consume up to 25% of the desired 48 month construction phase.

Activity	Finish	Narrative
<b>NTP</b>	03/2021	Notice to proceed
<b>Initial Design</b>	06/2021	Sufficient design to allocate space for fiber lines
<b>Consensus from Owners/Operators</b>	10/2021	Coordination to confirm location, access needs, infrastructure parameters, prior rights, etc.
<b>Approved Permit Plans for Corridor</b>	02/2022	Grading, Erosion and Sediment Control, MOT, plus advance design of drainage, bridges and other elements which would “cross” the new fiber; LD-445 form processing/SWPPP approval and concurrence from VDOT for land disturbance
<b>Corridor Prep/Construction</b>	08/2022	Advance clearing (as needed) grading, demolition activities, to establish finished grade plus/minus 1 foot for placement of lines.
<b>Relocations Complete</b>	12/2022	Relocated, placed into service, old lines abandoned/removed

**Mitigation Strategy:** Our mitigation strategy involves an integrated approach that considers the implications of all appropriate design disciplines, construction input, and close coordination with both VDOT and Citizens Telephone. Specific components of our work plan to achieve this are as follows:

- ✓ Immediately upon NTP, mobilize the full design team for a series of design workshops. Construction personnel will be a part of these workshops.

*Goal: Define/refine project footprint; consider corridors for the fiber lines as an integral design component. Gain a good understanding of where underground features of the design will be.*

- ✓ Establish regular meetings with Citizens and with VDOT TOC (preferably concurrent) for Spring/Summer 2021 to coordinate locations, possible conflicts, timing, corridor parameters, etc. **Our team has already engaged Eddie Bower of Citizens, who is interested/ willing to participate.**

The Ferroviaal Team has developed a preliminary location for two relocated fiber trunk lines, beyond the outside shoulder of the NB lanes. A parallel feed for VDOT infrastructure is to the interior of the trunk line to feed ITS facility, utilizing conduit inside the median barriers where necessary. Unless Citizen’s opts for an upgrade with conduit, their line would be direct bury and would feed their service runs at interchange ramps.

Since NB roadway alignment shifts into the median for much of the project, exterior roadside grading area is conducive to lateral utility placement (avoiding steep slope areas for majority of project).

- ✓ If necessary, phase the advance permit/corridor plans to best suit the sequencing and facilitate quickest possible approval. For example, if the corridor crosses a wetland or requires an easement, remove these sections from the advance plans to maintain the desired construction start.
- ✓ Continue multi-disciplinary design efforts of the full design package in parallel to the advance corridor package, to flag new concerns and develop workarounds.
- ✓ Commence construction to prepare the corridor.
- ✓ Develop, in conjunction with Citizens, as phased approach to free up median work zone segments in a timely manner. The VDOT ITS lines, as part of the base contract, are within control of the DB team.
- ✓ Seek concurrence from Citizens for Ferrovial to relocate their line, to maintain more schedule control.

**Role of VDOT and Other Agencies:** VDOT SWTOC will coordinate and approve location of their line; Salem District Hydraulics will review and approve ESC plans and SWPPP and process the VPDES Construction Activity Permit; Citizens will coordinate and approve location of their line and relocate their line, or, concur with relocation construction by the Ferrovial team, and reimburse for their cost share.

**RISK 2 | Category: Environmental | Risk Topic: Meeting Stormwater Management Requirements**

**Risk Identification:** The DBT will be responsible for collecting, storing, treating, and releasing stormwater within the project limits in accordance with VDOT Drainage Manual and DEQ stormwater management (SWM) requirements. This project will be required to meet VDOT’s Part II B, which entails using the energy balance method to reduce discharge to natural channels. A majority of the outfalls for this project discharge to natural channels, thus some form of runoff reduction will be required. The current plans have identified 18 potential SWM facilities throughout the corridor, some within the existing ROW limits and others within proposed right-of-way which the DBT must acquire. The ability to meet SWM requirements for the project within the existing and proposed ROW is considered a risk on this Project.

**Why it is Critical:** I-81 is an existing corridor built primarily as an embankment, with long segment of relatively steep fill slopes and somewhat constrained right-of way. With the impervious areas introduced by the widening, our preliminary SWM assessment is as follows:

Initial Stormwater Management Assessment - I-81 Widening, MM 136.6 to MM 141.8	
<b>Site Data</b>	ROW > 250 Ac.; Limits of Disturbance (LOD) = 100 Ac.; 22 Outfalls/Study Points
<b>Imperviousness</b>	In LOD: 20 Ac. Added, 5.5 Ac. Rebuilt; In ROW: 60 Ac. pre-, 80 Ac. post-constr.
<b>SWM Required</b>	Phosphorous Removal: ~51 Lbs/Yr      Runoff Reduction: 70,000-80,000 cf

The RFQ plans identify multiple SWM facilities that are long and narrow with several centered in steep areas or near high points. These areas may require significant grading to be utilized as a BMP. The most effective stormwater facilities are designed with flat sloped bottoms, thus additional grading to achieve the storage capacity and preferred geometric configuration could pose a risk of additional ROW, impacting both cost and schedule. Space for maintenance access will also create expanded footprint needs. Additionally, there are concerns about the limitation of the type of facilities based on the location of karst topography in this region.

In addition, adequacy of SWM pond locations in receiving the required impervious runoff from the existing and proposed roadway must be validated. Proposed drainage patterns and hydrologic analysis will confirm whether BMP locations and size are adequate in meeting the SWM regulations. Provision of 80,000 CF of storage volume to achieve the runoff reduction for energy balance translates to capturing approximately 50 acres of impervious, and 120 acres overall, in 15-20 facilities assuming Extended Detention Tier 2 as the primary BMP, with some Dry Swales (Tier 1 or 2) and Bioretention (Tier 1 or 2) as feasible to provide enhanced treatment. The facilities would also provide the required 51 lbs/yr of water quality/phosphorous removal. Should it be determined that some outfall points are manmade channels, runoff reduction demands will be lessened from that above, in which case nutrient credits may become part of the SWM program.

**Risk Impact:** Stormwater Management requirements could have the following impacts on the project:

- **Design and Approval Timing:** VDOT DB Contract requirements call for a full and complete SWM package for each distinct phase of construction. Thus, even for an advance grading package, SWM analysis is required to afford the VPDES permit approval. At a minimum, a concept for the entire corridor's post-construction stormwater management may be expected with the initial construction package. Even further, nutrient credit purchase may be required prior to allowing any land disturbance, based on language in other VDOT DB RFP's. Thus, an extensive amount of design, coordination with VDOT Drainage for reviews and concurrence, and investigation (e.g. karst) would be required to allow even limited construction to proceed, creating a schedule risk for the start of construction.
- **Need to Acquire ROW or Easements:** Additional ROW or easements may be necessary to add additional SWM ponds or increase the size of the currently proposed ponds. Acquisition of ROW or easements could impact the project cost and schedule.
- **Additional Environmental Impacts:** VDOT is currently finalizing the environmental document for the impacts associated with the RFQ plans. Increased disturbance by SWM facilities could create additional environmental impacts that are not accounted for in the environmental document, requiring additional coordination with the agencies, thereby potentially delaying construction.

**Mitigation Strategy:** Our mitigation strategy includes contingency planning and lessons learned from recent experience in the same watershed on the I-81 Exit 114 project:

- ✓ Immediately upon NTP, develop a SWM program and supporting hydrology analysis. Where feasible provide multiple options for BMP's as contingency. Oversize the facilities by 10-20% where space allows, to account for deviations in proposed drainage areas as the roadway design progresses.
- ✓ For BMPs planned to be installed in mapped karst geology, investigate in compliance with the "Stormwater Design Guidelines for Karst Terrain in Virginia, Appendix 6-B." Both a preliminary karst survey and a subsequent detailed site investigation are necessary for approval. The preliminary survey consists of a desktop data review, followed by a visual site inspection by a qualified individual as described in the Virginia DCR-NHP "Karst Assessment Standard Practice" guidance document.
- ✓ Within 3 months of NTP conduct an Over the Shoulder meeting with VDOT to share concepts, opportunities, constraints, outfall type definitions, and approach. Seek concurrence with approach.
- ✓ Utilize the 1% rule where applicable. This rule may limit the extent of analysis, which will streamline the effort, but will likely have no effect on the SWM requirements.
- ✓ Avoid environmental resources and areas beyond the existing Right-of-Way if possible in the SWM design. If multiple locations for BMP's are available, select the option within the ROW.
- ✓ Investigate the use of enhanced BMP's, such as tier 2 dry swales by adapting the roadside ditches that are already required for drainage conveyance. Dry swales provide both runoff retention and pollutant removal, and their maintenance is no more burdensome than that of tier 2 extended detentions ponds.
- ✓ Should nutrient credits be part of the approach, buy them as soon as practical to ensure availability.
- ✓ Concurrent with the final conditions SWM investigations and design, assign a separate design team to prepare an "Initial Phase" full and complete Stormwater Management/SWPPP package. The content of the package will be based on the intended nature of early phase of construction, for example grading activities or temporary pavement installation. SWM provisions for an early package would likely be demonstrated to be unnecessary, based on pre- and post- hydrologic analysis for the phase. Sediment trapping devices can be shown to detain flows, where needed, within this package.
- ✓ In the CPM, implement phasing of the overall construction in recognition of additional timeframes needed for ROW acquisition, extended karst investigations, and complex design areas. Prepare full and complete SWM packages for each phase as required by VDOT

**Proven Success:** AMT developed an Initial Phase SWM package for the I-81 Exit 114 Project, demonstrating that the clearing, grading, and bridge construction contained in the early packages would meet VDEQ requirements for stormwater management and Erosion and Sediment Control. This allowed construction to begin 7 months after NTP.

**Role of VDOT and Other Agencies:** Salem District Hydraulics will review and approve SWM design and process the VPDES Construction Activity Permit.

### **RISK 3 | Category: Design | Risk Topic: Design Approach for Bridge over Goodwin Rd (Rte 635)**

**Risk Identification:** The RFQ plans depict vertical alignments at bridges B684 and B685 over Goodwin Road which raise I-81 up to 2' (southbound more so than northbound), and lower Goodwin Road as much as 2'-6". Goodwin Road is a 2-lane rural collector with minimal shoulders, and a sharp horizontal curve at the approach to the bridge overpass from the north. Utility poles with multiple overhead lines are adjacent to Goodwin Road, with a crossing in close proximity to the I-81 Southbound bridge. As currently depicted in the RFQ plans, this design (1) would require a total closure and detour of Goodwin Road, likely to last several months; (2) would have a high likelihood of impacting the overhead pole line, and (3) would require additional grading and drainage facility for the lowering of the roadway. Item 1 could create an unacceptable impact to local property owners, and Items 2 and 3 would impact the overall schedule. Because of the anticipated long term road closure, we have deemed this topic a critical risk.

**Risk Impact:** Applying the VDOT conceptual design at Goodwin Road bridge crossing will have impacts.

- **Goodwin Road Detour:** It is unclear from the RFQ whether a total detour for many months will be acceptable along Goodwin Road. Even if allowable by VDOT, the detour could impact public perception of the project and would increase travel times. The detour would not simply be needed for the lowering of the pavement. The maintenance of thru traffic becomes complicated because the existing center bridge clear width is 35 feet, and the existing bridge clearance is substandard at 13'-4". As a result, the widened replacement bridges and vertical alignments from the RFQ have significant challenges related to constructability. A phasing approach to resolve clearance constraints, although not the ideal phasing order, could take the form of the steps below, which, illustrates the full ramification of the RFQ design approach:

Step 1. Reconstruct/lower Goodwin Road on current alignment. It is likely that this must be done first should construction of the new bridge worsen the existing vertical clearance deficiency due partly to the need to widen the center span, to locate the new pier structures beyond the existing piers. Complexities to address include exposing/protecting pier footing and battered piles with the pier proximity to the roadway (6 feet to face of pier) while the bridges remain in service.

Step 2. Demolish median portion of NB bridge then build median portion of new NB bridge. Based on existing pier locations, proposed pier locations shown at 36'-6" on center, space for pile driving and other construction equipment, the continuous flow of even one lane of traffic will be challenging while the piers are being built. Abutments will not be as problematic.

Step 3. (and onward) – Continue phased bridge construction similar to Step 2 for other phases of the bridges, with space constraints that continue to hinder the ability to open the road to traffic.

The iterative nature of the bridge construction to address I-81 traffic above has repercussions on the Goodwin Road traffic below. We believe that opening and closing the roadway at various points in time could create more driver frustration than simply keeping the roadway closed for a stated duration.

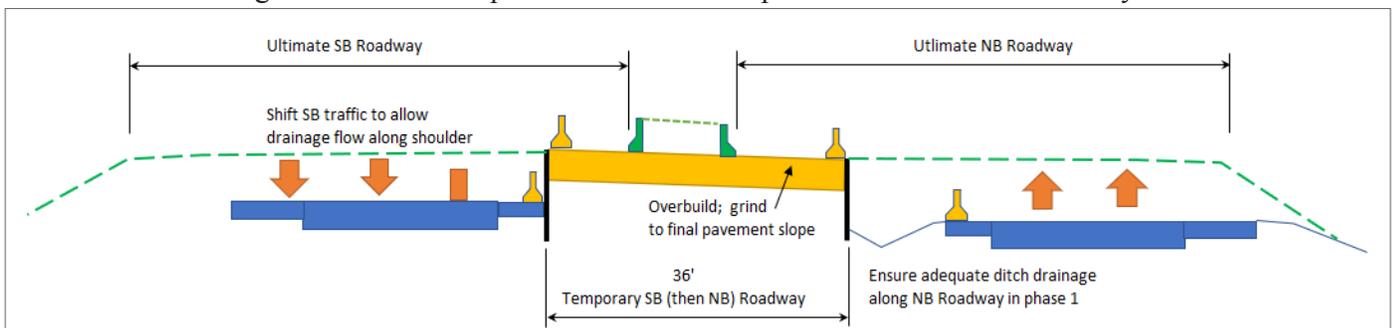
- **Additional SWM and Environmental requirements:** Reconstructing the Goodwin Road pavement introduces a stormwater management burden to the project, that would not occur if the existing roadway were left in place. SWM has already been identified as a critical risk due to the magnitude of the stormwater requirements, and timing of design and approval effort.
- **Utility Impacts:** As a Minor Collector carrying 2300 Average Daily Traffic within the project limits (within City of Salem), VDOT Standard GS-4 requires a 40' for lanes and shoulders, and 6' additional distance each side sloped at 4:1 for drainage ditching and clear zone. Guard rail sections vary from this but require a similar overall width. While the Right-of-Way appears sufficient for lowering the roadway on its existing alignment, the grade change will directly impact 3 utility poles, and others may be impacted for the tie-in. The timing of pole relocation could be a schedule impact.

**Mitigation Strategy:** The crux of our mitigation strategy for this issue is a thorough, multi-disciplinary design approach that considers all potential impacts (schedule, ROW impacts, utilities, public travel, etc.), design adequacy, constructability/practicality, and overall cost.

- ✓ Should a multi-month detour indeed be disallowed for the project, our first priority is to develop an optimized design approach to both I-81 geometry and Goodwin Road that eliminates the need for the full pavement replacement on Goodwin Road, allowing two lanes of traffic other than discrete periods. While this requires additional pavement for I-81, the elimination of the detour will be well received by the community, and at the same time vastly simplify the construction and have side benefits of reducing both SWM burden and utility impacts. An initial design concept we have developed is below.

*Phasing*

- (1) Shift SB into outer shoulder and set barrier in median. Then:
  - a. Build a temporary road alignment\* for SB, with profile raised approximately 4 feet to the ultimate/permanent grade of the paved lanes and the proposed bridge. Install SOE against existing SB median shoulder lined with TCB, allowing sufficient room for drainage “spread” that does not enter travel lane. \*Portions of the temporary roadway will serve as final condition shoulders.
  - b. Install a temporary inlet just before bridge, piped to the existing median outfall at STA 197.
  - c. Along existing NB I-81, there will be enough space for a barrier on the shoulder and a drainage ditch between the shoulder and a second SOE against the temporary SB lanes.
  - d. Demo interior shoulder of SB bridge and build a 36’ wide portion SB bridge (in median).
- (2) Place SB traffic on newly constructed elements in Step 1. Then, rebuild remainder of SB bridge, and raise remainder of SB I-81 roadway profile/widen SB roadway.
- (3) Place SB traffic on step 2 half of bridge, and place NB onto the Step 1 construction. Then, build NB bridge and rebuild NB pavement to raise the profile/widen the NB roadway.



Geometry

The NB alignment shifts 6’ west from the RFQ location. Both NB and SB profiles are raised about 4 feet at the bridge locations, extending the RFQ tie-ins of reconstruction approximately 700 feet.

Bridge

Consider a continuous deck across NB and SB to allow shifting of traffic more easily between phases. Implement a single span bridge, 100’ to 142’ in length, to eliminate piers in proximity to Goodwin Road. Span length selected will optimize girder depth, abutment heights, and interstate profile raising.

- ✓ Along Goodwin Road, place pier protection barrier depending on locations of substructure units with respect to clear zone. Seek design waivers for elements of existing Goodwin Road that do not meet current design standards, supported by a safety review.

While it is understood that the **above description is not a final design decision**, it illustrates the level of integration our team takes in considering design solutions that have inherent safety and constructability implications. It is this approach that will be used by our team on the project whether the solution above or another be carried forward.

**Role of VDOT and Other Agencies:** Mitigation of this risk lies primarily with the DBT. As with all designs, VDOT District will review the design to confirm compliance and will approve design waivers.

# Appendix



# Appendix

## Attachment 3.1.2

### SOQ Checklist



**ATTACHMENT 3.1.2**

**Project: 0081-080-946**

**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.

<b>Statement of Qualifications Component</b>	<b>Form (if any)</b>	<b>RFQ Cross reference</b>	<b>Included within 15-page limit?</b>	<b>SOQ Page Reference</b>
<b>Statement of Qualifications Checklist and Contents</b>	Attachment 3.1.2	Section 3.1.2	no	N/A
<b>Acknowledgement of RFQ, Revision and/or Addenda</b>	Attachment 2.10 (Form C-78-RFQ)	Section 2.10	no	N/A
<b>Letter of Submittal (on Offeror's letterhead)</b>				
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	N/A
Debarment forms	Attachment 3.2.7(a) Attachment 3.2.7(b)	Section 3.2.7	no	N/A
Offeror's VDOT prequalification evidence	NA	Section 3.2.8	no	N/A
Evidence of obtaining bonding	NA	Section 3.2.9	no	N/A

**ATTACHMENT 3.1.2**

**Project: 0081-080-946**

**STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS**

<b>Statement of Qualifications Component</b>	<b>Form (if any)</b>	<b>RFQ Cross reference</b>	<b>Included within 15- page limit?</b>	<b>SOQ Page Reference</b>
<b>SCC and DPOR registration documentation (Appendix)</b>	Attachment 3.2.10	Section 3.2.10	no	N/A
Full size copies of SCC Registration	NA	Section 3.2.10.1	no	N/A
Full size copies of DPOR Registration (Offices)	NA	Section 3.2.10.2	no	N/A
Full size copies of DPOR Registration (Key Personnel)	NA	Section 3.2.10.3	no	N/A
Full size copies of DPOR Registration (Non-APELSCIDLA)	NA	Section 3.2.10.4	no	N/A
<b>DBE statement within Letter of Submittal</b> confirming Offeror is committed to achieving the required DBE goal	NA	Section 3.2.11	yes	1
<b>Offeror's Team Structure</b>				
Identity of and qualifications of Key Personnel	NA	Section 3.3.1	yes	2-4
Key Personnel Resume – DB Project Manager	Attachment 3.3.1	Section 3.3.1.1	no	N/A
Key Personnel Resume – Entrusted Engineer in Charge	Attachment 3.3.1	Section 3.3.1.2	no	N/A
Key Personnel Resume – Quality Assurance Manager	Attachment 3.3.1	Section 3.3.1.3	no	N/A
Key Personnel Resume – Design Manager	Attachment 3.3.1	Section 3.3.1.4	no	N/A
Key Personnel Resume – Construction Manager	Attachment 3.3.1	Section 3.3.1.5	no	N/A
Key Personnel Resume – Incident Management Coordinator	Attachment 3.3.1	Section 3.3.1.6	no	N/A
Organizational chart	NA	Section 3.3.2	yes	7

**ATTACHMENT 3.1.2**

**Project: 0081-080-946**

**STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS**

<b>Statement of Qualifications Component</b>	<b>Form (if any)</b>	<b>RFQ Cross reference</b>	<b>Included within 15-page limit?</b>	<b>SOQ Page Reference</b>
Organizational chart narrative	NA	Section 3.3.2	yes	4-6
<b>Experience of Offeror's Team</b>				8
Lead Contractor Work History Form	Attachment 3.4.1(a)	Section 3.4	no	N/A
Lead Designer Work History Form	Attachment 3.4.1(b)	Section 3.4	no	N/A
<b>Project Risk</b>				
Identify and discuss three critical risks for the Project	NA	Section 3.5.1	yes	9-15

# Appendix

## Attachment 2.10 (Form C-78-RFQ) Acknowledgement of RFQ, Revision and/or Addenda



**ATTACHMENT 2.10**

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION**

RFQ NO. C00116203DB108  
PROJECT NO.: 0081-080-946

**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 – May 29, 2020  
(Date)
2. Cover letter of RFQ - June 18, 2020  
(Date)
3. Cover letter of \_\_\_\_\_  
(Date)



SIGNATURE

July 7, 2020

DATE

Domingo Rodriguez Torregrosa

PRINTED NAME

Authorized Representative

TITLE

**Appendix**  
**Attachment 3.2.6**  
**Affiliated/Subsidiary Companies**



**ATTACHMENT 3.2.6**

**State Project No. 0081-080-946**

**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"/> <b>The Offeror does not have any affiliated or subsidiary companies.</b>
<input checked="" type="checkbox"/> <b>Affiliated and/ or subsidiary companies of the Offeror are listed below.</b>

<b>Relationship with Offeror (Affiliate or Subsidiary)</b>	<b>Full Legal Name</b>	<b>Address</b>
<b>Affiliate</b>	<b>52 Block Builders, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Amey-Webber, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Subsidiary</b>	<b>Bluebonnet Contractors, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Cadagua US, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Subsidiary</b>	<b>California Rail Builders, LLC</b>	<b>400 N. F Street Wasco, CA 93280</b>
<b>Subsidiary</b>	<b>Central Texas Highway Constructors, LLC</b>	<b>9600 Great Hills Trail Suite 200E Austin, TX 78759</b>

**ATTACHMENT 3.2.6**

**State Project No. 0081-080-946**

**Affiliated and Subsidiary Companies of the Offeror**

<b>Affiliate</b>	<b>Central Texas Mobility Constructors, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>DBW Construction, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Dowley Pepper-Lawson LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Subsidiary</b>	<b>FAM Construction, LLC</b>	<b>3877 Fairfax Ridge Road Suite 300C Fairfax, VA 22030</b>
<b>Subsidiary</b>	<b>Ferrovial Agroman 56, LLC</b>	<b>9600 Great Hills Trail Suite 200E Austin, TX 78759</b>
<b>Subsidiary</b>	<b>Ferrovial Agroman Indiana, LLC</b>	<b>9600 Great Hills Trail Suite 200E Austin, TX 78759</b>
<b>Subsidiary</b>	<b>Ferrovial Construction East, LLC</b>	<b>One Securities Centre 3490 Piedmont Road Suite 350 Atlanta, GA 30305</b>

**ATTACHMENT 3.2.6**

**State Project No. 0081-080-946**

**Affiliated and Subsidiary Companies of the Offeror**

<b>Subsidiary</b>	<b>Ferrovial Construction Texas, LLC</b>	<b>9600 Great Hills Trail Suite 200E Austin, TX 78759</b>
<b>Affiliate</b>	<b>Ferrovial Construction US Holding Corp.</b>	<b>9600 Great Hills Trail Suite 200E Austin, TX 78759</b>
<b>Subsidiary</b>	<b>Ferrovial Construction West, LLC</b>	<b>222 N Pacific Coast Highway Suite 1925 El Segundo, CA 90245</b>
<b>Subsidiary</b>	<b>Grand Parkway Infrastructure, LLC</b>	<b>8811 FM 1960 Bypass Road West Suite 400 Humble, TX 77338</b>
<b>Subsidiary</b>	<b>Great Hall Builders, LLC</b>	<b>222 N Pacific Coast Highway Suite 1925 El Segundo, CA 90245</b>
<b>Subsidiary</b>	<b>Indiana Toll-Roads Contractors, LLC</b>	<b>9600 Great Hills Trail Suite 200E Austin, TX 78759</b>
<b>Subsidiary</b>	<b>North Perimeter Contractors, LLC</b>	<b>270 Carpenter Drive Suite 700 Atlanta, GA 30328</b>
<b>Subsidiary</b>	<b>North Tarrant Infrastructure, LLC</b>	<b>13601 North Freeway, Suite 200 Fort Worth, TX 76177</b>

## **ATTACHMENT 3.2.6**

### **State Project No. 0081-080-946**

#### **Affiliated and Subsidiary Companies of the Offeror**

<b>Affiliate</b>	<b>Pepper Lawson Horizon International Group LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Pepper Lawson Renda LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>PLW Cadagua Partners</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>PLW Waterworks, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Southern Crushed Concrete, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Subsidiary</b>	<b>Sugar Creek Construction, LLC</b>	<b>8015 W WT Harris Blvd Charlotte, NC 28216</b>
<b>Subsidiary</b>	<b>Trinity Infrastructure, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Subsidiary</b>	<b>US 460 Mobility Partners, LLC</b>	<b>One Securities Centre 3490 Piedmont Road Suite 350 Atlanta, GA 30305</b>

**ATTACHMENT 3.2.6**

**State Project No. 0081-080-946**

**Affiliated and Subsidiary Companies of the Offeror**

<b>Affiliate</b>	<b>Webber Barrier Services, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Webber-Cadagua Partners</b>	<b>9600 Great Hills Trail Suite 200E Austin, TX 78759</b>
<b>Affiliate</b>	<b>Webber Commercial Construction, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Webber Equipment &amp; Materials, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Webber Holdings, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Webber Management Group, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>
<b>Affiliate</b>	<b>Webber, LLC</b>	<b>1725 Hughes Landing Boulevard Suite 1200 The Woodlands, TX 77380</b>

# Appendix

## Attachment 3.2.7 Debarment Forms



**ATTACHMENT 3.2.7(a)**

**CERTIFICATION REGARDING DEBARMENT  
PRIMARY COVERED TRANSACTIONS**

**Project No.: 0081-080-946**

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

July 7, 2020  
\_\_\_\_\_  
Date

Authorized Representative  
\_\_\_\_\_  
Title

Ferrovial Construction US Corp. f/k/a Ferrovial Agroman US Corp.  
Name of Firm

**ATTACHMENT 3.2.7(b)**

**CERTIFICATION REGARDING DEBARMENT  
LOWER TIER COVERED TRANSACTIONS**

**Project No.: 0081-080-946**

- 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	07/08/2020 _____ Date	Principal _____ Title
---	-----------------------------	-----------------------------

A. Morton Thomas and Associates, Inc.  
\_\_\_\_\_  
Name of Firm

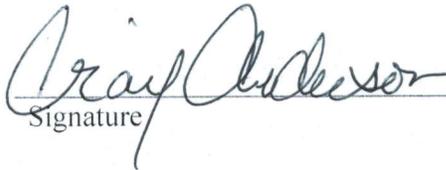
ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT  
LOWER TIER COVERED TRANSACTIONS

Project No.: 0081-080-946

- 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.

	6/22/20	President
Signature	Date	Title

ERM & Associates, LLC  
Name of Firm

**ATTACHMENT 3.2.7(b)**

**CERTIFICATION REGARDING DEBARMENT**  
**LOWER TIER COVERED TRANSACTIONS**

**Project No.: 0081-080-946**

- 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

06/23/2020  
Date

Office Manager  
Title

GeoConcepts Engineering, Inc., A Terracon Company  
Name of Firm

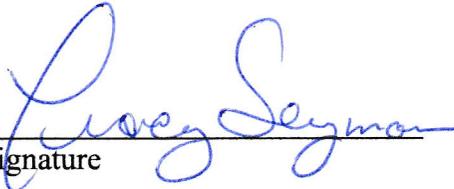
ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT  
LOWER TIER COVERED TRANSACTIONS

**Project No.: 0081-080-946**

- 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.

	6/22/2020	President and CEO
Signature	Date	Title

Straughan Environmental, Inc.

---

Name of Firm

# Appendix

## 3.2.8 Offeror's VDOT Prequalification Evidence



---

**From:** Caples, Harold [<mailto:harold.caples@vdot.virginia.gov>]  
**Sent:** Thursday, July 02, 2020 2:40 PM  
**To:** Pascual Martinez, Francisco Javier <[jpascual@ferrovial.us](mailto:jpascual@ferrovial.us)>  
**Cc:** rr VDOT-Prequalification <[prequalification@vdot.virginia.gov](mailto:prequalification@vdot.virginia.gov)>  
**Subject:** Re: Ferrovial Agroman US Corp, Waiver Request Letter-I-81 Widening from MM 136.6 to MM 141.8 Design Build Project.

**CAUTION: External email. Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Francisco,

I have reviewed the qualifications of Ferrovial Agroman US Corp and I find them acceptable for the purpose of bidding the referenced project . Therefore, I hereby waive the bidding restriction on your firm for this project.

This waiver is predicated on your compliance with the Rules Governing Prequalification. The rules state that you are limited to no more than three projects at any given time, each of these contracts will be limited to a maximum contract value of \$2 million not exceeding a total value of \$6 million (aggregate). This waiver allows you to bid beyond that dollar limit, but should you be successful on this project, you may be ineligible for any further VDOT work as a prime contractor until you receive a satisfactory VDOT performance evaluation.

VDOT looks forward to your submission.

*Harold R. Caples, P.E., VCCO*

*Assistant State Construction Engineer*

*Virginia Department of Transportation*

*1401 East Broad Street*

*Richmond, Virginia 23219*

*(804) 786-1630 - Office*

*(804) 371-7896 - Fax*

On Thu, Jul 2, 2020 at 10:02 AM Pascual Martinez, Francisco Javier <[jpascual@ferrovial.us](mailto:jpascual@ferrovial.us)> wrote:

Good morning Mr. Caples,

My apologies for the inconvenience. We had realized that the reference letter we submitted yesterday contains a typo on the date. We did request a new letter to TxDOT with the correct date.

Attached you can find the new letter with the correct date on it.

Again, sorry for the inconvenience.



**Department's List of Prequalified Vendors  
Includes All Qualified Levels As Of 7/6/2020**

- F -

**Vendor ID:** F1029

**Vendor Name:** FERROVIAL AGROMAN US CORP.

**Prequal Level:** Prequalified (Probationary)

**Prequal Exp:** 05/31/2021

**-- PREQ Address --**

9600 GREAT HILL TRAIL STE. 200E

AUSTIN, TX 78759

Phone: (512)637-8588

Fax: (512)637-1499

**Work Classes (Listed But Not Limited To)**

003 - MAJOR STRUCTURES

004 - ASPHALT CONCRETE PAVING

032 - RAILROAD CONSTRUCTION / REPAIR

078 - TEMPORARY TRAFFIC MANAGEMENT

179 - H.C.C. PAVEMENT

**Bus. Contact:** PASCUAL, JAVIER

**Email:** JPASCUAL@FERROVIAL.US

**-- DBE Information --**

**DBE Type:** N/A

**DBE Contact:** N/A

# Appendix

## 3.2.9 Bonding Letter



July 8, 2020

Commonwealth of Virginia  
Department of Transportation (VDOT)  
1401 E. Broad Street  
Richmond, Virginia 23219  
Attention: Bryan Stevenson, P.E. DBIA (APD Division)

**Subject: Ferrovial Construction US Corp.  
I-81 Widening MM 136.6 to MM 141.8  
Request for Qualifications ("RFQ")**

The undersigned surety companies (the "Co-Sureties") are pleased to execute surety bonds on behalf of Contractor Ferrovial Construction US Corp. All capitalized but undefined terms found herein shall have the meanings set forth in the RFQ.

The A.M. Best's Financial Strength Rating and Financial Size Category by A.M. Best Co. of the Co-Sureties are:

Federal Insurance Company	A++ XV
Berkshire Hathaway Specialty Insurance Company	A++ XV
The Continental Insurance Company	A XV
Liberty Mutual Insurance Company	A XV
Zurich American Insurance Company	A+ XV

As the Co-Sureties for the above named Contractor with the A.M. Best Financial Strength Rating and Financial Size Category stated above, Contractor is capable of obtaining 100% Performance Bond and 100% Labor and Materials Payment Bond in the amount of the anticipated cost of construction identified in Section 2.1 of the RFQ, and said bonds will cover the Project and any warranty periods as provided for in the Contract Documents on behalf of the Contractor, in the event that such firm be the successful bidder and enter into a contract for this Project.

Sincerely,

Federal Insurance Company  
Berkshire Hathaway Specialty Insurance Company  
The Continental Insurance Company  
Liberty Mutual Insurance Company  
Zurich American Insurance Company

By:   
Laura E. Sudduth, Attorney-in-Fact



Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company
Westchester Fire Insurance Company | ACE American Insurance Company

Know All by These Presents, that FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY corporations of the Commonwealth of Pennsylvania, do each hereby constitute and appoint Orlando Aguirre, Mario Arzamendi Sr., Mary Ann Garcia, Tannis Mattson, Barbie Norton, Sandra Parker, Laura E. Sudduth, Amanda Turman-Avina and Misty Witt of Houston, Texas -----

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY have each executed and attested these presents and affixed their corporate seals on this 27th day of April, 2020.

Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

Stephen M. Haney

Stephen M. Haney, Vice President



STATE OF NEW JERSEY
County of Hunterdon

SS.

On this 27th day of April, 2020, before me, a Notary Public of New Jersey, personally came Dawn M. Chloros and Stephen M. Haney, to me known to be Assistant Secretary and Vice President, respectively, of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros and Stephen M. Haney, being by me duly sworn, severally and each for herself and himself did depose and say that they are Assistant Secretary and Vice President, respectively, of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY and know the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that their signatures as such officers were duly affixed and subscribed by like authority.

Notarial Seal



KATHERINE J. ADELAAR
NOTARY PUBLIC OF NEW JERSEY
No. 2316685
Commission Expires July 16, 2024

[Signature]
Notary Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016; WESTCHESTER FIRE INSURANCE COMPANY on December 11, 2006; and ACE AMERICAN INSURANCE COMPANY on March 20, 2009:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
(2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.
(3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY (the "Companies") do hereby certify that

- (i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
(ii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this 8th of July, 2020



Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:
Telephone (908) 903-3493 Fax (908) 903-3656 e-mail: surety@chubb.com

**Power Of Attorney**

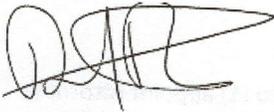
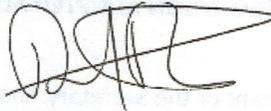
**BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY  
NATIONAL INDEMNITY COMPANY / NATIONAL LIABILITY & FIRE INSURANCE COMPANY**

Know all men by these presents, that BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, a corporation existing under and by virtue of the laws of the State of Nebraska and having an office at One Lincoln Street, 23rd Floor, Boston, Massachusetts 02111, NATIONAL INDEMNITY COMPANY, a corporation existing under and by virtue of the laws of the State of Nebraska and having an office at 3024 Harney Street, Omaha, Nebraska 68131 and NATIONAL LIABILITY & FIRE INSURANCE COMPANY, a corporation existing under and by virtue of the laws of the State of Connecticut and having an office at 100 First Stamford Place, Stamford, Connecticut 06902 (hereinafter collectively the "Companies"), pursuant to and by the authority granted as set forth herein, do hereby name, constitute and appoint: Tannis Mattson, Amanda Turman-Avina, Mary Ann Garcia, Sandra Parker, Laura Sudduth, Gina A. Rodriguez, 2929 Allen Parkway, Suite 2500 of the city of Houston, State of Texas, their true and lawful attorney(s)-in-fact to make, execute, seal, acknowledge, and deliver, for and on their behalf as surety and as their act and deed, any and all undertakings, bonds, or other such writings obligatory in the nature thereof, in pursuance of these presents, the execution of which shall be as binding upon the Companies as if it has been duly signed and executed by their regularly elected officers in their own proper persons. **This authority for the Attorney-in-Fact shall be limited to the execution of the attached bond(s) or other such writings obligatory in the nature thereof.**

In witness whereof, this Power of Attorney has been subscribed by an authorized officer of the Companies, and the corporate seals of the Companies have been affixed hereto this date of December 20, 2018. This Power of Attorney is made and executed pursuant to and by authority of the Bylaws, Resolutions of the Board of Directors, and other Authorizations of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY and NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, which are in full force and effect, each reading as appears on the back page of this Power of Attorney, respectively. The following signature by an authorized officer of the Company may be a facsimile, which shall be deemed the equivalent of and constitute the written signature of such officer of the Company for all purposes regarding this Power of Attorney, including satisfaction of any signature requirements on any and all undertakings, bonds, or other such writings obligatory in the nature thereof, to which this Power of Attorney applies.

**BERKSHIRE HATHAWAY SPECIALTY  
INSURANCE COMPANY,**

**NATIONAL INDEMNITY COMPANY,  
NATIONAL LIABILITY & FIRE INSURANCE COMPANY,**

By: \_\_\_\_\_  
David Fields, Executive Vice President

By: \_\_\_\_\_  
David Fields, Vice President

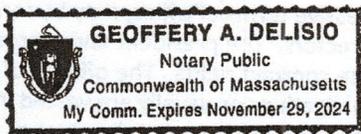
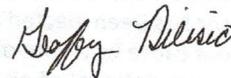


**NOTARY**

State of Massachusetts, County of Suffolk, ss:

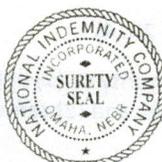
On this 20th day of December, 2018, before me appeared David Fields, Executive Vice President of BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY and Vice President of NATIONAL INDEMNITY COMPANY and NATIONAL LIABILITY & FIRE INSURANCE COMPANY, who being duly sworn, says that his capacity is as designated above for such Companies; that he knows the corporate seals of the Companies; that the seals affixed to the foregoing instrument are such corporate seals; that they were affixed by order of the board of directors or other governing body of said Companies pursuant to its Bylaws, Resolutions and other Authorizations, and that he signed said instrument in that capacity of said Companies.

[Notary Seal]

\_\_\_\_\_  
Notary Public

I, Ralph Tortorella, the undersigned, Officer of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY and NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies which is in full force and effect and has not been revoked. IN TESTIMONY WHEREOF, see herunto affixed the seals of said Companies this July 8, 2020.




\_\_\_\_\_  
Officer

To verify the authenticity of this Power of Attorney please contact us at: BHSI Surety Department, Berkshire Hathaway Specialty Insurance Company, One Lincoln Street, 23rd Floor Boston, MA 02111 | (770) 625-2516 or by email at [Jennifer.Porter@bhspecialty.com](mailto:Jennifer.Porter@bhspecialty.com) THIS POWER OF ATTORNEY IS VOID IF ALTERED

To notify us of a claim please contact us on our 24-hour toll free number at (855) 453-9675, via email at [claimsnotice@bhspecialty.com](mailto:claimsnotice@bhspecialty.com), via fax to (617) 507-8259, or via mail.



**BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY (BYLAWS)**

ARTICLE V.

CORPORATE ACTIONS

....

EXECUTION OF DOCUMENTS:

....

Section 6.(b) The President, any Vice President or the Secretary, shall have the power and authority:

- (1) To appoint Attorneys-in-fact, and to authorize them to execute on behalf of the Company bonds and other undertakings, and
- (2) To remove at any time any such Attorney-in-fact and revoke the authority given him.

**NATIONAL INDEMNITY COMPANY (BY-LAWS)**

Section 4. Officers, Agents, and Employees:

A. The officers shall be a President, one or more Vice Presidents, a Secretary, one or more Assistant Secretaries, a Treasurer, and one or more Assistant Treasurers none of whom shall be required to be shareholders or Directors and each of whom shall be elected annually by the Board of Directors at each annual meeting to serve a term of office of one year or until a successor has been elected and qualified, may serve successive terms of office, may be removed from office at any time for or without cause by a vote of a majority of the Board of Directors, and shall have such powers and rights and be charged with such duties and obligations as usually are vested in and pertain to such office or as may be directed from time to time by the Board of Directors; and the Board of Directors or the officers may from time to time appoint, discharge, engage, or remove such agents and employees as may be appropriate, convenient, or necessary to the affairs and business of the corporation.

**NATIONAL INDEMNITY COMPANY (BOARD RESOLUTION ADOPTED AUGUST 6, 2014)**

RESOLVED, That the President, any Vice President or the Secretary, shall have the power and authority to (1) appoint Attorneys-in-fact, and to authorize them to execute on behalf of this Company bonds and other undertakings and (2) remove at any time any such Attorney-in-fact and revoke the authority given.

**NATIONAL LIABILITY & FIRE INSURANCE COMPANY (BY-LAWS)**

ARTICLE IV

Officers

Section 1. Officers, Agents and Employees:

A. The officers shall be a president, one or more vice presidents, one or more assistant vice presidents, a secretary, one or more assistant secretaries, a treasurer, and one or more assistant treasurers, none of whom shall be required to be shareholders or directors, and each of whom shall be elected annually by the board of directors at each annual meeting to serve a term of office of one year or until a successor has been elected and qualified, may serve successive terms of office, may be removed from office at any time for or without cause by a vote of a majority of the board of directors. The president and secretary shall be different individuals. Election or appointment of an officer or agent shall not create contract rights. The officers of the Corporation shall have such powers and rights and be charged with such duties and obligations as usually are vested in and pertain to such office or as may be directed from time to time by the board of directors; and the board of directors or the officers may from time to time appoint, discharge, engage, or remove such agents and employees as may be appropriate, convenient, or necessary to the affairs and business of the Corporation.

**NATIONAL LIABILITY & FIRE INSURANCE COMPANY (BOARD RESOLUTION ADOPTED AUGUST 6, 2014)**

RESOLVED, That the President, any Vice President or the Secretary, shall have the power and authority to (1) appoint Attorneys-in-fact, and to authorize them to execute on behalf of this Company bonds and other undertakings and (2) remove at any time any such Attorney-in-fact and revoke the authority given.

**POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT**

Know All Men By These Presents, That The Continental Insurance Company, a Pennsylvania insurance company, is a duly organized and existing insurance company having its principal office in the City of Chicago, and State of Illinois, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

**Terri Morrison, Sandra Renea Parker, Tannis Mattson, Gina Rodriguez, Mary Ann Garcia, Mario Arzamendi Sr, Orlando Aguirre, Laura E Sudduth, Gloria Mouton, Marissa Shepherd, Individually**

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

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

In Witness Whereof, The Continental Insurance Company has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 30th day of January, 2018.

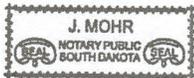


The Continental Insurance Company

*Paul T. Bruflat*  
Paul T. Bruflat Vice President

State of South Dakota, County of Minnehaha, ss:

On this 30th day of January, 2018, before me personally came Paul T. Bruflat to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of The Continental Insurance Company, a Pennsylvania insurance company, described in and which executed the above instrument; that he knows the seal of said insurance company; 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 insurance company and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance company.



My Commission Expires June 23, 2021

*J. Mohr*  
J. Mohr Notary Public

**CERTIFICATE**

I, D. Johnson, Assistant Secretary of The Continental Insurance Company, a Pennsylvania insurance company, do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance company printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance company this 8th day of June, 2020.



The Continental Insurance Company

*D. Johnson*  
D. Johnson Assistant Secretary

Form F6850-4/2012

## Authorizing Resolutions

ADOPTED BY THE BOARD OF DIRECTORS OF THE CONTINENTAL INSURANCE COMPANY:

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the Board of Directors of the Company at a meeting held on May 10, 1995.

“RESOLVED: That any Group Vice President may authorize an officer to sign specific documents, agreements and instruments on behalf of the Company provided that the name of such authorized officer and a description of the documents, agreements or instruments that such officer may sign will be provided in writing by the Group Vice President to the Secretary of the Company prior to such execution becoming effective.”

This Power of Attorney is signed by Paul T. Bruflat, Vice President, who has been authorized pursuant to the above resolution to execution power of attorneys on behalf of The Continental Insurance Company.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company by unanimous written consent dated the 25<sup>th</sup> day of April, 2012:

“Whereas, the bylaws of the Company or specific resolution of the Board of Directors has authorized various officers (the “Authorized Officers”) to execute various policies, bonds, undertakings and other obligatory instruments of like nature; and

Whereas, from time to time, the signature of the Authorized Officers in addition to being provided in original, hard copy format, may be provided via facsimile or otherwise in an electronic format (collectively, “Electronic Signatures”); Now therefore be it resolved: that the Electronic Signature of any Authorized Officer shall be valid and binding on the Company.”



This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8203387 - 022029

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Orlando Aguirre, Mario Arzamendi, Mary Ann Garcia, Tannis Mattson, Barbara Norton, Sandra Parker, Laura E. Sudduth, Amanda Turman-Avina, Misty Witt

all of the city of Houston state of TX each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 27th day of March, 2020.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: David M. Carey

David M. Carey, Assistant Secretary

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 27th day of March, 2020 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: Teresa Pastella

Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 8th day of July, 2020.



By: Renee C. Llewellyn

Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by **Robert D. Murray, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Sandra PARKER, Mary Ann GARCIA, Gina A. RODRIGUEZ, Tannis MATTSON, Mario ARZAMENDI, Laura E. SUDDUTH, Amanda TURMAN-AVINA, Misty M WITT and Barbie NORTON, all of Houston, Texas**, EACH, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: any and all bonds and undertakings, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland, and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland, in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 30th day of March, A.D. 2020.



**ATTEST:  
ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**

By: *Robert D. Murray*  
Vice President

By: *Dawn E. Brown*  
Secretary

**State of Maryland  
County of Baltimore**

On this 30th day of March, A.D. 2020, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Robert D. Murray, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.



Constance A. Dunn, Notary Public  
My Commission Expires: July 9, 2023

**EXTRACT FROM BY-LAWS OF THE COMPANIES**

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

**CERTIFICATE**

I, the undersigned, Secretary of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 8th day of July, 2020.



By: Brian M. Hodges  
Vice President

**TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:**

Zurich Surety Claims  
1299 Zurich Way  
Schaumburg, IL 60196-1056  
[www.reportsfclaims@zurichna.com](http://www.reportsfclaims@zurichna.com)  
800-626-4577



# Appendix

## Attachment 3.2.10

### SCC and DPOR Registration Documentation



**ATTACHMENT 3.2.10**

**State Project No. 0081-080-946**

**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.

<b>SCC &amp; DPOR INFORMATION FOR BUSINESSES (RFQ Sections 3.2.10.1 and 3.2.10.2)</b>							
<b>Business Name</b>	<b>SCC Information (3.2.10.1)</b>			<b>DPOR Information (3.2.10.2)</b>			
	<b>SCC Number</b>	<b>SCC Type of Corporation</b>	<b>SCC Status</b>	<b>DPOR Registered Address</b>	<b>DPOR Registration Type</b>	<b>DPOR Registration Number</b>	<b>DPOR Expiration Date</b>
Ferrovial Construction US Corp. f/k/a Ferrovial Agroman US Corp.	F2007203	Stock Corporation	Active	N/A	N/A	N/A	N/A
A. Morton Thomas and Associates, Inc.	F049431-2	Stock Corporation	Active	14555 Avion Parkway, Suite 350 Chantilly, VA 20151	ENG, LS	0411000586	02-28-2022
ERM & Associates, LLC	46-1511760	LLC	Active	N/A	N/A	N/A	N/A
GeoConcepts Engineering, Inc.	0516767-1	Stock Corporation	Active, Good Standing	19955 Highland Vista Drive, Suite 170, Ashburn, VA 20147	ENG	0407004404	12-31-2021
Straughan Environmental, Inc.	F1295916	Stock Corporation	Active	10245 Old Columbia Road, Columbia, MD 21046	Professional Engineering	407005614	12/31/2021

**ATTACHMENT 3.2.10**  
**State Project No. 0081-080-946**  
**SCC and DPOR Information**

<b>DPOR INFORMATION FOR INDIVIDUALS (RFQ Sections 3.2.10.3 and 3.2.10.4)</b>						
<b>Business Name</b>	<b>Individual's Name</b>	<b>Office Location Where Professional Services will be Provided (City/State)</b>	<b>Individual's DPOR Address</b>	<b>DPOR Type</b>	<b>DPOR Registration Number</b>	<b>DPOR Expiration Date</b>
A. Morton Thomas and Associates, Inc.	Laura Mehiel	Chantilly, VA	901 Dulaney Valley Road, Suite 710 Towson, MD 21204	ENG	0402 034707	04-30-2021
A. Morton Thomas and Associates, Inc.	Joshua Lester	Chantilly, VA	PO Box 99 Belspring, VA 24058	ENG	0402 046404	01-31-2022
Ferrovial Construction US Corp f/k/a Ferrovial Agroman US Corp.	Pablo Lopez Barro	Fairfax, VA	Oakton, VA 22124	ENG	0402 057338	03-31-2021

# Commonwealth of Virginia



## STATE CORPORATION COMMISSION

*Richmond, September 29, 2015*

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

**Ferrovial Agroman US Corp.**

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



*State Corporation Commission*

*Attest:*

*Joel H. Peck*  
Clerk of the Commission

# Commonwealth of Virginia



## State Corporation Commission

### CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That Ferrovial Construction US Corp., a corporation incorporated under the laws of DELAWARE, is authorized to transact business in the Commonwealth of Virginia;

That the corporation obtained a certificate of authority to transact business in Virginia from the Commission on September 29, 2015; and

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

Nothing more is hereby certified.



Signed and Sealed at Richmond on this Date:

July 8, 2020

A handwritten signature in black ink that reads "Joel H. Peck".

---

Joel H. Peck, Clerk of the Commission

**Stock Corporation - Application for an Amended Certificate of Authority**

**Entity Information**

Entity Name: Ferrovial Agroman US Corp. Entity Type: Stock Corporation  
Entity ID: F2007203 VA Qualification Date: 09/29/2015  
Status: Active

**Business Type**

Industry Code: 0 - General

**Duration**

Perpetual(forever)

**Authorized Shares**

Total Shares: 100

**Jurisdiction of Formation and Date of Formation**

Jurisdiction (Country): United States  
Jurisdiction (State): Delaware  
Date of Formation: 04/12/2005

**Name**

Name in jurisdiction of formation, with no additions or changes.

**Amendment Type**

Amendment Type: Name Change

**Name Change**

Entity Name: Ferrovial Construction US Corp.

**Signature Information**

Date Signed: 07/07/2020

Printed Name	Signature	Title
Catherine David	Catherine David	Secretary

# Delaware

Page 1

The First State

*I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "FERROVIAL AGROMAN US CORP.", CHANGING ITS NAME FROM "FERROVIAL AGROMAN US CORP." TO "FERROVIAL CONSTRUCTION US CORP.", FILED IN THIS OFFICE ON THE TWELFTH DAY OF JUNE, A.D. 2020, AT 5:55 O`CLOCK P.M.*



  
Jeffrey W. Bullock, Secretary of State

3953824 8100  
SR# 20205674806

Authentication: 203121601  
Date: 06-16-20

You may verify this certificate online at [corp.delaware.gov/authver.shtml](http://corp.delaware.gov/authver.shtml)

**CERTIFICATE OF AMENDMENT OF  
CERTIFICATE OF INCORPORATION**

The corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware does hereby certify:

**FIRST:** That by written consent of the Board of Directors of

**Ferrovial Agroman US Corp.**

**RESOLVED,** that the Certificate of Incorporation of this corporation be amended by changing the Article thereof numbered "1" so that, as amended, said Article shall be and read as follows:

**The name of the corporation is Ferrovia Construction US Corp.**

**SECOND:** That concurrently with the resolution of its Board of Directors, a written consent of the Sole Stockholder of said corporation was in favor of the amendment.

**THIRD:** That said amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware and the Bylaws of the corporation.

**IN WITNESS WHEREOF,** said corporation has caused this certificate to be signed this 12th day of June, 2020.

By: Catherine David  
Authorized Officer

Title: Secretary

Name: Catherine David

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION**

AT RICHMOND, JULY 7, 2020

The State Corporation Commission has found the accompanying application for a amended certificate of authority to transact business in Virginia submitted on behalf of

Ferrovial Construction US Corp.

(formerly known as FERROVIAL AGROMAN US CORP.)

to comply with the requirements of law, and confirms payment of all required fees. Therefore, it is ORDERED that this

**AMENDED CERTIFICATE OF AUTHORITY TO TRANSACT BUSINESS  
IN VIRGINIA**

be issued and admitted to record with the application in the Office of the Clerk of the Commission, effective July 7, 2020.

The corporation is authorized to transact business in Virginia, subject to all Virginia laws applicable to the corporation and its business.

STATE CORPORATION COMMISSION

By 

Mark C. Christie  
Commissioner

# Commonwealth of Virginia



## State Corporation Commission

### CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That A. MORTON THOMAS & ASSOCIATES, INC., a corporation incorporated under the laws of MARYLAND, is authorized to transact business in the Commonwealth of Virginia;

That the corporation obtained a certificate of authority to transact business in Virginia from the Commission on November 26, 1997; and

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

Nothing more is hereby certified.



Signed and Sealed at Richmond on this Date:

May 22, 2020

*Joel H. Peck*

Joel H. Peck, Clerk of the Commission

# State Corporation Commission Clerk's Information System

## Entity Information

### Entity Information

Entity Name: A. MORTON THOMAS & ASSOCIATES, INC.  
Entity Type: Stock Corporation  
Formation Date: N/A  
VA Qualification Date: 11/26/1997  
Industry Code: 0 - General  
Jurisdiction: MD  
Registration Fee Due Date: Not Required

Entity ID: F0494312  
Entity Status: **Active**  
Reason for Status: Active and In Good Standing  
Status Date: 12/15/2009  
Period of Duration: Perpetual  
Annual Report Due Date: N/A  
Charter Fee: \$2000.00

## Registered Agent Information

RA Type: Entity  
RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED TO TRANSACT BUSINESS IN VIRGINIA  
Name: COGENCY GLOBAL INC.

Locality: CHESTERFIELD COUNTY

Registered Office Address: 250 Browns Hill Ct, Midlothian, VA, 23114 - 9510, USA

## Principal Office Address

Address: 800 KING FARM BOULEVARD 4TH FL, ROCKVILLE, MD, 20850 - 0000, USA

## Principal Information

Title	Director	Name	Address	Last Updated
President	Yes	MICHAEL J WERCINSKI	2706 LUBAR DR, BROOKVILLE, MD, 20833 - 0000, USA	10/16/2018
VP/S	Yes	JERRY C KAVADIAS	12825 TALLEY LANE, DARNESTOWN, MD, 20878 - 0000, USA	10/16/2018
Vice President	Yes	ELIZABETH A TUOMEY	PO BOX 32, BACOVA, VA, 24412 - 0000, USA	10/16/2018
Treasurer	Yes	RICHARD KHALIL	17632 ZULLO DRIVE, POOLESVILLE, MD, 20837 - 0000, USA	10/16/2018

## Current Shares

Total Shares: 52000

# Commonwealth of Virginia



## State Corporation Commission

### CERTIFICATE OF FACT

I Certify the Following from the Records of the Commission:

That ERM & ASSOCIATES, LLC is duly organized as a limited liability company under the law of the Commonwealth of Virginia;

That the limited liability company was formed on December 3, 2012; and

That the limited liability company is in existence in the Commonwealth of Virginia as of the date set forth below.

Nothing more is hereby certified.



Signed and Sealed at Richmond on this Date:

May 21, 2020

A handwritten signature in black ink that reads "Joel H. Peck".

---

Joel H. Peck, Clerk of the Commission

# State Corporation Commission Clerk's Information System

## Entity Information

### Entity Information

Entity Name: ERM & ASSOCIATES, LLC	Entity ID: S4315836
Entity Type: Limited Liability Company	Entity Status: <b>Active</b>
Formation Date: 12/03/2012	Reason for Status: Active
VA Qualification Date: 12/03/2012	Status Date: 12/03/2012
Industry Code: 0 - General	Period of Duration: Perpetual
Jurisdiction: VA	Annual Report Due Date: N/A
Registration Fee Due Date: Not Required	Charter Fee: N/A

### Registered Agent Information

RA Type: Individual	Locality: FAUQUIER COUNTY
RA Qualification: Member or Manager of the Limited Liability Company	
Name: CRAIG J. ANDERSON	Registered Office Address: 49 Culpeper St, WARRENTON, VA, 20186 - 0000, USA

### Principal Office Address

Address: 49 Culpeper St, Warrenton, VA, 20186 - 3320, USA

### Principal Information

Management Structure: N/A

# Commonwealth OF Virginia



## State Corporation Commission

### *CERTIFICATE OF GOOD STANDING*

*I Certify the Following from the Records of the Commission:*

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

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

That the period of its duration is perpetual; and

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

Nothing more is hereby certified.



*Signed and Sealed at Richmond on this Date:  
April 11, 2018*

*Joel H. Peck*  
\_\_\_\_\_  
*Joel H. Peck, Clerk of the Commission*

# State Corporation Commission Clerk's Information System

## Entity Information

### Entity Information

Entity Name: GeoConcepts Engineering, Inc.	Entity ID: 05167671
Entity Type: Stock Corporation	Entity Status: <b>Active</b>
Formation Date: 02/25/1999	Reason for Status: Active and In Good Standing
VA Qualification Date: 02/25/1999	Status Date: 02/25/1999
Industry Code: 0 - General	Period of Duration: Perpetual
Jurisdiction: VA	Annual Report Due Date: N/A
Registration Fee Due Date: Not Required	Charter Fee: \$50.00

### Registered Agent Information

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

### Principal Office Address

Address: 19955 HIGHLAND VISTA DRIVE, SUITE 170,  
ASHBURN, VA, 20147 - 0000, USA

[Privacy Policy](#) | [Contact Us](#)



Title	Director	Name	Address	Last Updated
President	Yes	TADEUSZ W. LEWIS	19955 HIGHLAND VISTA DR., SUITE 170, ASHBURN, VA, 20147 - 0000, USA	02/05/2019
Vice President	Yes	PAUL E. BURKART	19955 HIGHLAND VISTA DRIVE, SUITE 170, ASHBURN, VA, 20147 - 0000, USA	02/05/2019
	Yes	M. GAYLE PACKER	10841 S RIDGEVIEW ROAD, OLATHE, KS, 66061 - 0000, USA	02/05/2019
Treasurer	No	DONALD J. VRANA	10841 S RIDGEVIEW ROAD, OLATHE, KS, 66061 - 0000, USA	02/05/2019
Secretary	No	MICHAEL J. YOST	10841 S RIDGEVIEW ROAD, OLATHE, KS, 66061 - 0000, USA	02/05/2019

### Current Shares

Total Shares: 5000

[Filing History](#)

[RA History](#)

[Name History](#)

[Previous Registrations](#)

[Garnishment Designees](#)

[Back](#)

[Return to Search](#)

[Return to Results](#)

[Back to Login](#)

# Commonwealth of Virginia



## STATE CORPORATION COMMISSION

Richmond, May 23, 1997

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

STRAUGHAN ENVIRONMENTAL SERVICES, INC.

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



State Corporation Commission

Attest:

*William J. Bridge*

*Clerk of the Commission*

# State Corporation Commission Clerk's Information System

## Entity Information

### Entity Information

Entity Name: Straughan Environmental, Inc.  
Entity Type: Stock Corporation  
Formation Date: N/A  
VA Qualification Date: 01/09/2008  
Industry Code: 0 - General  
Jurisdiction: MD  
Registration Fee Due Date: Not Required

Entity ID: F1295916  
Entity Status: **Active**  
Reason for Status: Active and In Good Standing  
Status Date: 06/14/2019  
Period of Duration: Perpetual  
Annual Report Due Date: N/A  
Charter Fee: \$50.00

### Registered Agent Information

RA Type: Entity  
RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED TO TRANSACT BUSINESS IN VIRGINIA  
Name: Northwest Registered Agent LLC

Locality: VIRGINIA BEACH CITY  
Registered Office Address: 4445 Corporation Ln Ste 264, Virginia Beach, VA, 23462 - 3262, USA

### Principal Office Address

Address: 10245 OLD COLUMBIA ROAD, COLUMBIA, MD, 21046 - 2579, USA

### Principal Information

Title	Director	Name	Address	Last Updated
PRESIDENT/CEO	Yes	TRACY SEYMOUR, PE, ASSC DBIA LEED	10245 OLD COLUMBIA ROAD, COLUMBIA, MD, 21046 - 0000, USA	06/17/2019
VP/SECRETARY	No	JUSTIN HAYNES	10245 OLD COLUMBIA ROAD, COLUMBIA, MD, 21046 - 0000, USA	06/17/2019
VP/TREASURER	No	MICHAEL BLOSE, PE	10245 OLD COLUMBIA ROAD, COLUMBIA, MD, 21046 - 0000, USA	06/17/2019

### Current Shares

Total Shares: 1000000

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

02-28-2022

NUMBER

0411000586

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

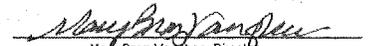
PROFESSIONS: LS-ENG



A MORTON THOMAS AND ASSOCIATES INC  
14555 AVION PKWY STE 150  
CHANTILLY, VA 20151



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

  
Mary Broz-Vaughan, Director

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

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

12-31-2021

NUMBER

0407004404

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

PROFESSIONS: ENG



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



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

*Mary Broz-Vegghen*  
Mary Broz-Vegghen Director

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR-LIC (02/2017)

(DETACH HERE)



COMMONWEALTH of VIRGINIA  
Department of Professional and Occupational Regulation

BOARD FOR APESCIDLA  
BUSINESS ENTITY REGISTRATION

NUMBER: 0407004404 EXPIRES: 12-31-2021

PROFESSIONS: ENG

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



(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

12-31-2021

NUMBER

0407005614

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

PROFESSIONS: ENG



STRAUGHAN ENVIRONMENTAL INC  
10245 OLD COLUMBIA RD  
COLUMBIA, MD 21046



*Mary Broz-Vaughan*  
Mary Broz-Vaughan, Director

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

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR-LIC (02/2017)

(DETACH HERE)



COMMONWEALTH of VIRGINIA  
Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA  
BUSINESS ENTITY REGISTRATION  
NUMBER: 0407005614 EXPIRES: 12-31-2021  
PROFESSIONS: ENG  
STRAUGHAN ENVIRONMENTAL INC  
10245 OLD COLUMBIA RD  
COLUMBIA, MD 21046



(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

01-31-2022

NUMBER

0402046404

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



JOSHUA DAVID LESTER  
PO BOX 99  
BELSPRING, VA 24058



*Mary Broz-Vaughan*  
Mary Broz-Vaughan, 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 APESCIDLA  
PROFESSIONAL ENGINEER LICENSE  
NUMBER: 0402057338 EXPIRES: 03-31-2021

PABLO LOPEZ BARRO  
2819 RIFLE RIDGE RD  
OAKTON, VA 22124



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

04-30-2021

NUMBER

0402034707

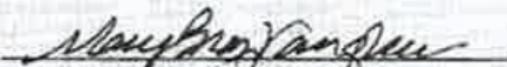
BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS  
AND LANDSCAPE ARCHITECTS  
PROFESSIONAL ENGINEER LICENSE



LAURA MICHELLE MEHIEL  
901 DULANEY VALLEY ROAD  
SUITE 710  
TOWSON, MD 21204



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

  
Mary Broz-Vaughan, Acting Director

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR-LIC (02/2017)

**Appendix**  
**Attachment 3.3.1**  
**Key Personnel Resume Forms**



## ATTACHMENT 3.3.1

### KEY PERSONNEL RESUME FORM

<b>Brief Resume of Key Personnel anticipated for the Project.</b>	
a. Name & Title:	<b>Roberto Martinez, Segment Manager</b>
b. Project Assignment:	<b>Design-Build Project Manager</b>
c. Name of the Firm with which you are employed at the time of submitting SOQ.:	<b>Ferrovia Construction (Full Time)</b>
d. Employment History: With this Firm <u>20</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 for 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):	<p><b><u>Construction Manager, Ferrovia Construction (2017-Present)</u></b> Roberto is responsible for all the construction activities and scope for Segment 1 of the \$2.3B Transform 66 Outside the Beltway project. He leads a team of over 30 people including senior project managers, project managers, field engineers, surveyors, administrators and field personnel. He is also responsible for ensuring compliance with VDOT QA/QC procedures. Roberto is responsible for design follow-up and optimizations, compliance with contract documents, schedule monitoring, quality, safety and environmental compliance. He has participated in multiple public outreach events.</p> <p><b><u>Construction Manager, Ferrovia Construction Canada (2014-2017)</u></b> Roberto was responsible for the construction activities and scope for a \$300M section of the 407 East Extension Phase 1. He was responsible for design follow-up and optimizations, ensuring compliance with contract documents, schedule monitoring, quality, safety and environmental compliance.</p> <p><b><u>Contracts Director, BUDIMEX S.A. (2008-2014)</u></b> As Contracts Director for Ferrovia Construction affiliate BUDIMEX, Roberto was responsible for the administration of the civil construction projects in the north and east of Poland. He oversaw the management, financial and technical of new projects from the bidding process to completion. He tracked and monitored the design. Representative projects for client GDDKia (Poland's authority for the administration and management of the national roads) include: Highway S3 Szczecin-Gorzow (\$155M) – 16.5 miles of new highway; Wroclaw Bypass (\$178M) – 8 miles of new highway; Highway S17, #2-2a and 5-5a (\$186M) – 4.5 miles of new highway and rebuild of 7 miles of existing highway; and Augustow Bypass (\$150M) – 8 miles of new highway plus 13 miles of expressway.</p> <p><b><u>Construction Manager, Ferrovia S.A. (2001-2008)</u></b> Roberto was Construction Manager for projects of various size and complexity throughout Spain. Representative projects include: A-66 Highway Guijuelo – Sorihuela in Salamanca (\$34M) for the Ministry of Fomento; AP-1 Toll Highway Ameyugo – Arminon in Burgos-Alava (\$47M) for Concesionaria Europistas CESA; and Bilbao Port Extension Dock 3 in Bilbao (\$47M) for Autoridad Portuaria de Bilbao.</p>
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:	<b>University of Cantabria, Spain / Master of Science / 2000 / Civil Engineering, Structures</b>
f. Active Registration: Year First Registered/ Discipline/VA Registration #:	None
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> <b>(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.)</b>	

Project Name:	<b>Transform 66 Outside the Beltway Fairfax, VA (P3/Design-Build)</b>	Start Date:	<b>03/2017</b>
Project Role:	<b>Construction Manager</b>	End Date:	<b>Present</b>
Client/Owner	<b>VDOT</b>	With Current Firm:	<b>Yes</b>

Roberto serves as Construction Manager on Segment 1 of the \$2.3B Transform 66 Outside the Beltway design-build project. The project will transform Northern Virginia's I-66 into a multimodal corridor that moves more people, provides reliable trips and offers new travel options. The reconstruction project adds new general purpose and express lanes for 22.5 miles along I-66 between Gainesville and I-495.

Roberto is responsible for the overall construction of Segment 1, valued at \$500M, that include 9.5 miles of widening of I-66 and the adjustment of the preexisting platform to the new configuration. The scope managed by Roberto includes widening and rehabilitation of existing bridges over Bull Run, Cub Run, Compton Road and University Boulevard over I-66; new bridges for the new Bull Run Drive alignment and Sudley interchange; elevated braided ramps East of 234 Business and US29 at Centerville; and new steel bridges to accommodate future expansion of WAMTA as well as US29 under I-66. Roberto has been involved in the project since right after award. He leads an integrated design-build team to successfully achieve project goals. Roberto is the primary point of contact for the developer and VDOT for his section and coordinates with all relevant third-party stakeholders. Roberto also participates in the team's public outreach efforts to effectively communicate with the numerous stakeholders.

Similarities between I-66 and I-81: design-build; major bridge structures and retaining walls; in water work/Cofferdams; Interstate roadway; permitting and environmental; engineered causeway; stakeholder coordination; utility relocation and ITS/signing.

Project Name:	<b>407 East Extension Phase 1 Toronto, Ontario (P3/Design-Build)</b>	Start Date:	<b>10/2014</b>
Project Role:	<b>Construction Manager</b>	End Date:	<b>02/2017</b>
Client/Owner	<b>Ministry of Transportation Ontario</b>	With Current Firm:	<b>Yes</b>

Roberto was the Construction Manager for a \$300M segment of the project. The segment managed by Roberto included 11 miles of new Interstate highway (407 & 412) and the construction of 13 new bridges over different obstacles like streams and active roads. Roberto managed the environmental team for the acquisition of permits for each water crossings. Roberto led an integrated design-build team to successfully achieve project goals. He was the primary point of contact for the developer and Ministry of Transportation Ontario for his section and took part in interactions with all third-party stakeholders.

Similarities between 407 and I-81: design-build; major bridge structures; Interstate roadway; permitting and environmental; engineered causeway; stakeholder coordination; utility relocation and ITS/signing.

Project Name:	<b>S8 Konotopa Warsaw, Poland</b>	Start Date:	<b>2008</b>
Project Role:	<b>Contracts Director for North and East Poland</b>	End Date:	<b>2010</b>
Client/Owner	<b>GDDKia</b>	With Current Firm:	<b>Yes</b>

Roberto was executive in charge of two contracts for the Highway S8 project, a new highway to bypass Warsaw. The contract values were \$134M and \$193M. He was responsible for the administration of the project focused on financial and technical aspects. His duties included negotiation of joint ventures; risk management; structuring complex agreements and conducting contract negotiations; and providing budget control and financial management. All site operations and construction personnel were under his executive oversight. He participated from the bidding process to completion.

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.

Roberto is an at-will employee, currently serving as Construction Manager on the I-66 project. He will be available full time when the I-81 project begins.

## ATTACHMENT 3.3.1

### KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.	
a.	Name & Title: <b>Josh Lester, PE, CCM, PSP, Associate</b>
b.	Project Assignment: <b>Quality Assurance Manager</b>
c.	Name of all Firms with which you are employed at the time of submitting SOQ. In addition, please denote the type of employment (Full time/Part Time): <b>A. Morton Thomas and Associates, Inc. (Full Time)</b>
d.	Years experience: With this Firm <u>8</u> Years With Other Firms <u>6</u> Years Please list chronologically (most recent first) your employment history, position, general responsibilities and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):  <u><b>Associate, AMT (2014-Present)</b></u> Responsible Charge Engineer for Christiansburg office with direct control and supervision of all engineering services provided out of this office of 35 employees. General duties include management of contracts, supervision of project staff, performance of contract duties including acting as the owner's representative on projects, providing QA/QC services on design-build and design-bid-build projects, development of project reports, and meeting client and company performance requirements.  <u><b>Project Manager, Orders Construction Company, Inc. (2012-2014)</b></u> Project Manager overseeing and managing Virginia construction projects at Orders Construction Company out of their Wytheville, VA office. General duties included management of contracts, project administration, supervision of project field staff, developing and monitoring project budgets, estimating, materials coordination, development and monitoring of project schedules and ensuring that projects are safely built in accordance with the contract documents.  <u><b>Senior Construction Engineer, AMT (2008-2012)</b></u> Responsible Charge Engineer for Lebanon office with direct control and supervision of all engineering services provided out of this office of 40 employees. General duties included management of contracts, supervision of project staff, performance of contract duties including acting as the owner's representative on projects, providing QA/QC services on design-build and design-bid-build projects, development of project reports and meeting client and company performance requirements.  <u><b>Construction Inspection Coordinator, Rummel, Klepper &amp; Kahl, LLP (2006-2008)</b></u> Responsible for supervision and coordination of all field activities from start to completion on transportation construction projects. Assisted with managing local field staff. Provided construction engineering and inspection.
e.	Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: <b>Virginia Tech / MS / 2005 / Civil Engineering</b> <b>Virginia Tech / BS / 2004 / Civil Engineering</b>
f.	Active Registration: Year First Registered/ Discipline/VA Registration #: 2010 / Professional Engineer / VA #46404 Certified Construction Manager (CCM) # A2330 Planning and Scheduling Professional (PSP) # 01836
g.	Document the extent and depth of your experience and qualifications relevant to the Project. <ol style="list-style-type: none"><li>1. <i>Note your role, responsibility and specific job duties for each project, not those of the firm.</i></li><li>2. <i>Note whether experience is with current firm or with other firm.</i></li><li>3. <i>Provide beginning and end dates for each assignment; projects older than fifteen (15) years will not be considered for evaluation.</i></li></ol> <b>(List <u>ONLY</u> three (3) relevant projects* for which you have performed 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.)</b>

Project Name:	<b>I-81 over Route 11, NSRR and Holston River Smyth County, VA (Design-Build)</b>	Start Date:	<b>2019</b>
Project Role:	<b>Quality Assurance Manager</b>	End Date:	<b>Spring 2022</b>
Client/Owner:	<b>Virginia Department of Transportation</b>	With Current Firm?	<b>Yes</b>
<p>Quality Assurance Manager for this \$28M design-build highway/bridge project. This project includes replacement of two bridges on I-81 and the safety improvements of enhanced clear zones on Route 11 and NSRR. His responsibilities include the development, updating and implementing of a Quality Assurance plan and coordination of QA/QC testing. As the QAM, he is responsible for the acceptance testing and documentation of all materials used on the generation of the VDOT Materials Book. He verifies that the QC staff is following the QC inspection and testing plans in the approved QA/QC manual. He is also responsible for ensuring environmental compliance is met and performing environmental reviews on the project. Duties include oversight of all construction activities to ensure conformance as well as providing oversight and management of inspection and testing staff. QAM services will reduce to approximately 10% during the fourth quarter of 2021 and the first quarter of 2022 allowing full-time services for the I-81 Widening MM 136.6 to MM 141.8 project.</p>			
Project Name:	<b>I-81 over Halls Bottom Washington County, VA (Design-Build)</b>	Start Date:	<b>2016</b>
Project Role:	<b>Assistant Quality Assurance Manager</b>	End Date:	<b>2018</b>
Client/Owner:	<b>Virginia Department of Transportation</b>	With Current Firm?	<b>Yes</b>
<p>Assistant Quality Assurance Manager for this \$13M design-build highway/bridge project. His responsibilities included support to the QAM in the development, updating and implementing of a Quality Assurance plan throughout the life of the project. The design-build project included replacement of two bridges on I-81. Josh's responsibilities included supporting coordination of QA/QC testing of embankment, drainage structures, subgrade, asphalt and incidental items. He was responsible for the acceptance testing and documentation of all materials used on the contract as well as the generation of the VDOT Materials Book and constructability reviews. He verified that the QC staff followed the QC inspection plan/materials testing requirements in the approved QA/QC manual for this contract. He was also responsible for ensuring environmental compliance was met and performed environmental reviews on the project. Duties also included oversight of construction activities and analysis and interpretation of project plans and specifications to ensure constructability. He provided oversight and management of inspection and testing staff.</p>			
Project Name:	<b>Route 29 Solutions Charlottesville, VA (Design-Build)</b>	Start Date:	<b>2015</b>
Project Role:	<b>IA/IV Scheduling Specialist</b>	End Date:	<b>2017</b>
Client/Owner:	<b>Virginia Department of Transportation</b>	With Current Firm?	<b>Yes</b>
<p>VDOT owner's representative IA/IV Scheduling Specialist for the Route 29 Solutions project to improve mobility and reduce congestion on the Route 29 corridor in the Charlottesville / Albemarle County region. This \$118.6M multi-phase, complex design-build project includes the widening of Route 29 for a total of 1.8 miles, the new grade separated intersection of US 29 and Rio Road, and the extension of Berkmar Drive for 2.3 miles which includes construction of a new 700-foot-long bridge that spans the South Fork Rivanna River. Josh provided IA/IV schedule review, plan review, and other engineering tasks on behalf of the Department. This included using Primavera P6 for scheduling and plan reviews to supplement VDOT oversight project manager and staff.</p>			
<p>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.  <b>Josh is currently serving as the Quality Assurance Manager on I-81 over Route 11, NSRR, and Holston River; the project is expected to be complete Spring 2022. The Quality Assurance Manager services will reduce to approximately 10% during the fourth quarter of 2021 and the first quarter of 2022) allowing for full-time to the I-81 Widening project.</b></p>			

## ATTACHMENT 3.3.1

### KEY PERSONNEL RESUME FORM

<b>Brief Resume of Key Personnel anticipated for the Project.</b>															
a. Name & Title: <b>Pablo Lopez Barro, PE, Design Manager</b>															
b. Project Assignment: <b>Entrusted Engineer in Charge</b>															
c. Name of the Firm with which you are employed at the time of submitting SOQ.: <b>Ferrovial Construction (Full Time)</b>															
<p>d. Employment History: With this Firm <b>12</b> Years With Other Firms <b>8</b> Years          Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):</p> <p><b><u>Ferrovial Construction, Design Manager (2017 – Present)</u></b>          Design management on the Transform 66 Outside the Beltway P3 Project (\$2.3B). Responsibilities include managing interdisciplinary teams; analyzing data; developing design solutions; ensuring value-engineering; balancing project earthworks and optimizing roadway geometry; preparing design documents and reports; developing, implementing, and enforcing consultant service agreements; managing budgets, people and schedules; and coordinating with stakeholders. He is responsible for ensuring the design criteria are met, managing the design personnel and administering design requirements of the DBC.</p> <p><b><u>Ferrovial Construction Canada, Design Manager (2012 – 2016)</u></b>          Design management on the 407 East Extension Phase 1 (\$650M) and Phase 2 (\$750M) in Ontario, Canada. He was responsible for ensuring that the overall project design was completed and design criteria requirements were met and for managing the Lead Contractor’s design personnel and administering all design requirements of the DBC.</p> <p><b><u>Ferrovial Construction, Roadway Design Manager (2008 – 2012)</u></b>          Roadway design management on two large P3 transportation projects SH 130 Segments 5&amp;6 (\$960M) and North Tarrant Express Segments 1&amp;2 (\$1.45B)</p> <p><b><u>Getinsa Engineering SA. – Roadway Engineer - Design Manager (2000 – 2008)</u></b>          Roadway engineering and managing design of infrastructure projects along with operational management responsibilities.</p>															
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: <b>Polytechnic University, Madrid, Spain / Master of Science / 1999 / Civil Engineering, Transportation Engineering</b>															
f. Active Registration: Year First Registered/ Discipline/VA Registration #: 2017 / Civil / VA #0402057338 Also registered PE in Texas and Ontario, Canada															
<p>g. Document the extent and depth of your experience and qualifications relevant to the Project.</p> <ol style="list-style-type: none"> <li>1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i></li> <li>2. <i>Note whether experience is with current firm or with other firm.</i></li> <li>3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i></li> </ol> <p><b>(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.)</b></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20%;">Project Name:</td> <td style="width: 40%;"><b>Transform 66 Outside the Beltway Fairfax, VA (P3/Design-Build)</b></td> <td style="width: 20%;">Start Date:</td> <td style="width: 20%;"><b>01/2017</b></td> </tr> <tr> <td>Project Role:</td> <td><b>Design Manager</b></td> <td>End Date:</td> <td><b>Present</b></td> </tr> <tr> <td>Client/Owner</td> <td><b>VDOT</b></td> <td>With Current Firm:</td> <td><b>Yes</b></td> </tr> </table>				Project Name:	<b>Transform 66 Outside the Beltway Fairfax, VA (P3/Design-Build)</b>	Start Date:	<b>01/2017</b>	Project Role:	<b>Design Manager</b>	End Date:	<b>Present</b>	Client/Owner	<b>VDOT</b>	With Current Firm:	<b>Yes</b>
Project Name:	<b>Transform 66 Outside the Beltway Fairfax, VA (P3/Design-Build)</b>	Start Date:	<b>01/2017</b>												
Project Role:	<b>Design Manager</b>	End Date:	<b>Present</b>												
Client/Owner	<b>VDOT</b>	With Current Firm:	<b>Yes</b>												
As Design Manager, Pablo is responsible for the design packages, ensuring compliance with contractual technical requirements and adherence to the design schedule. Pablo manages and coordinates the design work of a multi-															

disciplinary team of 10 design firms. Pablo applies his engineering and management skills and expertise to ensure that the design is functional and fulfills the safety, constructability, quality and cost-effectiveness requirements. He manages 18 professionals, covering roadway, drainage, geotechnical, environmental and structural disciplines. Pablo coordinates the design with VDOT, developer and Lead Contractor personnel. He is accountable for design quality control, serving as the Design Quality Manager responsible for the DQMP. Pablo coordinates the design with the impacted stakeholders, liaising to help VDOT communicate effectively. Pablo prepared and conducted a design public hearing. The highway widening design is extremely complex and challenging due to the urban environment, very limited right of way, dense network of existing utilities and the mandate to maintain existing traffic with minimal impact during construction. Pablo established innovative processes utilizing automatized information sharing ensuring all disciplines added engineering value to the design process while meeting their schedule obligations.

Project Name:	<b>407 East Extension Phase 2 Toronto, Ontario (P3/Design-Build)</b>	Start Date:	<b>01/2015</b>
Project Role:	<b>Design Manager</b>	End Date:	<b>12/2016</b>
Client/Owner	<b>Ministry of Transportation Ontario</b>	With Current Firm:	<b>Yes</b>

The project consists of a 13.6 mile extension of Highway 407 with six and four lane divided freeway with 24 bridges and seven culverts and four bridges over rail. Pablo supervised the preparation of the design packages and ensured the project design schedule was met. He coordinated the design work of a multi-disciplinary team of three consulting firms responsible for the civil, electrical, and geotechnical works. Pablo applied his engineering skills and expertise to ensure that the design was functional and fulfilled the safety, constructability, quality and cost-effectiveness requirements. He managed eight dedicated engineers and professionals, covering roadway, drainage, geotechnical and structural disciplines. He coordinated the roadway aspects of the design with owner, developer and Lead Contractor personnel. He was accountable for quality control throughout the design process. He ensured the design complied with contractual technical requirements while reducing earthwork quantities and minimizing the environmental impact by reducing borrow sources, hauling requirements and carbon emissions. He worked with environmentalists, geomorphologists and biologists on several creek realignments minimizing the impact to indigenous species and analyzing the impact from retention ponds on vulnerable groundwater sources. Pablo served as Design Manager through the completion of detailed design.

The design schedule was compressed by the need to start the construction work as soon as possible, as six miles were to be opened to traffic three years from contract execution. Pablo used his practical expertise to identify the potential areas of optimization and to develop conceptual designs to provide to the Lead Designers in a very short time frame. In addition, Pablo coordinated the optimization process with the construction team to improve the construction schedule and the constructability of the final solution.

Project Name:	<b>407 East Extension Phase 1 Toronto, Ontario (P3/Design-Build)</b>	Start Date:	<b>06/2012</b>
Project Role:	<b>Design Manager</b>	End Date:	<b>12/2014</b>
Client/Owner	<b>Ministry of Transportation Ontario</b>	With Current Firm:	<b>Yes</b>

The project consists of an extension of 20 miles of Highway 407 involving 11 interchanges, 35 major water crossings and 16 road crossings. Pablo was responsible for the management of all design aspects; coordination of the utility adjustment design; overseeing designs prepared by consultants to ensure cost-effectiveness and compliance with contractual and technical requirements; monitoring the progress of the design to ensure adherence to the schedule; identifying and acting in the event of a potential delays; monitoring the design performance; delivering design documents to the client, including addressing comments; attending design meetings to coordinate design elements; and conducting multidisciplinary coordination with the discipline managers.

The project was initially highly unbalanced; the western section had a surplus of cut material and the eastern one a large deficit of fill material, with overall deficit and need of borrow material. This unbalanced condition jeopardized achieving the construction deadline. Pablo lead the optimization of the mass-haul diagram that resulted in balanced earthworks for each segment, a task made even more demanding by the geomorphological, environmental, ROW, and utilities constraints. Pablo was accountable for the optimization of the two major freeway-to-freeway interchanges, compatible with constructability and cost effectiveness, and developed an in-house preliminary design of the selected solution; the conceptual designs aimed to minimize the bridge area and the earthwork quantities as well as improve the constructability and traffic management.

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.

Pablo is an at-will employee, currently serving as Design Manager on the I-66 project. He will be available full time when the I-81 project begins.

## ATTACHMENT 3.3.1

### KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.			
a. Name & Title: <b>Laura Mehiel, PE, Associate</b>			
b. Project Assignment: <b>Design Manager</b>			
c. Name of all Firms with which you are employed at the time of submitting SOQ. In addition, please denote the type of employment (Full time/Part Time): <b>A. Morton Thomas and Associates, Inc. (Full Time)</b>			
d. Years experience: With this Firm <u>9</u> Year With Other Firms <u>25</u> Years Please list chronologically (most recent first) your employment history, position, general responsibilities and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):  <u>Associate / Senior Project Manager, AMT (2011-Present)</u> Senior Project Manager and Associate-in-Charge of mega projects and innovative delivery projects. Oversees highway development/design teams for transportation projects throughout the Commonwealth of Virginia, including design QC responsibilities. DPM for design-build and other innovative contracting techniques.  <u>Senior Project Manager / Office Operations Manager, HNTB Corporation (1998-2011)</u> Senior Project Manager who oversaw highway development/design teams for transportation projects including design-build throughout VA, MD and DC, including QC role. Engineer in Charge of the Columbia, MD office, supervising a staff of highway, hydraulics, traffic and construction professionals. Held operational, business development and technical oversight roles.			
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: <b>University of Delaware, Newark Delaware / BCE / 1986 / Civil Engineering</b>			
f. Active Registration: Year First Registered/ Discipline/VA Registration #: 1992 / Professional Engineer (Civil) / VA #34707 Also registered in DC, DE, MD, PA			
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 assignment; projects older than fifteen (15) years will not be considered for evaluation.</i>  <b>(List <u>ONLY</u> three (3) relevant projects* for which you have performed 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.)</b>			
Project Name:	<b>I-81 Exit 114 Interchange Improvements, Christiansburg, VA (Design-Build)</b>	Start Date:	<b>06/2018</b>
Project Role:	<b>Design Manager</b>	End Date:	<b>09/2020 (design) 2021 (construction)</b>
Client/Owner:	<b>Virginia Department of Transportation</b>	With Current Firm?	<b>Yes</b>
Design Manager for this \$22M design-build project to replace the two existing I-81 bridges over Route 8, as well as I-81 horizontal and vertical realignment, shoulder widening and ramp improvements. Managing the realignment design for I-81 southbound to meet the new bridge in the median, widened auxiliary lanes and full shoulders on I-81, raising the grade at the bridges and approaches for proper vertical clearance and modification of the Exit 114 ramps. Developed efficient design solutions responding to <b>existing bifurcated roadway</b> profiles; conversion of depressed median to a narrow, barrier separated cross section which entailed a <b>custom designed 42" barrier and moment slab</b> ; and temporary interstate alignment for MOT that required wire walls, temporary drainage measures, and detailed ESC. With a background in drainage/SWM in addition to roadway design, Laura is directly involved with the SWM BMP design. She also managed the geotechnical program which involved <b>Electrical Resistivity testing</b> to identify potential voids or soil-filled seams in the rock between the test borings, as the project site is located in a known <b>karst region</b> .  Laura is overseeing a multi-discipline team of 11 for contract compliance and quality control standards, including roadway, structural design (bridges, retaining structures), storm water management, drainage, traffic signals, signing and pavement marking, Transportation Management Plan, MOT plans, erosion and sediment control, utility relocations, environmental permitting, geotechnical engineering, surveying, public involvement/relations and ITS design. Developed			

a phased approach for the structural design packages to facilitate ordering of steel girders which was a long lead item, and approval of substructure design to advance the start of construction. Also developed an early package for traffic control, associated erosion and sediment control/SWPPP, and a full and complete SWM report to allow construction of the detour roadway for the Interstate's northbound lanes, to facilitate demolition and replacement of the current bridge. Obtained approval and permits for first construction package within seven months of NTP.

Laura is managing all design and ensuring compliance with the QA/QC plan for design. Under her leadership, a total of 12 separate "release for construction packages" have been prepared, including two advance packages. She is involved in the construction phase, providing design support such as refined MOT, shop drawing reviews, RFI's and partnering. Each submittal includes the **LD-436 checklist** (where applicable), and a design certification attesting that the design follows contract requirements and the approved Design QA/QC Plan. Re-submittals also include comment responses.

Project Name:	<b>Design-Build Route 1 at Fort Belvoir Fairfax County, VA (Design-Build)</b>	Start Date:	<b>06/2013</b>
Project Role:	<b>Design Manager</b>	End Date:	<b>05/2015 (design) 12/2017 (construction)</b>
Client/Owner:	<b>FHWA – Eastern Federal Lands/VDOT</b>	With Current Firm?	<b>Yes</b>

Design Manager responsible for managing a multi-disciplinary team for widening/new alignment of 3.6 miles of US Route 1 from four lanes undivided to a six lane divided facility. The \$82M project includes roadway widening/new alignment, safety and capacity improvements, bridges and culverts, new trail and sidewalk, retaining walls, and pile-stabilized slopes. Two intersections of the project carry on average **more than 62,000 vehicles per day** during construction, requiring well planned maintenance of traffic design to keep traffic safely moving through the work zone.

Laura and her team designed the project in three stages with seven sub-phases, generally by widening to the west, shifting traffic to the new pavement, then completing the reconstruction of the existing lanes to serve as northbound. Design utilized **bifurcated roadway profiles**, with provisions for future widening using **concrete barrier separation between travel directions**. Extensive temporary drainage measures carried storm flows across the existing roadway while carrying traffic. Laura managed all design including alignments, intersection improvements, traffic analysis, bridge and wall design, noise wall design, MOT plans/TMP, drainage and SWM design, wetland/stream permits, topographic and utility surveys, geotechnical explorations, and erosion and sediment control. She organized and ran two design public hearings and conducted stakeholder design workshops, and four Pardon Our Dust meetings. A total of 24 separate "release for construction packages" were prepared, including two advance grading packages to **initiate grading early and to facilitate utility relocations**. She managed environmental permits including wetland/stream impacts, floodplain model of the new bridge crossing, and on-site reforestation for tree impacts. Her efforts helped facilitate schedule, by obtaining wetland permits within seven months, and by negotiating to remove time-of-year restrictions for five Waters of the U.S. and to allow sandbag diversions in four others. She also managed the ROW acquisition process, with her direct team preparing all ROW plans, and her subconsultant providing appraisals, negotiations, COT's and tenant relocations. Laura was responsible for design quality control compliance. She was involved in the construction phase, providing re-design support, shop drawing reviews, RFI's and progress meetings.

Project Name:	<b>I-495 Express Lanes Fairfax County, VA (P3/Design-Build)</b>	Start Date:	<b>2007</b>
Project Role:	<b>Design Manager (Area 1 Production)</b>	End Date:	<b>2011</b>
Client/Owner:	<b>Virginia Department of Transportation</b>	With Current Firm?	<b>No</b>

This \$1B mega project on the Virginia portion of I-495 in Northern Virginia was divided into four separate design-build segments, with separate Design Managers and teams. Laura was the Design Manager for Area 1, south of Braddock Road to north of US 50, containing four interchanges within nearly five miles of interstate roadway.

Laura managed the Area 1 (\$270M construction value) design and supervised the design-build team's design of **I-495 mainline widening through four interchanges**. She oversaw design production of more than 50 staff and subconsultants in **producing 55 design packages** for grading/drainage, erosion control, final grading/roadway, noise and retaining walls, 13 bridges, utility relocations and ROW plans; **80% of the plans were completed in a 10 month period**. She ensured QC procedures and VDOT CAD standards were followed. Laura and her team prepared a complex MOT staging plan for interchange ramp reconstruction, which required traffic modeling for each phase. Her team's design provided retaining walls to mitigate impacts to Accotink Creek, and outfall improvements at degraded outfalls throughout Wakefield Park meeting channel protection requirements. Wetland and stream permits were obtained for unavoidable environmental impacts. Laura assisted with extensive utility coordination and ROW plan preparation. She worked closely with the contractor and GEC reviewers daily using over-the-shoulder reviews, comment resolution meetings and discipline-specific design sessions to maintain production schedule.

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

### KEY PERSONNEL RESUME FORM

<b>Brief Resume of Key Personnel anticipated for the Project.</b>															
a. Name & Title: <b>Alex Gorski, Senior Project Manager</b>															
b. Project Assignment: <b>Construction Manager</b>															
c. Name of the Firm with which you are employed at the time of submitting SOQ.: <b>Ferrovia Construction (Full Time)</b>															
<p>d. Employment History: With this Firm <u>1</u> Years With Other Firms <u>12</u> Years          Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):</p> <p><b><u>Senior Project Manager, Ferrovia Construction (2019-Present)</u></b>          Alex is currently serving as Senior Project Manager on the \$2.3B Transform 66 Outside the Beltway project. He is responsible for Segment 3 construction activities and scope which include the Nutley Interchange, two bridges and approximately 2.5miles of five lane highway construction.</p> <p><b><u>Engineer, Project Engineer, Project Manager, Construction Manager Tutor Perini Corporation (2010-2019)</u></b>          While employed with Tutor Perini, Alex held positions of increasing responsibility: Engineer, Project Engineer, Project Manager, Construction Manager. He led design staff, construction engineers and field crews. Delivered large, complex, fast-paced heavy civil construction project in Mid-Atlantic.</p> <p><b><u>Project Engineer, Parson Corporation (2008-2010)</u></b>          As Project Engineer, Alex managed the design for upgrades to standby generators at Noman Cole Pollution Control Plant for the Fairfax County Department of Public Works. He managed project engineers, discipline engineers and subcontractors resulting in excellent client relations.</p> <p><b><u>Project Engineer, The Lane Construction Corporation (2008-2010)</u></b>          As Project Engineer, Alex executed a \$26M design-build contract on I-495 at Arena Drive in Prince George's County, Maryland for the Maryland State Highway Administration. He was also part of the engineering team executing a \$140M contract at Dulles International Airport for Metropolitan Washington Airports Authority. The complex airport contract consisted of a new runway, vehicular tunnel, de-icing facility, navigational aids and an electrical vault.</p>															
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: <b>Virginia Tech, Blacksburg, VA / Bachelor of Science / 2007 / Civil Engineering</b>															
f. Active Registration: Year First Registered/ Discipline/VA Registration #: Alex will obtain and hold a DEQ Responsible Land Disturber Certification and a VDOT ESCC Certification prior to the commencement of construction.															
<p>g. Document the extent and depth of your experience and qualifications relevant to the Project.</p> <ol style="list-style-type: none"> <li>1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i></li> <li>2. <i>Note whether experience is with current firm or with other firm.</i></li> <li>3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i></li> </ol> <p><b>(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.)</b></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20%;">Project Name:</td> <td style="width: 40%;"><b>Transform 66 Outside the Beltway Fairfax, VA (P3/Design-Build)</b></td> <td style="width: 20%;">Start Date:</td> <td style="width: 20%;"><b>08/2019</b></td> </tr> <tr> <td>Project Role:</td> <td><b>Senior Project Manager</b></td> <td>End Date:</td> <td><b>Present</b></td> </tr> <tr> <td>Client/Owner</td> <td><b>VDOT</b></td> <td>With Current Firm:</td> <td><b>Yes</b></td> </tr> </table> <p>Alex serves as Senior Project Manager on Segment 3 of the \$2.3B Transform 66 Outside the Beltway design-build project. The project will transform Northern Virginia's I-66 into a multimodal corridor that moves more people, provides reliable trips and offers new travel options. The reconstruction project adds new general purpose and express lanes for 22.5 miles along I-66 between Gainesville and I-495. Alex is responsible for executing the project plan for</p>				Project Name:	<b>Transform 66 Outside the Beltway Fairfax, VA (P3/Design-Build)</b>	Start Date:	<b>08/2019</b>	Project Role:	<b>Senior Project Manager</b>	End Date:	<b>Present</b>	Client/Owner	<b>VDOT</b>	With Current Firm:	<b>Yes</b>
Project Name:	<b>Transform 66 Outside the Beltway Fairfax, VA (P3/Design-Build)</b>	Start Date:	<b>08/2019</b>												
Project Role:	<b>Senior Project Manager</b>	End Date:	<b>Present</b>												
Client/Owner	<b>VDOT</b>	With Current Firm:	<b>Yes</b>												

Nutley Interchange, two bridges and approximately 2.5 miles of five lane highway construction. He manages the subcontractors for earthworks, drainage, ductbank, piling, drilled shaft foundation, retaining wall construction and asphalt paving. Scope quantities under Alex's management include approximately 500,000 CY of excavation/embankment; 275,000 Tons of asphalt paving; 130,000 SF of MSE wall construction; 85,000 LF of ITS ductbank; and 30,000 LF of storm drain installation.

He provides constructability reviews during design phases, takeoff and estimates, and leads a team of engineers, superintendents, subcontractors and construction support personnel. He provides input as a part of a large, diverse, project team through coordination with quality control, project controls, design, construction technical office, environmental and executive management. Alex coordinates and collaborates with the developer, VDOT, Fairfax County, Fairfax County Public Schools, Town of Vienna, Washington Metropolitan Area Transit Authority, adjacent project contractors and numerous public and private utility agencies.

Project Name:	<b>I-895 Canton Viaduct Baltimore, MD</b>	Start Date:	<b>01/2018</b>
Project Role:	<b>Project Manager</b>	End Date:	<b>08/2019</b>
Client/Owner	<b>Maryland Transportation Authority</b>	With Current Firm:	<b>No</b>

Alex was the Project Manager executing \$189M design-bid-build unit price contract for the 895 Canton Viaduct in Baltimore, Maryland. He managed a team including project engineer, general superintendent, safety manager, railroad liaison, procurement/change manager and office manager. Scope under Alex's management included: elevated bridge construction over 23 railroad tracks; 3,300 LF of bridge deck construction; 1,400 CY of latex tunnel deck overlay and associated hydrodemolition; 75,000 LF of micropile installation; and 40,000 LF of H-pile installation. He managed a self-perform team of over 100 craft personnel and 15 professionals.

Under Alex's direction, the team successfully redesigned bridge pier foundation systems resulting in a \$1.5M value engineering proposal and significant risk mitigation to the schedule. He coordinated and collaborated with Maryland Transportation Authority, City of Baltimore, Norfolk Southern Railroad, CSX Railroad, CNX Railroad, Canton Railroad and public and private utility agencies.

Project Name:	<b>I-564 Intermodal Connector Norfolk, VA (Design-Build)</b>	Start Date:	<b>01/2014</b>
Project Role:	<b>Construction Manager</b>	End Date:	<b>01/2018</b>
Client/Owner	<b>Eastern Federal Lands Highway Division</b>	With Current Firm:	<b>No</b>

Alex was the Construction Manager/Project Manager executing a \$116M design-build contract for the I-564 Intermodal Connector in Norfolk, VA for Eastern Federal Lands Highway Division. He managed a team including project engineer, procurement/change manager, general superintendent, safety manager, quality control manager, quality assurance manager and office manager. Construction scope under Alex's management included 400,000 CY of embankment; 50,000 SF of MSE wall construction; 1.5M LF of wick drain installation; and four bridges. He managed a self-perform team of over 100 craft personnel and 15 professionals.

Alex provided overall leadership of the project team executing the Project Management Plan. He directed and supervised work of project administration, project superintendents and engineers to establish operation priorities and maintain satisfactory relationships. He promoted client, vendor and subcontractor relationships while resolving complex contract issues from the Federal Acquisition Regulations, VDOT Specifications and Unified Facilities Guide Specifications. Under Alex's direction the project was accelerated to \$90M of construction in 15 months. He coordinated and collaborated with Eastern Federal Lands Highway Division, VDOT, City of Norfolk, Norfolk Southern Railroad, Naval Facilities Command, adjacent project contractors and numerous public and private utility agencies.

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.

Alex is an at-will employee, currently serving as Senior Project Manager on the I-66 project. He will be available full time when the I-81 project begins.

## ATTACHMENT 3.3.1

### KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.													
a.	Name & Title: <b>Korey White, Traffic Control Supervisor</b>												
b.	Project Assignment: <b>Incident Management Coordinator</b>												
c.	Name of the Firm with which you are employed at the time of submitting SOQ.: <b>Ferrovia Construction (Full Time)</b>												
d.	<p>Employment History: With this Firm <u>4</u> Years With Other Firms <u>19</u> Years            Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):</p> <p><u><b>Traffic Control Manager, Ferrovia Construction (2016-2020)</b></u>            Korey is responsible for traffic control such as the setup of major detours and traffic control; marking and identification of construction zones and areas for striping; lane closures and installation of barrier walls; and traffic control equipment inspections, as well as incident response for the \$450M 26 mile I-77 Express Lanes project in Charlotte, North Carolina.</p> <p><u><b>Superintendent, Sealand Contractors (2013-2016)</b></u>            Korey was the superintendent over projects with single crew to multiple crews depending on the project. He scheduled and coordinated vendors for supplies and materials for all projects under his control, including subcontractors.</p> <p><u><b>Site Work Superintendent, Pedulla Excavating (2009-2013)</b></u>            Korey was superintendent for site development, earth work and highway work. He was responsible for scheduling and coordinating vendors for supplies and materials, including subcontractors.</p> <p><u><b>Foreman – Superintendent, Sealand Contractors (1997-2009)</b></u>            Served as foreman overseeing at first a single crew then to multiple crews, then assistant superintendent over entire site development.</p>												
e.	Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: N/A												
f.	Active Registration: Year First Registered/ Discipline/VA Registration #:  Korey will complete FHWA SHRP2 “TIM” Responder Training; FEMA ICS/NIMS 100, 200 & 700; FEMA/VDEM Hazardous Materials Awareness classes prior to commencement of construction.												
g.	<p>Document the extent and depth of your experience and qualifications relevant to the Project.</p> <ol style="list-style-type: none"> <li>1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i></li> <li>2. <i>Note whether experience is with current firm or with other firm.</i></li> <li>3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i></li> </ol> <p><b>(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.)</b></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 25%; padding: 5px;">Project Name:</td> <td style="width: 45%; padding: 5px;"><b>I-77 Express Lanes Charlotte, NC (P3/Design-Build)</b></td> <td style="width: 15%; padding: 5px;">Start Date:</td> <td style="width: 15%; padding: 5px;"><b>08/2016</b></td> </tr> <tr> <td style="padding: 5px;">Project Role:</td> <td style="padding: 5px;"><b>Traffic Control Manager</b></td> <td style="padding: 5px;">End Date:</td> <td style="padding: 5px;"><b>11/2019</b></td> </tr> <tr> <td style="padding: 5px;">Client/Owner</td> <td style="padding: 5px;"><b>NCDOT</b></td> <td style="padding: 5px;">With Current Firm:</td> <td style="padding: 5px;"><b>Yes</b></td> </tr> </table> <p>The \$450M 26 mile design-build roadway project will connect a metropolitan area in the northern part of Charlotte with residential areas near Lake Norman. The project consists of the construction of express lanes (toll lanes) in both directions, as well as widening and rehabilitating the existing general purpose lanes; providing new structures; and modifying, widening, and/or replacing existing structures. The construction scope includes two major interchanges at</p>	Project Name:	<b>I-77 Express Lanes Charlotte, NC (P3/Design-Build)</b>	Start Date:	<b>08/2016</b>	Project Role:	<b>Traffic Control Manager</b>	End Date:	<b>11/2019</b>	Client/Owner	<b>NCDOT</b>	With Current Firm:	<b>Yes</b>
Project Name:	<b>I-77 Express Lanes Charlotte, NC (P3/Design-Build)</b>	Start Date:	<b>08/2016</b>										
Project Role:	<b>Traffic Control Manager</b>	End Date:	<b>11/2019</b>										
Client/Owner	<b>NCDOT</b>	With Current Firm:	<b>Yes</b>										

I-85 and I-277; three new bridges; three bridge replacements; rehabilitation and widening of 16 bridges and one bridge lengthening.

As Traffic Control Manager, Korey coordinates with all traffic control subcontractors to establish lane closures and other traffic needs, including incident response for the project. He facilitates weekly coordination meetings with both the subcontractor performing the work and the design-builder (Ferrovial Construction). He produces a three week look-ahead and communicates the look-ahead with the developer (I-77 Mobility Partners) and NCDOT. Korey documents daily inspections of all traffic control devices in use on the project and coordinates and schedules local off duty police officers from the local police departments.

The challenging MOT managed by Korey included construction staging along portions of the project within very limited and restricted right of way. Portions of the project require widening existing roadways with over 100,000 annual average daily traffic. Construction was performed without reducing the number of existing lanes during peak travel times, allowing traffic to continue to flow without significantly impacting existing traffic.

Project Name:	<b>South Trade Street Matthews, NC</b>	Start Date:	<b>01/2015</b>
		End Date:	<b>07/2016</b>
Project Role:	<b>Superintendent</b>		
Client/Owner	<b>NCDOT owner / Town of Matthews contracted the work to accelerate improvements</b>	With Current Firm:	<b>No</b>

Korey coordinated all traffic control to establish lane closures and other traffic needs for the project. He held monthly status meetings with local and state government officials. This is a high traffic volume area in the town of Matthews. Korey worked with NCDOT to modify the phasing to fit the project needs to maintain the highest traffic volumes possible. Onsite was a sporting complex that during games baseball /football/soccer seasons created a huge influx in traffic for the area; Korey altered scheduling as needed to allow for ingress and egress to the park's only entrance while fully reconstructing the entire entrance of the complex.

Project Name:	<b>Little Rock Road Extension Charlotte, NC</b>	Start Date:	<b>07/2014</b>
		End Date:	<b>04/2015</b>
Project Role:	<b>Superintendent</b>		
Client/Owner	<b>NCDOT owner / City of Charlotte contracted the work to accelerate improvements</b>	With Current Firm:	<b>No</b>

Korey coordinated all traffic control to establish lane closures and other traffic needs for the project. He held weekly status meeting with local and state government officials. This is a high volume traffic area, as it serves as a main route into and out of Charlotte from towns west of the city and fronts the Charlotte Douglas International Airport. Special care was needed in traffic control to allow the highest volumes of traffic during peak hours and during time of special events at the airport and in downtown Charlotte.

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.

Korey is an at-will employee; the I-77 project achieved Substantial Completion in November 2019. He is available full time when the I-81 project begins.

# Appendix

## Attachment 3.4.1 (a) Work History Forms - Lead Contractor



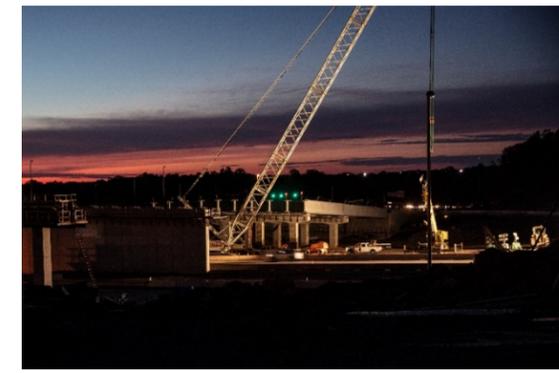
**LEAD CONTRACTOR - WORK HISTORY FORM**

**(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	
Name: Transform 66 Outside the Beltway  Location: Fairfax, Virginia	Name: JV of Janssen & Spaans Engineering, American StructurePoint and WSP	Name of Client/ Owner: VDOT Phone: 571-237-8229 Project Manager: HS Warraich, PE Phone: 571-237-8229 Email: hs.warraich@vdot.virginia.gov	12/2022	12/2022 (estimated)	\$2,142,500 (thousands)	\$2,310,389 (estimated) (DB agreement includes price revision of certain items. Also includes owner-directed changes orders)	\$1,617,272 (thousands) Ferrovial Construction is 70% equity member of the Lead Contractor JV

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><b>Project Scope:</b></p> <ul style="list-style-type: none"> <li>\$2.3 billion design-build contract (40% Complete)</li> <li>MOT of over 150,000 AADT in constrained and congested urban highway</li> <li>ROW acquisition of more than 260 parcels</li> <li>70 bridges; 500,000 SF of concrete beams and 700,000 SY of steel beams</li> <li>200 new retaining walls of 2.5M SF</li> <li>Excavation of more than 3.5M CY of dirt and the execution of 2.4M CY of embankment</li> <li>New and expanded transit service and park-and-ride lots with 4,000 new parking spaces</li> <li>Coordination with WMATA to accommodate rail transit and preserve existing rail elements on the eastern end</li> <li>286 community meetings stemming from an intense stakeholder coordination effort</li> <li>Extensive coordination with the National Park Service</li> <li>Preservation of complex existing ITS during construction and resolution of several conflicts without interrupting service</li> <li>Interchange improvements to enhance safety and reduce congestion, including auxiliary lanes between interchanges</li> <li>11 miles of new bike and pedestrian trails</li> <li>2,000 utility conflicts, over 900 relocations (currently), 49 different owners</li> <li>ITS and ECTS civil infrastructure including 26 toll gantries and duct bank for the system, over 100 ITS cameras, over 200 MVDs, over 40DMS, one full O&amp;M building.</li> </ul> <p><b>Similarities with I-81 Widening Project:</b></p> <ul style="list-style-type: none"> <li>High Traffic (&gt; 150,000 ADT)</li> <li>Phased Bridge Construction under Traffic</li> <li>Complex MOT with Existing lanes and ramps detour</li> <li>Maintain Mainline Traffic Capacity</li> <li>Multiple Utilities Conflicts</li> <li>Minimize Property Impacts. Stakeholders involvement and in-house public outreach team daily coordination for traffic and construction teams activities with the public</li> <li>Interstate Highway System</li> <li>Congestion Relief &amp; Safety Improvements. Relocated ramps and improved Interchanges.</li> <li>Adjacent Wetland &amp; WOUS/Permit</li> <li>Adjacent properties and Neighborhoods</li> </ul>	<p><b>Project Overview:</b></p> <p>The project will transform Northern Virginia’s I-66 into a multimodal corridor. It is a reconstruction project that adds new general purpose and express lanes for 22.5 miles along I-66 between Gainesville and I-495. The project is currently in the construction phase and proceeding on schedule.</p> <p>Ferrovial Construction is responsible for 70% of the design and construction work through a fixed-price, fixed-schedule design-build contract.</p> <p>I-66 is an existing highway that is extremely complex and challenging to widen because of several constraints derived from the urban environment, existing rail transit in the median, very limited right of way, dense network of existing utilities with multiple stakeholders and the need to maintain the existing traffic with minimal impact to the roadway users during construction. One constraint that was addressed through coordination and collaboration with key stakeholder WMATA, is the four miles and two stations of the Gold line in the median.</p> <p><b>DBE Commitment:</b> Ferrovial Construction is committed to the project’s diversity goals including the DBE goals as well as the inclusion and participation of DBE and diverse firms on the project. Currently, the project is on target to achieve the \$286M DBE goal through proven outreach and compliance efforts to promote the utilization of DBE firms. The project team collaborates with the Owner provided supportive services in addition to local diverse organizations to promote participation. Additionally, the project will be utilizing customized compliance software for labor compliance for more efficient reporting of workforce, EEO and other information needed for compliance. To date, <b>Ferrovial has committed to 110 DBE contracts valued at \$138M to 104 DBE firms.</b></p> <p><b>Community Partner:</b> Supporting the multimodal project mission of “move more people not more cars,” the project includes an extensive pedestrian and bicycle trail program “I-66 Trail” to be located within the physically-constricted corridor. The team worked closely with VDOT, Fairfax and Prince William counties, bike advocacy groups, homeowners associations and local residents to plan the facility. In response to public comment and opposition, the trail was moved to the highway side of noise barriers in areas adjacent to homes.</p> <p><b>Relevancy:</b> I-66 demonstrates Ferrovial Construction’s ability to manage construction in a dense urban corridor, coordinate with transit agencies and adjacent operators, construct new ITS/ETCS preserving existing service, resolve hundreds of complex ROW and utility conflicts, and deploy a complex stakeholder coordination effort.</p>	<p><b>Key Project Complexities and Challenges:</b></p> <p><b>ATC Innovation:</b> During detail design, implementation of ATCs, value-added concepts and design optimizations triggered 23 environmental reevaluations all successfully approved by VDOT and FHWA. The ATCs related to new connectivity and changes on the ingress / egress definitions for the express lanes and where design changes offered solutions not anticipated in the NEPA document. As a result of these optimizations, the environmental impacts anticipated by VDOT were greatly reduced from 30 acres to six acres of wetland impacts.</p> <p><b>Environmental Mitigation:</b> Cub Run Creek runs parallel to the roadway for a mile and half and its associated floodplain extends to within the project ROW. To mitigate impacts along a significant length of the Cub Run Creek (classified as Waters of the US) different solutions were adopted such as scour protection on slopes.</p> <p><b>Managing Multidisciplinary Efforts:</b> In designing the retaining walls for this project, specific consideration was necessary to resolve utilities conflicts, manage temporary works design required for construction, mitigate wetland and streams impacts, and assess longitudinal scour, as Ferrovial optimized the constructability of the final design. To coordinate all parties, we used different EDMS including Aconex, Document Locator and SharePoint. Through multidisciplinary review of retaining wall geometries, typologies of walls, geotechnical recommendations, and structural calculations, the design team could provide an optimized and approvable design to satisfy the needs of the construction schedule.</p>
--	--	--



**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	
Name: I-77 Express Lanes  Location: Charlotte, North Carolina	Name: Louis Berger Group, Inc.	Name of Client/ Owner: NCDOT Phone: 919-707-2710 Project Manager: Rodger Rochelle PE Phone: 919-707-2710 Email: rdrochelle@ncdot.gov	11/2018	06/2019 (first segment of Express Lanes) 11/2019 (Total project)	\$442,000 (thousands)	\$585,000 (thousands) (\$143M in owner-directed changes)	\$409,500 (thousands) Ferrovial Construction is 70% equity member of the Lead Contractor JV

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><b>Project Scope:</b></p> <ul style="list-style-type: none"> <li>\$585 million design-build contract</li> <li>MOT of over 130,000 AADT on the south segment</li> <li>ROW acquisition of 28 parcels. The original project design had 68 right-of-way parcels with eleven 11 parcels being relocations and total takes. The design was improved to reduce the total parcel count to 28 parcels with zero relocations or total takes.</li> <li>Three general-purpose and two express lanes per direction, with state-of-the-art open-road ITS/ETCS</li> <li>18 bridges totaling a mile of bridges</li> <li>Extensive community and stakeholder outreach. Outreach efforts have included public meetings, neighborhood meetings, and a portal for residents to call, email or send in questions through the website.</li> <li>Preservation of existing ITS during construction and resolution of several conflicts without interrupting service</li> <li>Interchange improvements to enhance safety and reduce congestion, including auxiliary lanes between interchanges</li> <li>26 miles of new road totaling more than 245 mile lanes of construction</li> <li>ITS and ECTS civil infrastructure</li> <li>Six Environmental Justice Neighborhoods along the corridor</li> <li><b>Achieved 23% DBE participation with 79 firms (NCDOT goal was 12%)</b></li> <li>Expansive On-The-Job Training Program</li> </ul> <p><b>Similarities with I-81 Widening Project:</b></p> <ul style="list-style-type: none"> <li>High Traffic (&gt; 130,000 ADT)</li> <li>Phased Bridge Construction under Traffic</li> <li>Complex MOT with Existing lanes and ramps detour</li> <li>Maintain Mainline Traffic Capacity</li> <li>Multiple Utilities Conflicts</li> <li>Minimize Property Impacts. Stakeholders involvement and in-house public outreach team daily coordination for traffic and construction teams activities with the public</li> <li>Interstate Highway System</li> <li>Congestion Relief &amp; Safety Improvements. Relocated ramps and improved Interchanges.</li> <li>Adjacent Wetland &amp; WOUS/Permit</li> <li>Adjacent properties and neighborhoods</li> </ul>	<p><b>Project Overview:</b></p> <p>This 26-mile DB P3 project connects Charlotte's central business district with residential areas near Lake Norman. The project runs between I-277 in Charlotte and NC-150 in Mooresville (Iredell County) and includes two managed lanes in each direction in the southern portion and one in each direction in the northern portion.</p> <p>Ferrovial Construction was responsible for 70% of the design and construction work through a fixed-price, fixed-schedule design-build contract.</p> <p>The first segment of the Express Lanes in opened to traffic in June 2019, the rest of the project opened in November 2019. The delays were caused by the NCDOT added scope and the extraordinary rainy weather, including two hurricanes, experienced in the project area.</p> <p><b>NEPA Revaluations:</b> Four successful NEPA reevaluations were carried out. These included: 1) reconfiguration of the I-77 and I-277 interchange, allowing better connectivity between the proposed ELs and downtown Charlotte; 2) the addition of direct connections between the ELs and two crossing streets, Lakeview and Hambright; 3) the construction of a pedestrian tunnel under I-77; and 4) the reconfiguration of the I-77 and I-85 interchange, permitting connectivity between the MLs and I-85.</p> <p><b>Public &amp; Stakeholder Engagement:</b> Throughout the design and construction process, the contractor reached out to the community and stakeholders extensively. Efforts included sponsoring an annual transportation summit with the three chambers of commerce along the corridor, hosting open houses with neighborhood leaders to provide feedback on construction travel impacts, and hosting hundreds of neighborhood meetings in the community to discuss impacts and gain feedback. Our team also reached out directly to impacted communities to refine design and mitigate impacts of the project and identifying solutions that were tailored to the needs of each community. For example, the contractor worked with NCDOT to communicate with neighborhoods about the placement of noise walls and provide communities with an option to vote on noise walls. This actually resulted in communities closest to downtown voting against noise walls to preserve unobstructed views of the central business district. Other communities voted in favor of the walls by their homes.</p> <p><b>Relevancy:</b> This project demonstrates Ferrovia Construction's experience with managing design and construction and delivering a large transportation infrastructure project in a congested urban corridor through DB delivery.</p>	<p><b>Key Project Complexities and Challenges:</b></p> <p><b>Optimization of ROW:</b> The project team developed a design that reduced the ROW needs to a minimum, eliminating 41 acquisitions and three relocations.</p> <p><b>Mitigation of Environmental Impacts:</b> I-77 has two major water crossings, Lake Norman and Irwin Creek. Two existing bridges over the Lake Norman carried traffic in each direction and the accommodation of additional lanes required widening both bridges. The team achieved the widening construction with minimal impact to the lake. Also, Irwin Creek runs parallel to I-77 on the northbound lanes and then crosses I-77 and continues parallel along the southbound lanes. NCDOT's original bid design had nearly 3,000 LF of impact to this stream, as it put that length of stream inside a box culvert. The developer modified that design to greatly reduce the impacts by making most of them temporary instead of permanent and was able to relocate the stream slightly to the east, allowing it to remain a natural stream and not be entirely within a box culvert.</p> <p><b>Mitigation of Utility Risks:</b> Duke Energy needed to relocate a major transmission line and had to purchase additional permanent easement. Before the relocation Duke's condemnation authority is limited and does not allow possession while the process plays out. The Developer worked with NCDOT and Duke Energy for all to agree to allow NCDOT to purchase this easement on Duke's behalf, allowing NCDOT to use their condemnation authority if needed to keep the relocation from impacting the project schedule. This was the first time NCDOT had acquired easement on Duke's behalf.</p> <p><b>Challenging MOT:</b> The MOT included construction staging along portions of the project within very limited and restricted right of way. Portions of the project require widening existing roadways with over 100,000 annual average daily traffic. Construction was performed without reducing the number of existing lanes during peak travel times, allowing traffic to continue to flow without significantly impacting existing traffic.</p>
---	--	--



**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	
Name: I-35W Segment 3A  Location: Fort Worth, Texas	Name: AECOM Technical Services, Inc.	Name of Client/ Owner: TxDOT Phone: 817-240-1548 Project Manager: Michael Gage, PE Phone: 817-240-1548 Email: Michael.gage@txdot.gov	09/2018	07/2018	\$984,600 (thousands)	\$1,100,189 (thousands) (owner directed scope increases)	\$825,142 (thousands) Ferrovial Construction was 75% equity member of the Lead Contractor JV

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><b>Project Scope:</b></p> <ul style="list-style-type: none"> <li>\$1.1 billion design-build contract</li> <li>Managed 970 total firms, 810 from Texas, 740 local DFW area</li> <li>6.5 miles highway with Frontage road, General purpose lanes and Manage Lanes, totaling 110 line miles of construction</li> <li>60 bridges including eight direct connectors, four braided ramps, three major river crossings, several over railroads, almost 14 miles of bridges.</li> <li>Demolition of 700,000 SY of existing pavement; excavation of 3M CY</li> <li>2.5M CY of embankment; 1.3M SF of retaining walls</li> <li>MOT of 140,000 AADT while maintaining four open lanes; coordinated 14,000 lane closures</li> <li>Integration with adjacent express lanes and with Transit rail line (Trinity)1,900 ft multi-span bridge over railroad</li> <li>295 utility conflicts with 167 relocations and 22 utility owners</li> <li>Railroad coordination with multiple rail entities</li> <li>ROW acquisition of 100 parcels valued at \$40 million in 22 months</li> <li>Preservation of complex existing ITS during construction and resolution of several conflicts without interrupting service</li> <li>Achieved 13% DBE participation with 112 firms (TxDOT goal was 6%)</li> <li>8.4 million man-hours with an 0.8 OSHA recordable incident rate (2.8 national average)</li> <li>ITS and ECTS civil infrastructure including 10 toll gantries and 112,000 LF of duct bank for the system, 34 ITS cameras, 133 MVDs and 14 DMS, one maintenance building</li> </ul> <p><b>Similarities with I-81 Widening Project:</b></p> <ul style="list-style-type: none"> <li>High Traffic (&gt; 140,000 ADT)</li> <li>Phased Bridge Construction under Traffic</li> <li>Complex MOT with Existing lanes and ramps detour</li> <li>Maintain Mainline Traffic Capacity</li> <li>Multiple Utilities Conflicts</li> <li>Minimize Property Impacts. Stakeholders involvement and in-house public outreach team daily coordination for traffic and construction teams activities with the public</li> <li>Interstate Highway System</li> <li>Congestion Relief &amp; Safety Improvements. Relocated ramps and improved Interchanges.</li> <li>Adjacent Wetland &amp; WOUS/Permit</li> <li>Adjacent properties and Neighborhoods</li> </ul>	<p><b>Project Overview:</b></p> <p>Segment 3A involved the complete reconstruction of a 6.5-mile heavily traveled, existing urban corridor with the addition of express lanes to I-35W. The team achieved USACE 404 and 408 permits for two major crossings over the Trinity River West Fork and Ham Branch. Ferrovial Construction was a member of the lead contractor under a fixed-price, fixed-schedule design-build contract. The construction costs were \$1.1B. Ferrovial Construction was responsible for 75% of the design and construction costs. Ferrovial Construction's affiliate Webber, LLC, was responsible for the other 25%.</p> <p>Four miles of the Express Lanes opened in April 2018; the rest of the project opened in July 2018 two months ahead of the contracted completion date.</p> <p><b>Collaborative Design Development:</b> Design, construction, and maintenance collaborated to optimize the long-term solution for this project. Examples of efforts to promote long-term efficiencies and reduced costs include:</p> <ul style="list-style-type: none"> <li>Concurrent design review by construction and O&amp;M teams</li> <li>Changing metal beam guard rail for concrete barrier</li> <li>Considering traffic during construction phase when designing the pavement</li> <li>Optimizing the number of beams per span in structures to diminish exposed concrete and number of bearing seats.</li> </ul> <p><b>Complex Construction of Freight Corridor:</b> The DFW Metroplex is one of the largest global inland distribution centers in the world with significant trade activity by air, land and rail. The project upgraded I- 35W to current design standards to ensure operational and design deficiencies were addressed to provide more efficient and safe movement of freight and passenger vehicles. With more than 140,000 vehicles moving daily through the corridor, the construction team managed to maintain four lanes open to traffic and coordinate more than 14,000 lane closures and MOT shifts.</p> <p><b>DBE Success:</b> Ferrovial Construction facilitated DBE involvement through a proactive and extensive outreach strategy and by implementing inclusive procurement practices and effective contract compliance measures. <b>The project issued 116 contracts to 112 DBE firms with a value of \$116M to exceed the goal by 98%.</b></p> <p><b>Relevancy:</b> Early delivery of design and construction of highway improvement project in a dense urban area under a design-build contract. The project required multiple stakeholder coordination, environmental reevaluation, complex maintenance of traffic plans, demolition of existing roadway and bridges and utility relocation.</p>	<p><b>Key Project Complexities and Challenges:</b></p> <p><b>ATC Innovation:</b> the team implemented an ATC that lowered the profile of the express lanes to the same level as the GPLs. Benefits of this ATC included: removal of an entire construction phase; reduced construction complexity and long-term maintenance; compressed schedule and increased safety by reducing the number of bridges required; implemented geometric changes that improved air quality; lessened noise impacts to adjacent properties; eliminated impacts to several ROW parcels; and reduced traffic switches needed during construction.</p> <p><b>Environmentally Sensitive Areas:</b> design, construction and environmental teams collaborated on two NEPA reevaluations for lowering the profile of the express lanes and eliminating a pedestrian bridge (pedestrian elements were added to an existing bridge). The reevaluations, taken at the design-builder's risk, required updates to all aspects of the environmental documentation including effects to waters of the US, noise mitigation, threatened and endangered species, etc. They ensured the new design complied with all permitting requirements and worked closely with FHWA and TxDOT to expedite the approvals. Six other NEPA re-evaluations were successfully carried by the contractor.</p> <p><b>Stakeholder &amp; Public Engagement:</b> The in-house public outreach team worked daily with design, traffic and production teams to ensure the schedule and construction activities were coordinated with all the stakeholders and the general public. Major events/conflicts by the city or a specific business were considered when scheduling work. Ferrovial performed targeted coordination with the City of Fort Worth, Tarrant County Commissioners, TxDOT, Downtown Fort Worth Alliance Group, Fort Worth Stockyards, Fort Worth Chamber of Commerce, Fort Worth Visitors and Convention Bureau, adjacent property owners, railroads and utility owners.</p>
---	--	--



# Appendix

## Attachment 3.4.1 (b) Work History Forms - Lead Designer





**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)	
Name: <b>Design-Build I-81 Interchange Improvements at Exit 114</b>  Location: Montgomery Co., VA	Name: Haymes Brothers, Inc.	Name of Client: VDOT Salem District Phone: 540-387-5320 Project Manager: Duane Mann, PE, PMP Phone: 540-381-7195 Email: Duane.Mann@VDOT.Virginia.gov	05/2018 (Design-Build NTP)	07/2021 (Estimated)	\$21,333	\$22,000 (Estimated – Owner directed changes)	\$2,605 (Design and QAM)

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 with multiple phases, segments, elements, and/or contracts shall not be considered a single project. If a project listed includes multiple phases, segments, elements, and/or contracts, the SOQ may be rendered non-responsive. In any case, only the first phase, segment, element, and/or contract listed will be evaluated.

<b>SIMILARITY TO I-81 MM 136.6 to 141.8 WIDENING PROJECT</b>		<b>AMT'S ROLE:</b> AMT is the Lead Designer and QAM provider for this design-build project
<b>Complexity</b>	<ul style="list-style-type: none"> <li>– Bridge Replacement “Under Traffic” (staged construction)</li> <li>– Karst and Variable Bedrock</li> <li>– Median Crossover for MOT</li> <li>– Bifurcated Roadway Profiles</li> <li>– Off-Ramp Traffic Queue Lengths</li> <li>– Design Waiver for Shoulder Width and Foreslope</li> </ul>	<p><b>SUMMARY OF IMPROVEMENTS:</b> With this design-build project, currently in the final year of construction, AMT will deliver important infrastructure improvements on I-81 near Christiansburg:</p> <ul style="list-style-type: none"> <li>• Replacement of the two existing substandard, deteriorating bridges of I-81 over Route 8;</li> <li>• Interstate roadway widening and geometric modifications, to accomplish the realignment of southbound I-81 lanes, as well as to raise the profile grade by four feet to resolve substandard clearance over Route 8;</li> <li>• Modification of the Exit 114 ramps including the addition of two signals at ramp termini.</li> </ul>
<b>Context</b>	<ul style="list-style-type: none"> <li>– Interstate Highway</li> <li>– VDOT GS-INT</li> <li>– High Truck Traffic</li> <li>– Roadway Realigned to Median</li> <li>– Aging Existing Drainage</li> <li>– Time of Year Restrictions</li> </ul>	<p><b>PROJECT NARRATIVE:</b> AMT designed roadway horizontal and vertical alignments, bridges, retaining structure including custom moment slab with 42” concrete barrier, drainage and stormwater management, multi-phase TMP/MOT, erosion and sediment control, signing and pavement markings, traffic signals, environmental permitting, and coordinated utility relocation and public involvement. AMT oversaw subconsultant efforts for geotechnical engineering, lighting design, supplemental survey and ROW efforts.</p> <p><b>Roadway:</b> Prepared interstate widening, shoulder improvements and shifting of the interstate alignment into median to avoid right-of way. Established 3.8 miles of horizontal alignment. Raised I-81 profile to address substandard clearance. Addressed bifurcated profiles and narrowed median with modified MB-7F barrier design (to allow retained fill), extensive drainage system, and design waivers.</p>
<b>Locale</b>	<ul style="list-style-type: none"> <li>– Salem District</li> <li>– I-81 Corridor</li> <li>– Karst Region</li> </ul>	<p><b>Bridge:</b> To facilitate future widening on Route 8 below and to minimize substructure cost, the new I-81 bridges were designed as single-span (146’ long) steel plate girder structures with semi-integral abutments, as opposed to 3-span (200’ long) existing steel beam bridges. Substructures are designed as cantilever abutments founded on steel H-piles. To reduce the abutment size and number of piles, select backfill with geogrid was used.</p>
<b>Scope / Services</b>	<ul style="list-style-type: none"> <li>– Interstate Widening and Realignment</li> <li>– Bridge Replacement Design</li> <li>– Retaining Structure Design</li> <li>– Geotechnical</li> <li>– Drainage/SWM/ESC</li> <li>– TMP/MOT</li> <li>– Signing and Pavement Markings</li> <li>– Traffic Signals and Lighting</li> <li>– Environmental Permitting</li> <li>– Survey/SUE</li> <li>– Utility Relocation</li> <li>– Public Involvement</li> <li>– QAM</li> </ul>	<p><b>Traffic:</b> A traffic operations analysis was prepared in accordance with VDOT’s Traffic Operations and Safety Analysis Manual (TOSAM) along Route 8 and at each of the I-81 interchange ramps with a focus on intersection lane geometry, turn-lane storage/queuing and traffic control. AMT prepared phased traffic signal design plans for the installation of new traffic signals along Route 8 at the I-81 ramp intersections, that incorporated an initial and a final stage of construction.</p> <p><b>Stormwater Management:</b> A BMP is being added to the project to address increases in runoff associated with proposed impervious areas reaching an existing culvert approximately 800 feet south of the project. AMT developed 3 options for an extended detention pond, located in the ramp infield area, and is in the process of preparing final design of the facility, having obtained input from VDOT using over-the-shoulder reviews.</p>
<b>Delivery</b>	<ul style="list-style-type: none"> <li>– Design Build</li> <li>– Concurrent, Interdisciplinary Design</li> <li>– Contractor-provided QAM</li> <li>– Contractor-provided QC</li> </ul>	<p><b>Karst and Unpredictable Geology:</b> The site is in a Karst area, with zones of differential weathering and soil-fill voids observed within the bedrock, caused by the soluble Limestone that underlies the site. Since test borings results are limited to the boring locations, to identify potential voids or soil-filled seams in the rock between borings, the AMT team conducted a geophysical survey. The electrical resistivity survey characterized the soil and rock strata to a depth of 100-feet and identified several zones of unweathered rock (“floats”) within the soil matrix, significantly higher than the top of the Elbrook Formation Limestone. A plan was formulated to either drive through or pre-bore abutment piles at the “floats”, dependent on thickness. Actual pile driving conditions resulted in just two piles not achieving required depth, which was evaluated by the AMT team and found to be acceptable to VDOT based on the redundancy of our pile design.</p>



Left: AMT's New I-81 SB Bridge Construction in progress

**Project Challenges**

**MOT:** The replacement of these major interstate bridges “under traffic” necessitated the permanent relocation of the I-81 southbound alignment into the median, so that traffic can be continuously maintained both on the interstate and on the major collector below. AMT designed a temporary crossover placing northbound I-81 traffic onto the new southbound bridge temporarily during the second construction phase.

**Constrained Median | Drainage:** The final narrowed median created drainage complexity, for both the interim conditions on temporary pavement and the final condition, since provision of median ditches was not feasible. Curbing was used along the NB (lower) shoulder to collect drainage into modified DI-13 inlets. AMT designed a trunk-line and multiple structures (manholes, inlets), with the elevation and horizontal location influenced by the construction phase in which it was to be built.

**Constrained Median | Barriers:** The narrow median also required a retaining structure along the interior of the shifted sb lanes. A practical design analysis by the AMT team resulted in a special 42” tall barrier on a moment slab, with a 3:1 slope off the back of the system. AMT applied WSDOT the methodology, which is based on NCHRP Report 663 with the exception of a resistance factor of 0.5 to determine rotational resistance. VDOT stated they intend to adopt the method conducted by AMT as a standard practice for moment slab design.

**OFFICE LOCATION:** Design services were provided from AMT’s Chantilly, Richmond and Rockville offices.

**VERIFIABLE EVIDENCE OF GOOD PERFORMANCE:**

- VDOT Central Office S&B stated they intend to adopt the Moment Slab design method conducted by AMT as a standard practice for moment slab design
- Scores of 3.0 or higher on Design-Build-Performance Evaluations



**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)	
Name: <b>Design-Build US Route 1 Improvements at Fort Belvoir</b>  Location: Fairfax County, VA	Name: Corman Construction, Inc. / Wagman, Inc. Joint Venture	Name of Client: FHWA-Eastern Federal Lands Highway Div./VDOT NOVA (secondary) Phone: 800-367-7623 Project Manager: Timothy Hartzell Phone: 703-259-2749 Email: Timothy.Hartzell@VDOT.Virginia.gov	06/2013 (Design Build NTP)	06/2017 (Substantial Completion)	\$69,300	\$82,000 (Owner directed changes)	\$10,430 (Design, ROW Acquisition, Construction QC)

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 with multiple phases, segments, elements, and/or contracts shall not be considered a single project. If a project listed includes multiple phases, segments, elements, and/or contracts, the SOQ may be rendered non-responsive. In any case, only the first phase, segment, element, and/or contract listed will be evaluated.

<p><b>SIMILARITY TO I-81 MM 136.6 to 141.8 WIDENING PROJECT</b></p>		<p><b>AMT'S ROLE:</b> AMT was the Engineer of Record, responsible for management and oversight of all aspects of engineering design (roadway, structures, geotechnical, drainage, phasing/traffic control, signing, signals, ITS, lighting, stormwater management, erosion and sediment control, ROW and utilities). AMT obtained all permits, and provided the Construction Quality Control Manager, which included inspection and testing services.</p> <p><b>SUMMARY OF IMPROVEMENTS:</b></p> <ul style="list-style-type: none"> <li>An improved 3.68-mile six-lane divided NHS highway, adding a 32' median to accommodate future transit.</li> <li>Twin, 2-span bridges (260 feet long), raised from the existing Rte 1 profile to clear Accotink Creek Floodplain</li> <li>Designed roadway and bridges NOT TO PRECLUDE future widening</li> <li>New Retaining Walls (MSE, VDOT RW-1) and New Noise Walls adjacent to Inlet Cove community.</li> <li>A precast slab bridge supported on helical piles for a new shared use path</li> <li>Extensive TMP with 3 major phases and 5 sub-phases to provide safe and efficient traffic during construction</li> <li>Utility relocation/coordination, including relocating utility poles along entire alignment</li> <li>Five SWM ponds, 200+ drainage structures, five miles of storm drain pipe, and E/S control phased with MOT</li> <li>Permits for multiple impacts to stream channels (3,500 LF) and wetlands (approximately 2.3 acre), with jurisdiction by VMRC, Army COE Norfolk, and DEQ. In-stream time of year restrictions applied to 2 streams.</li> <li>Extensive right-of-way acquisitions, including more than 100 tenant relocations</li> </ul> <p><b>PROJECT NARRATIVE:</b> AMT was the Engineer of Record and Construction Quality Control Manager for this large design-build project in northeastern Virginia, which provides traffic relief and safety for the ongoing BRAC consolidation occurring in the vicinity of Fort Belvoir. The Route 1 Improvements project implements a series of enhancements along Route 1 from the Telegraph Road intersection north to Mt. Vernon Memorial Highway for a distance of 3.68 miles. These improvements generally widen Route 1 from four to six lanes, provide a one-mile new alignment to avoid major property impacts, improve intersection safety, operations and capacity with new traffic signals and acceleration/deceleration lanes, and provide parallel pedestrian and bicycle facilities for the entire length. In addition, this project has new replacement bridges over Accotink Creek, major culverts and equipment/wildlife crossing structures under Route 1, and removal of an existing military railroad crossing. Improvements along Route 286 and Route 610 included shifts in the horizontal alignment, addition of auxiliary lanes, storm drainage, signals, and extension of a trail along NB 286 which required two retaining walls and a slab bridge supported on helical piles to avoid impacts to environmental resources.</p>	<p>Common Sense Engineering was applied during design. Through the use of milling, overlay, and build-up in area where allowable, proposed maintenance of traffic was simplified requiring smaller shifts in traffic to address grade changes at the curb line, providing pavement widening as needed. In areas of complete reconstruction, AMT established a bifurcated roadway profile to help minimize earthwork and limit impacts on the adjacent Fort Belvoir and other historic properties.</p> <p><b>Project Challenges</b> Two of the major complexities on this project were dealing with variable geotechnical conditions, and maintaining traffic on heavily traveled principal arterials during major reconstruction. We developed slope stability design solutions including pile supported slopes and seep relief designs, which in turn allowed the slopes to be contained within ROW and minimize overall footprint. The Maintenance of Traffic Plan included 3 major phases with 5 sub-phases to maintain 50,000 vehicles per day through major intersections and on the through corridor, primarily achieved by building the new southbound lanes first with temporary widening into the median, shifting all traffic to NB, then re-building southbound.</p> <p>AMT also provided phased drainage/culvert construction plans, creative stormwater management approach to minimize the number of facilities (using the "1 percent rule" and nutrient banking), and advance grading packages to facilitate early utility pole relocations. The existing open drainage ditches were converted into closed drainage systems for the entire 3.68 mile corridor. The project is coordinated with several concurrent and/or adjacent projects administered by others - North Post Access Control Point (Fort Belvoir), Lyndam Hills Phase 2 Development, and Jeff Todd Way. Twenty-five parcels required either partial or total acquisition, and more than 100 tenants were provided relocation as part of the design-build contract, under the management of AMT.</p> <p><b>OFFICE LOCATION:</b> Design services were provided from AMT's Richmond, Chantilly and Rockville offices, in addition to the project on-site field office. Construction services were provided from the field office.</p> <p><b>VERIFIABLE EVIDENCE OF GOOD PERFORMANCE:</b></p> <ul style="list-style-type: none"> <li>AMT structured its delivery of the project to allow for adequate time for outreach and community input. <u>First construction package was approved within 1 month of VDOT Design Approval.</u></li> <li>Acquired Individual Wetland Permit from ACOE/DEQ within 7 months of application (2 months ahead of schedule)</li> <li>Excellent community feedback on social media, for example: "Thank you so very much for the work efforts made in the design and construction of U.S. Route 1....safe detours and temporary closures with signs providing [updates]."</li> <li>Fairfax County stated they will use AMT's SWM pond in the Woodlawn Historic District as an example of how they would like future ponds in the County to be designed.</li> <li>ACEC Award Winning</li> </ul>	
<p><b>Complexity</b></p> <ul style="list-style-type: none"> <li>High Traffic (&gt; 40,000 ADT on Rte 1)</li> <li>Substandard Vertical Clearance</li> <li>Raise Profile "Under Traffic"</li> <li>Unpredictable Geology</li> <li>Multiple Existing Utilities</li> <li>Bifurcated Roadway Profile</li> <li>Conversion to Closed Drainage</li> <li>Right of Way During Construction</li> </ul>				
<p><b>Context</b></p> <ul style="list-style-type: none"> <li>Congestion Relief &amp; Safety Improvements</li> <li>National Highway System</li> <li>Widening with Some Realignment</li> <li>Multiple Stakeholders</li> <li>Wetlands &amp; WOUS Permit</li> <li>T&amp;E Species (Bats)</li> </ul>				
<p><b>Locale</b></p> <ul style="list-style-type: none"> <li>Rural/Urban Mix</li> <li>Virginia</li> </ul>				
<p><b>Scope / Services</b></p> <ul style="list-style-type: none"> <li>Bridges and Walls</li> <li>Roadway Realignment</li> <li>Geotechnical / Pavement Engineering</li> <li>Drainage/SWM</li> <li>TMP/MOT</li> <li>ITS (EVP, Cameras, Count Loop)</li> <li>Sound Wall Analysis &amp; Design</li> <li>Environmental Permitting</li> <li>Right of Way Acquisition</li> <li>Survey/SUE</li> <li>Utility Design</li> <li>Public Involvement</li> <li>CEI</li> </ul>				
<p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>Design-Build</li> <li>Concurrent, Interdisciplinary Design</li> <li>Accelerated Design Schedule</li> <li>Contractor-provided QAM</li> <li>Contractor-provided QC</li> </ul>				





**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)	
Name: <b>I-26 Widening, NC 208 (Airport Rd to NC 191 (Brevard Rd))</b> Location: Henderson & Buncombe Counties, North Carolina	Name: Fluor-United Infrastructure Joint Venture	Name of Client: Fluor-United Infrastructure JV Phone: 864-382-0499 Project Manager: Zachary Hensley Phone: 864-382-0499 Email: Zachary.Hensley@FlourUnitedLLC.com	08/2019	Early 2024 (Estimated)	\$263,000	\$263,000 (Estimated)	\$716

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 with multiple phases, segments, elements, and/or contracts shall not be considered a single project. If a project listed includes multiple phases, segments, elements, and/or contracts, the SOQ may be rendered non-responsive. In any case, only the first phase, segment, element, and/or contract listed will be evaluated.

**SIMILARITY TO I-81 MM 136.6 to 141.8 WIDENING PROJECT**

- Complexity**
- Interstate Re-Construction "under traffic" (including bridges)
  - Major Redesign During Construction
  - High Traffic (> 58,000 ADT)
  - Karst and variable bedrock
  - Bifurcated Profiles
  - Multiple median crossovers and temporary ramps to accommodate continued flow of interchange traffic

- Context**
- Interstate Highway
  - Congestion Relief & Safety Improvements
  - Multiple Interchanges
  - Optimized Maintenance of Traffic/Construction Phasing to save >30,000 Tons of Asphalt

- Locale**
- Rural Areas
  - Karst Region (western limit)

- Scope / Services**
- Interstate Widening
  - Interchange Modifications
  - Bridge Design
  - Retaining Wall Design
  - Geotechnical Engineering
  - Erosion & Sediment Control
  - Drainage Design
  - TMP/Phased MOT
  - Stakeholder Coordination

- Delivery**
- Design Concurrent with Construction
  - Accelerated Design
  - Contractor-imitated Re-Design

**AMT'S ROLE:**

AMT was the Lead Designer for the re-engineering of a \$263 million interstate widening project in Asheville, NC. AMT developed a Transportation Management Plan (TMP) and multi-phased MOT plans, related roadway alignment (horizontal and vertical), drainage, and Erosion and Sediment Control design. AMT designed a new temporary bridge over Biltmore Farms Road for the temporary on-site detour alignment. AMT also designed a new permanent bridge over Biltmore Farms Road and associated MSE walls.

**SUMMARY OF IMPROVEMENTS:**

This Interstate capacity improvement project will widen approximately 7.5 miles of I-26 from NC 280 (Airport Road) to NC 191 (Brevard Road) from a 4-lane to an 8-lane section. The project has multiple interchanges and structures including a DDI interchange, SPUI interchange and an 80' high bridge over the Federally owned Blue Ridge Parkway.

**PROJECT NARRATIVE:**

AMT's design simplified construction phasing, accelerated construction schedule, reduced costs, and improved safety. This was accomplished with extensive coordination involving multiple divisions and departments of NCDOT, active adjacent projects, the contractor team, AMT's geotechnical subconsultant, and local stakeholders at Biltmore Farms.

AMT's simplified phasing approach was to perform temporary grading and temporary pavement widening to the outside of eastbound I-26 that would accommodate the phase 2 traffic pattern. A key innovation was the temporary vs. permanent end condition cross section review that AMT performed. Instead of 8 miles of throwaway temporary pavement, the design team identified and designed areas of pavement wedging allowing sections of permanent grading, pavement, shoulder-berm-gutter, and walls to be installed while accommodating smooth transitions and positive drainage for the phase 2 pattern. In addition, AMT optimized temporary grading in select locations using temporary wire walls, allowing the contractor to construct temporary outside pavement widening without impacting permanent fill slopes. During phase 2, traffic is shifted to a temporary 4-lane, 2-way median barrier divided pattern over newly widened eastbound lanes while the proposed westbound section from centerline out is constructed away from traffic. Lastly, in phase 3, the temporary 4-lane, 2-way median barrier divided pattern is shifted onto newly constructed westbound lanes and the proposed eastbound section from centerline out is constructed away from traffic.



**I-26 Corridor, Early Phase Grading**

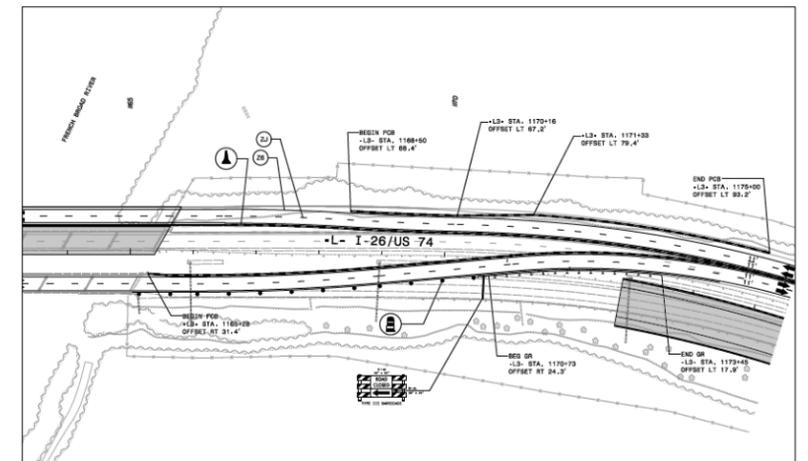
**AMT's Phasing Plan allowed work to be completed during the day (versus night-time with lane closures) and greatly increased safety by moving work zones away from live traffic, while saving both cost and time.**

**Roadway Design, Bridge & Major Culvert Design:** As part of a value engineering proposal, AMT redesigned the I-26 bridge over Biltmore Farms Road, reducing the original span length from 160' to 113' and changing the original two span bridge with spill-through slopes to a single span bridge with MSE abutments. In addition to reducing the span length, this allowed for a two-phase bridge construction instead of the original three-phases.

**Karst Topography:** The interstate crosses a mapped karst topography zone within the USGS Appalachian states study. Where I-26 crosses the Henderson-Buncombe border, the terrain is described as "marbles and metalimestomes," highly deformed carbonate rocks for which dissolution may result in collapse or cover-collapse sinkholes.

**Project Challenges:**

The largest challenge for this project was to design temporary detour ramps and temporary realignments for a DDI interchange and SPUI interchange ramps considering the nearly full-length removal and replacement of the existing ramps and the constraining mountainous terrain. The revised phasing includes 8 temporary new location detour ramps and 8 temporary realignments/extensions of existing ramps to accommodate temporary median crossovers. The temporary ramps are located at the I-26 and NC 280 (Airport Road) DDI interchange and at the I-26 and NC 146 (Long Shoals Road) SPUI interchange on both the eastbound and westbound directions with their respective construction phasing.



**AMT-Designed Temporary Crossover of I-26 for Bridge Construction**

**OFFICE LOCATION:** Design services were provided from AMT's Raleigh & Rockville offices.

**VERIFIABLE EVIDENCE OF GOOD PERFORMANCE:**

- AMT performed design services for this project through the Value Engineering process on behalf of the Contractor. The accelerated schedule for AMT's design, which was necessary to accommodate the contractors construction schedule, was successfully met.
- Additionally, the designs were approved by the Owner, NCDOT without significant comments or delays. This information is verifiable by contacting the Contractor Client.