RESPONSE TO REQUEST FOR QUALIFICATIONS

Route 606 Loudoun County Parkway/Old Ox Road Reconstruction and Widening

A DESIGN-BUILD PROJECT

FROM: Route 621 Evergreen Mills Road
TO: Route 267 Dulles Greenway

LOUDOUN COUNTY, VIRGINIA

State Project No.: 0606-053-983
Federal Project No.: STP-5A01 (165)
Contract ID Number: C00097529DB64
3.2 Letter of Submittal
August 27, 2013

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

RE: Route 606 Loudoun County Parkway/Old Ox Road Reconstruction and Widening
From: Route 621 Evergreen Mills Road To: Route 267 Dulles Greenway
Loudoun County, Virginia
Contract ID Number: C00097529DB64

3.2 Letter of Submittal

Dear Mr. Daoulas:

Shirley Contracting Company, LLC (Shirley), as the Offeror, is pleased to submit to the Virginia Department of Transportation (VDOT) our Letter of Submittal in response to your Request for Qualifications for the Route 606 Loudoun County Parkway/Old Ox Road Widening and Reconstruction Design-Build Project (the Project). For this pursuit, we have assembled a Team with unparalleled experience and expertise in the industry to assure VDOT that the Project will exceed all expectations.

3.2.1 The full legal name and address of the Offeror is as follows:
Shirley Contracting Company, LLC
8435 Backlick Road
Lorton, Virginia 22079

3.2.2 Our Point of Contact is:
Mr. Garry A. Palleschi
Vice President
Shirley Contracting Company, LLC
8435 Backlick Road
Lorton, Virginia 22079
(P) 703-550-3579 (F) 703-550-9346
gpalleschi@shirleycontracting.com

3.2.3 Our Principal Officer is:
Mr. Michael E. Post
President/CEO/Manager
Shirley Contracting Company, LLC
8435 Backlick Road
Lorton, Virginia 22079
(P) 703-550-8100 (F) 703-550-3558
mpost@shirleycontracting.com

3.2.4 Shirley Contracting Company, LLC, a limited liability company, will be the legal entity, will have financial responsibility for the Project and will have joint and several liability for the performance of the work. There are no liability limitations. Our bonding approach will be to provide performance and payment bonds for the total contract value and time period.

3.2.5 The Lead Contractor for the Project will be Shirley Contracting Company, LLC and the Lead Designer will be Dewberry Consultants LLC.

3.2.6 The full legal names and addresses of all affiliated and/or subsidiary companies of the Offeror are provided in Attachment 3.2.6.
3.2.7 Signed Certification Regarding Debarment Forms for Primary and Lower Tiered Covered Transactions are included as an attachment.

3.2.8 Shirley Contracting Company, LLC is currently prequalified (active status) with VDOT. Our Vendor Number is S018. A screen shot print out from VDOT’s on-line Prequalified List is attached.

3.2.9 Attached is a letter from our surety that provides evidence that we are capable of obtaining a performance and payment bond for the current estimated contract value, and that these bonds will cover the Project and any warranty periods.

3.2.10 Virginia State Corporation Commission (SCC) and Virginia Department of Professional and Occupational Regulations (DPOR) registration information for all business entities on the Offeror’s team are included in Attachment 3.2.10. Full size copies of registrations and licenses are provided in the appendix to this Statement of Qualifications.

3.2.11 I am providing the following statement demonstrating our commitment to the project’s DBE goals:

*I personally commit to VDOT that Shirley will achieve a DBE participation goal of 14% for the entire value of the contract:*

______________________________________________________________________________

Michael E. Post
President/CEO/Manager
Shirley Contracting Company, LLC

On behalf of our Team, we thank the Virginia Department of Transportation for the opportunity to submit this SOQ to the Request for Qualifications and we look forward to your review of our submittal.

Sincerely,

Michael E. Post
President/CEO/Manager
Shirley Contracting Company, LLC

Attachments:
- Affiliates and Subsidiaries 3.2.6
- Certification Regarding Debarment Forms
- Evidence of Prequalification
- Surety Letter
- SCC Registrations
- DPOR Registrations
3.3 Offeror's Team Structure
3.3 Offeror's Team Structure

INTRODUCTION
Shirley Contracting Company, LLC (Shirley) has the experience and personnel to effectively manage all of the design-build elements of the Route 606 Reconstruction and Widening Project (the Project). Shirley is committing many of the same Team Members and Key Personnel to the Project that have been responsible for managing more than $500 million of design-build roadway and bridge projects in Northern Virginia including the Route 28 Corridor Improvements Project, Dulles Greenway Capital Improvements Project, Battlefield Parkway, Route 50 Widening, Pacific Boulevard, Fairfax County Parkway - Phase III, Sycolin Road Overpass, and Waxpool Road/Loudoun County Parkway Intersection Improvement Design-Build Projects. On each of these projects, Shirley was the Lead Contractor and Dewberry Consultants, LLC was the Lead Designer. Further, each of these design-build projects has been, or will be, completed ahead of schedule, at a fixed price, and without a single claim or other outstanding issue. Moreover, because our Team members and Key Personnel have worked together on these critical design-build projects for almost 11 years, we have developed close working relationships with each other. Having a thorough understanding of each other’s abilities allows us to efficiently manage each discipline and reduce project risk.

3.3.1 KEY PERSONNEL
Information for the following Key Personnel are included as Attachment 3.3.1 - Key Personnel Resume Forms.

| Design-Build Project Manager: | Jeffrey Austin, PE | Shirley Contracting Company, LLC |
| Quality Assurance Manager (QAM): | John Vicinski, PE | Quinn Consulting Services, Inc. |
| Design Manager: | David Mahoney, PE | Dewberry Consultants LLC |
| Construction Manager: | Tony Jefferys | Shirley Contracting Company, LLC |
| Lead Geotechnical Engineer: | Tadeusz "Ted" Lewis, PE | GeoConcepts Engineering, Inc |
| Dam Design Specialist: | Geoffrey “Jeff” Cowan, PE | Dewberry Consultants LLC |
| Dam Design Specialist: | Irfan Alvi, PE | Alvi Associates, Inc. |
| Dam Construction Specialist: | Gary Christensen | Shirley Contracting Company, LLC |

As the resumes indicate, each individual we have selected for the Key Personnel roles has extensive experience in the design, construction, and administration of VDOT design-build projects, as well as significant overall design and construction expertise.

3.3.2 ORGANIZATIONAL CHART
The Shirley Team’s Organizational Chart for the Project is described normatively and graphically on the following page. The “chain of command” is depicted on the chart by solid lines, which represent the primary reporting relationships, and by dashed lines, which represent communication relationships, between the major project disciplines and participants.
Major Project Disciplines include:

**VDOT:** As the Owner, VDOT will maintain oversight responsibility for all aspects of the Project to ensure compliance with the Contract Documents and to take final acceptance when complete. We anticipate that VDOT will also want to be the primary liaison between certain outside third-party stakeholders and the Project Team.

*Design-Build Project Manager (Jeffrey Austin, PE):* This Key Personnel position on our Team is tasked with full and complete authority over all aspects of the Shirley Team’s responsibilities. In addition to being the primary point of contact with VDOT after award of the Project, the Design-Build Project Manager (D/B PM) has ultimate responsibility for contract management and to coordinate and integrate the various project disciplines successfully, including design, construction, quality control, right-of-way, utilities, and safety. The D/B PM will also serve as the primary support to VDOT’s efforts to communicate with certain third-party stakeholders, and at VDOT’s discretion, can take the lead public involvement role in communicating and coordinating with these third parties.

*Quality Assurance Manager (John Vicinski, PE):* In this Key Personnel role, the Quality Assurance Manager (QAM) reports directly to the D/B PM and is completely independent from the construction operations and QC inspections. The QAM has full responsibility for assuring that the Project is in compliance with the Contract Documents, manages all aspects of the QA program, and will direct the QA inspections by the QA Lead Inspector and independent QA testing technicians from Froehling & Robertson, Inc. This position is unique in that the QAM has the autonomy to report findings directly to VDOT in
addition to the D/B PM, and if the work is not in compliance with the Contract Documents, he has the authority to unilaterally halt or suspend the work and the responsibility to assure corrective action is taken before the work is accepted and certified for payment.

*Design Manager (David Mahoney, PE):* Reporting to the D/B PM, this Key Personnel position has overall responsibility for management of all aspects of the design process including roadway, structural, ITS, hydraulic, permitting, traffic, and geotechnical. Of vital importance is the Design Manager’s role in integrating the various design disciplines with the Construction, Right-of-Way, Utility, and Safety elements. In addition, the Design Manager will establish and oversee the Design QA/QC program. The Design Manager will ensure that the design QA and QC functions shall be exclusively designated to such and shall not be assigned to perform conflicting duties or production work, as outlined in the January 2012 version of the *Minimum Requirements for Quality Assurance and Quality Control on Design-Build and P3 Projects.*

*Construction Manager (Tony Jefferys):* Reporting to the D/B PM, this Key Personnel position has the responsibility to manage all aspects of project construction and the Quality Control process. Prior to construction commencing, the Construction Manager will facilitate all constructability reviews for each aspect of the design, work closely with the Utility Manager to plan for necessary relocations, and coordinate with the Right-of-Way Manager to prioritize and schedule the acquisition process. During construction, he will be on site at all times, and will maintain the project schedule, coordinate with the QC Manager, Project Manager, and Superintendent to ensure all construction materials and activities are in accordance with the Contract Documents. Additionally, the Construction Manager will communicate with the Design Manager to arrange for design engineer’s review of construction activities through the witness and hold points.

*Lead Geotechnical Engineer (Tadeusz "Ted" Lewis, PE):* Reporting directly to the Design Manager, this Key Personnel position is responsible for the geotechnical investigations, analysis, and geotechnical recommendations for all project elements including roadway and structural improvements, and the modifications required to the Horsepen Dam. Mr. Lewis has significant high hazard dam geotechnical investigation, analysis, and recommendation experience in Virginia, and has significant design-build roadway experience with our Team on all of our past successful projects.

*Dam Design Specialist (Geoffrey “Jeff” Cowan, PE):* Reporting directly to the Design Manager, this Key Personnel position is responsible for the design of all modifications to the Horsepen Dam embankment, spillway, and outlet structure. With significant high hazard dam modification experience in Virginia, Mr. Cowan brings the expertise necessary to ensure the engineering modifications required for this project are properly and thoroughly designed the ensure the long-term stability and safety of the widened and enlarged Horsepen Dam.

*Dam Design Specialist (Irfan Alvi, PE):* Reporting directly to the Design Manager, this Key Personnel position is responsible for the quality control review and documentation of the engineering modifications to the Horsepen Dam. Mr. Alvi has significant high hazard dam experience as well as expertise in dam modifications and roadway improvement projects. This unique and well rounded experience will ensure that QC reviews on this critical project element recognize the overall project requirements and how their interactions need to be considered throughout the design efforts.

*Dam Construction Specialist (Gary Christensen):* Reporting directly to the Construction Manager, this Key Personnel position is responsible for providing additional dam construction experience. Mr. Christensen will bring his experience on the recently completed Goshen Dam Project and work directly with the Construction Manager to develop construction processes to complete the improvements to Horsepen Dam.

**Roadway Design Engineer (Steve Kuntz, PE, DBIA):** Reporting to the Design Manager, the Roadway Design Engineer will be responsible for the day-to-day engineering design of the proposed roadway improvements. This will include oversight of horizontal and vertical geometric design, roadway storm drainage design, typical sections, and all plan and profile detailed design. Additionally, he will be
responsible for review of all roadway related shop drawings including noise barrier details and special
design drainage structures (drainage component), and will coordinate directly with each of the other lead
engineers identified below.

**Structural Design Engineer (Jim Davidson, PE, DBIA):** Reporting to the Design Manager, the Structural
Design Engineer will be responsible for the day-to-day engineering design of all proposed structural
improvements including the bridge over the Horsepen Dam spillway and all retaining walls. He will oversee
review of all structural shop drawings including foundation designs (signs, traffic signals, and noise
barriers), special design drainage structures (structural component), and structural steel or concrete girder
designs and will coordinate directly with the other lead engineers.

**Hydraulic Engineer (Jim Filson, PE):** Reporting to the Design Manager, the Hydraulic Engineer will be
responsible for all stormwater management designs, hydraulic and hydrologic analysis (H&HA), scour
analysis, and adequate outfall analysis. Throughout design, he will coordinate directly with the other lead
engineers.

**Traffic Engineer (Jerry Myrkelo, PE, PTOE):** Reporting to the Design Manager, the Traffic Engineer will
be responsible for all temporary traffic control (TTC) and transportation management plan (TMP) design,
signing and marking design, traffic signal design, and signal timing development and analysis. He will
coordinate directly with the roadway engineer and structural engineer, and will be responsible for review of
traffic signal and sign shop drawings (non-structural elements).

**Environmental Manager (Kim Larkin):** Reporting to the Design Manager, the Environmental Manager
will be responsible for all wetland delineations and permit document development. She will coordinate
directly with the lead engineers to ensure avoidance and minimization measures are maximized prior to
development of the permit impact plates and quantities. During construction, she will also coordinate with
the construction manager to ensure permit compliance and complete the required permit monitoring
inspections and documentation.

**Survey Manager (Richard “Joe” Cronin, LS):** Reporting to the Design Manager, the Survey Manager will
be responsible for oversight of all field surveys including establishment/re-establishment of project control,
property corners and right-of-way limits, drainage facilities, and geotechnical boring stakeout, and will
oversee development of all survey base files in VDOT MicroStation format. The survey manager will also
oversee development of the right-of-way plan sheets (RW series sheets), sign and seal the right-of-way plan
sheets, and will be responsible for setting new property corners and right-of-way monuments following
property acquisition.

**Right-of-Way Manager (Seth Bourne):** Reporting to the D/B PM, the Right-of-Way (ROW) Manager will
manage the process to acquire all right-of-way and easements needed to construct the Project. Reporting to
the ROW Manager will be the VDOT Prequalified sub-consultants performing appraisals, appraisal reviews,
title reports, offers, negotiations, and settlements. The ROW Manager will facilitate communication with the
affected landowners and will at all times maintain the status of the process for VDOT. The ROW Manager
will coordinate closely with the Design, Utility, and Construction disciplines.

**Utility Manager (Todd Kief):** The Utility Manager plays a vital role in achieving completion of the Project
on time and within budget. Reporting to the D/B PM, the Utility Manager will actively coordinate existing
and proposed utilities with the Design, Right-of-Way, Safety, and Construction Managers and disciplines.
He will serve as the liaison with each individual utility company to ensure that utilities are integrated into the
Project. Working with the design team, the Utility Manager’s first priority is to avoid relocations. If not
possible, the focus will be to minimize these relocations to the greatest extent practical. When relocations are
unavoidable, he will ensure that they are coordinated with construction and completed within schedule.
**Safety Manager (Randy Reale):** Reporting to the D/B PM, the Safety Manager will review the plans and all field activities to provide a safe environment for VDOT, the construction workers, and the traveling public. The Safety Manager will train and inform those engaged on the Project of specific safety hazards and will enforce all aspects of applicable industry safety standards, Shirley’s Corporate Safety Policy and the Project’s Health, Safety and Welfare Plan. Working closely with the Construction Manager, the Safety Manager will monitor the field activities and crews and has full and complete authority to halt or suspend any activity not in compliance with the applicable safety standards.

**Design QA (Jeremy Beck, PE):** Mr. Beck, PE will report directly to the Design Manager to lead the Design QA efforts and will not be involved in the design production or QC efforts for the project. Following completion of the Design QC reviews and prior to submission to the Department, Mr. Beck will complete a QA review of each design document.

**Design QC:** For each design discipline the Design Manager will assign a qualified independent QC reviewer, who is not involved in the production of the design document, to complete a detailed QC review to ensure technical accuracy and conformance with the contract requirements.

**Geotechnical Analysis QA/QC:** As an added level of quality control for the Horsepen Dam modification geotechnical recommendations, our Team has added a completely separate quality control team member - Haley & Aldrich, Inc. (H&A). H&A is a highly qualified geotechnical firm with significant experience in the area of geotechnical recommendations for high-hazard dams and modifications to high-hazard dams. H&A will review the geotechnical report and recommendations prepared by GeoConcepts Engineering and provide feedback, concurrence, or alternate considerations for incorporation into the report prior to submission to VDOT for approval and construction commencing. This added level of quality control, in addition to the Key Dam Personnel previously identified, will ensure the recommendations prepared for the dam are well vetted prior to approval and construction.

*Denotes Key Personnel*
3.4 Experience of Offeror's Team

Please see Attachment 3.4.1 for the Lead Contractor and Lead Designer Work History Forms.
3.5 Project Risks
3.5 Project Risks

INTRODUCTION
Dulles International Airport is recognized as one of the major economic “engines” for the Commonwealth of Virginia and in particular, the Northern Virginia region. Adequate transportation facilities and access supporting the Airport are critical to its continued growth and future success. With major regional transportation improvements already completed or underway, such as the Metro Silver Line, Route 28 Corridor Improvements, and the Route 50 Widening, all of which the Shirley Team has played a significant leadership role in, the Route 606 corridor is the remaining key component of the “Dulles Loop” connecting Route 50 to the Dulles Greenway and Route 28 corridors. Each of these Projects have presented their own unique set of challenges, and a design/build team must be selected by VDOT that has the proven ability to foresee potential risks ahead of time, recognize the impact that these risks could have on the project’s success, and has the track record of addressing these risks in a timely and economical manner. The Route 606 Project is no different. Encompassing the widening and reconstruction of approximately 5.3 miles of Route 606, the Project will impact both commercial and residential communities, the Airport itself, a "high-hazard" dam, the Dulles Greenway, commuters and the public, NOAA, numerous property owners and utilities, and multiple third-party agencies. The design.builder must be able to closely coordinate and communicate with multiple agencies, the public, VDOT, and within the design-build team itself, to effectively identify, avoid, manage, and mitigate project risks.

In preparation of this SOQ, the Shirley Team has reviewed the Project scope and the potential impacts to determine which three risks have the greatest potential to adversely impact its successful completion. Based on the information currently available, we are providing below a discussion of these three critical risks, their potential impact to the Project, the strategies our Team will take to mitigate them, and the role VDOT and other agencies may have in addressing them:

CRITICAL RISK #1 – THE HORSEPEN DAM
The most unusual and unique element of this Project are the roadway and structural improvements which are required above the existing Horsepen Dam. These improvements have the potential to impose substantial additional stresses and loads on the existing Horsepen Dam embankment and concrete box culvert extending from the Horsepen Lake riser structure to Horsepen Run. Further, there are several other considerations that contribute to the critical nature of this risk that must be thoroughly investigated and addressed during both design and construction to ensure that the schedule is not delayed or the sequence of work disrupted, the performance of the dam is not compromised, and the public is not impacted. These are further described as follows:

Dam Alteration Permit Approval – Having submitted and obtained numerous dam alteration permits from DCR, our Team recognizes that depending on the nature of the dam and the level of modifications proposed, approval could require several months to obtain. We also are well aware that DCR could request or require additional analysis and construction improvements to be added to the project scope in order to obtain permit approval. This could affect the plan and/or profile adjustments to proposed Route 606 thus adding cost and time to the Project, or delay right-of-way and construction plan approvals until after the permit is approved.

Partial Removal of the Outfall Box Culvert and Temporary Embankment Shoring/Support – From our review of the original construction plans for the Horsepen Lake outfall box culvert, we've observed that the box culvert cross section and reinforcement was reduced approximately 59’ upstream from the headwall. As a result, the box is not structurally adequate to support the additional loads associated with the roadway widening and profile adjustment. As shown in the RFQ Geotechnical Engineering Report, removal of this portion of the box culvert will require significant temporary shoring and may require tie-
backs and horizontal support of the temporary retaining structure. This has the potential to impact the long-term stability of the dam. The location and lengths of the tiebacks need to be designed and installed in a way that the impervious clay core material is not impacted or compromised in order to eliminate potential water seepage through the core material, which could adversely affect the safety and stability of the dam.

**Structural Capacity of the Existing Dam** – The additional loading introduced through placement of proposed fill and retaining wall structures, as shown on the conceptual RFQ plans, will require complete analysis of the existing dam embankment to determine whether additional interior drainage considerations or other modifications will be necessary as part of the proposed improvements. The risk introduced from this component is that additional consolidation or settlement of either the dam embankment or the material at the toe of the existing embankment could result in unwanted settlement or consolidation, which could lead to seepage of water through the enlarged dam structure or along the extended box culvert.

**Capacity and Stability of the Spillway** – Because of the height of the Horsepen Dam and its impoundment capacity, Horsepen Dam is regulated by the Virginia Department of Conservation and Recreation (DCR), Division of Dam Safety and Floodplain Management. The dam is classified as high hazard which, according to Table 1 of the VA Dam Safety Regulations, requires spillway capacity for the 0.9 Probable Maximum Precipitation (PMP) unless an incremental damage analysis can justify a reduction in the Spillway Design Flood (SDF) requirement. If it is determined that the existing spillway system for Horsepen Dam is not sufficient to safely convey the required SDF, substantial additional modifications to the dam’s spillway system could be required including spillway realignment, spillway widening, spillway armoring and/or modification to the proposed bridge. Any of these modifications could result in additional costs, delays in obtaining the Dam Alteration Permit, and schedule delays.

**Mitigation of the Risk**

The critical nature of the dam and the Project's proposed modifications to it is made evident in the RFQ documents through the identification of specific Key Personnel on the design/builders Team, including the Lead Geotechnical Engineer and as many as three Dam Design and Construction Specialists. These requirements are critical first steps towards mitigating this risk. As shown in Section 3.3 of this Proposal, the Shirley Team has added these experienced Key Personnel to be involved in all phases of design and construction to ensure that the risks associated with the dam modifications are mitigated or avoided. Through the involvement of these Key Personnel in preparation of this Proposal, we have identified several strategies to be implemented to mitigate the risk from the Horsepen Dam, including:

**Dam Alteration Permit Approval** – During preparation of the Technical Proposal, our Team will assess the status of the permit and review all previous communications between VDOT, MWAA and DCR to understand potential commitments required by the Project as part of approval. This will ensure that these commitments are appropriately incorporated into our Proposal, and ultimately the project plans and construction details. As we develop our Project CPM, our Team will assess the need to develop advance plan packages or separate work packages to ensure that permit requirements are addressed and the project schedule is maintained. These plan packages could be developed to allow right-of-way acquisition, utility relocations, and/or construction in other areas of the Project to commence or continue while permit approval is completed for the dam modifications. Overall, the CPM will be created with input from all disciplines and with maximum flexibility for the dam-related activities in order to address issues obtaining the permit, without impacting the schedule, should they arise.

**Partial Removal of the Outfall Box Culvert and Temporary Embankment Shoring/Support** – There are several potential solutions to address the inadequacy of the lower portion of the existing box culvert to handle the additional loading from the roadway widening. First, geotechnical investigations will be completed as a first priority activity in order to identify more specific limits of rock and fill material above and surrounding the existing box culvert. Methods of minimizing the amount of additional load on the
existing box culvert, including construction of a protection slab or use of lightweight fill material, will be investigated to determine if these measures would eliminate the need for replacement of the lower portion of the box culvert. Should these options prove infeasible or unpractical, the additional geotechnical investigations will identify alternate types of temporary shoring which may be acceptable. Coring of support piles into rock will be investigated as a way to avoid installation of temporary tie-backs which could impact the clay core material. Alternate temporary wall systems and support of excavation options will be explored in order to minimize impacts associated with excavation of material above and around the portion of the box culvert which is to be removed.

**Structural Capacity of the Existing Dam** – As a first priority activity in our Project CPM, our Team will develop a supplemental geotechnical exploration and testing program to further confirm the stability and capacity of the proposed modifications to the existing embankment and associated structures. The field investigation will include soil test borings with undisturbed Shelby tube samples of the embankment area and the subgrade soils in the area of the extended embankment. Dilatometer borings will also be utilized in the field investigations to obtain more continuous information on the soil compressibility. The soil laboratory testing will include consolidation testing to estimate the consolidation of the embankment due to the increased embankment height and the underlying subgrade soils. Due to the fine grained nature of the soils within the embankment and the subgrade soils, the amount of consolidation of these materials and the time required for primary consolidation will be important factors in development of the work plan for the dam alterations. Based on the outcome of the analysis and testing process, we will finalize the plan and profile for the roadway and bridge improvements to ensure the long-term stability and safety of the dam is maintained during and following construction of the improvements. Alignment and profile adjustments will be investigated if reductions in the proposed earth or structural loads are required to maintain the structural stability and safety of the dam.

**Capacity and Stability of the Spillway** – With respect to the condition, stability, and capacity of the existing auxiliary spillway, it is possible that DCR will require that a SITES analysis be performed. In the event this analysis has not already been completed by VDOT or if this analysis is identified later in the procurement stage or after award of the contract, our Team has the experience and expertise needed to complete the analysis efficiently. We can quickly obtain the input data necessary for such an analysis to demonstrate whether or not the existing auxiliary spillway meets current requirements for stability and integrity. If the spillway needs to be modified, the proposed bridge structure will need to be modified to meet the spillway elements. If modifications to the spillway are required to increase capacity and/or improve stability, we will develop concepts and alternatives which will be acceptable to VDOT, MWAA, and DCR and can be easily and cost-effectively incorporated into the project design and construction details. Should modifications be necessary in order to obtain the Dam Alteration Permit, we will look for ways to re-sequence work in other areas of the Project to keep overall construction on schedule.

**VDOT’s and Other Agencies Roles** – VDOT’s primary role with respect to this risk is initially to obtain the dam alteration permit. Further responsibilities will partially depend on the status of the Dam Alteration Permit at Award and any previous coordination and commitments agreed to with DCR. If the permit is approved, we will meet with VDOT as a Team, including design, geotechnical, and construction staff, to understand the commitments agreed to so that they are completely incorporated into the final design plans and details. If the permit approval has not been obtained, we will work with VDOT to understand any outstanding elements and address any comments as necessary to obtain approval of the permit. Should the permitting process become prolonged, we will look for VDOT to review and approve advance roadway or right-of-way packages to allow for accelerated acquisitions, relocations, and construction to occur in other areas of the Project. Since MWAA owns the property surrounding and including the dam, performs regular inspections and maintenance, and jointly submitted the Dam Alteration Permit with VDOT, we will coordinate with MWAA simultaneously with VDOT to ensure permit requirements are met. Should modifications to the dam or spillway be required to obtain approval, we will coordinate with MWAA to
ensure long-term maintenance and inspection of the facility can be completed to their satisfaction. VDOT will also be responsible for reviews and approval of all plan submissions, including details for temporary measures necessary to remove and replace the lower section of the existing box culvert.

**CRITICAL RISK #2 – THIRD PARTY COORDINATION**
The Route 606 Project has several complex elements that either individually or in combination could have serious adverse affects to the project schedule and completion dates. Making them even more critical is the fact that these elements are subject to third-party performance and responsibility. These include:

*Coordination with MWAA* – One of the unique elements of this Project is that a large amount of the property required for construction is Federal property owned by MWAA. This represents an increased risk to the project schedule since VDOT does not have eminent domain authority over federally owned property. In addition, MWAA typically will not commit to review or response timeframes and will set conditions on approval as they deem appropriate in return for providing land rights at no cost. Although VDOT typically takes the lead in this acquisition, a substantial coordination effort is required by the Design-Build Team to ensure timely completion of the process. This effort includes multiple submissions of plans and comment responses to MWAA’s engineering division (who will be required to approved the plans and easement limits); preparation of plans, plats, and metes and bounds exhibits for the right-of-way transfer; numerous meetings with multiple groups within MWAA including legal, engineering, permits, security and inspections staff; and preparation and submission of other narratives, reports, and exhibits to MWAA to explain the impacts to MWAA’s property, pre- and post construction conditions, construction sequencing, and measures to be taken during construction to ensure the security of the airport. All of these aspects will need to be approved by the various levels of MWAA staff before they will recommend approval of transfer of property rights to VDOT. Following that approval process, the land transfer will then go to the MWAA Board of Directors for final approval prior to execution of the documents, a process that can take an additional two months after staff approval. The entire process can be expected to take 12 to 18 months after the plans are completed, or even longer for a team that does not understand the process and the approvals that are needed. Failure to manage this process correctly will prevent work on a substantial portion of the Project and potentially create irrecoverable delays to its completion.

**Mitigation of the Risk**
The Shirley Team has a great deal of experience working through the MWAA process having successfully performed these same tasks on multiple components of the Route 28 Corridor Improvements, the Route 50 Widening, and the Dulles Greenway Projects. From this experience, we know that the first step towards mitigating this risk and facilitating these approvals is to meet with MWAA staff immediately upon Award to begin the coordination process. The goal is to explain the project scope and timeframes, determine areas of critical importance, and to discuss where additional plan details (such as temporary and permanent fencing, realignment of the airport's perimeter security road or utility avoidance), are necessary. Any special requirements mandated by MWAA will be incorporated into the plans and plan submissions will be made simultaneously to MWAA and VDOT for review and comment. In addition to development of the right-of-way plans, our Team will also develop the metes and bounds exhibits, which are required to obtain easements on Federal property. Our Teams' experience, understanding and knowledge of this process will ensure that these documents are prepared in the correct format at the outset, thereby avoiding delays in acceptance and processing of the documents.

Following acquisition of the permanent and temporary easements from MWAA, the Design-Builder will also be required to acquire an MWAA Work Permit prior to the start of any construction on Airport property. The Work Permit requires submission of a permit application, plans, contractor licenses and business licenses for the prime contractor and all subcontractors, and lists of inspectors who will monitor construction. Again, this process can take months to complete and could result in delay to the Project for
an applicant who doesn't understand the process and submittal requirements. Early submission of a complete permit package will be key to the early start of construction activities. Our Team will prepare the necessary documents and permit submission forms, submitting them in advance of receiving approval of the plans, so that the Work Permit can be reviewed simultaneously or immediately following approval of the plans. These efforts are consistent with the close coordination and process our Team has followed on past projects which impacted Airport property, and which helped ensure the timely completion of those projects.

Finally, MWAA requires a License Agreement with any individual utility installed or relocated on their property, even within the limits of VDOT’s Permanent Roadway Easement. Given the scope of utility relocations anticipated, and the fact that utilities themselves are a third-party, this is a substantial effort with an uncertain timeframe. Similar to the Work Permit, early coordination with MWAA is imperative to ensure that there is no delay to the Project's utility relocations. Although this License is acquired in the utility's name and it is each utility's responsibility to acquire the License for their relocation, our Team takes a direct role in this process, preparing and submitting the License Application on the utilities behalf and coordinating directly with MWAA’s engineering division and legal staff to ensure the timely issuance of these Licenses.

Utility Relocation Coordination - The resolution of utility conflicts is expected to be a critical risk element in completing the Project on time and under budget. Unfortunately, utility companies can be a third-party that does not have a vested interest in the Project or in meeting Project timeframes, and the Design/Builder has limited control over their performance. Further, at the time the Technical and Price Proposals are submitted, the Design/Builder will not know definitively which utilities are in conflict, the exact pro-rata share of cost to relocate them, or have a schedule commitment from the utilities to do so.

Upon review of the RFQ plans and our preliminary field investigations, numerous conflicts are anticipated including multiple fiber optic, communications, electric, gas, water and sewer lines and each has the potential to delay work if not resolved within the schedule timeframes. Further contributing to this schedule risk are the License Agreements described above that are required by MWAA for each individual utility prior to them relocating on MWAA property.

The Shirley Team is well positioned to effectively manage and mitigate this risk. First, we have in-house resources solely dedicated to management of the utility discipline and process, and in fact have recently increased these resources. This intense focus has greatly contributed to our successful track record over the last 11 years managing this discipline, establishing the relationships with the utilities, and integrating it into the entire design/build process. Second, an early design effort is to designate and test pit the existing utilities in order to determine potential conflicts. Next, the entire Team focuses on eliminating these conflicts through design, coordination with the utilities, and construction sequencing. If they can't be eliminated, we look for solutions to minimize these conflicts, or as a last resort, will plan on relocating them. From there, the Utility Management Team will meet with each utility company to review the conflicts, plan for the relocations, and determine the cost and schedule for doing so. This information is then integrated with the other disciplines (particularly right of way) and the project schedule. Throughout the Project duration, we continually explore options for expediting this relocation process by designing the relocation for utilities, constructing common ductbanks for the fiber optic relocations, self-performing and/or supplementing the relocations, and re-sequencing the construction schedule to accommodate them. We also have a thorough understanding and recent experience working with MWAA and the utility companies to obtain the License Agreements required, having managed this process on the Route 50 Widening Project.

Additional Environmental Study Coordination - According to the Environmental Assessment (EA) dated June 2013, the Project has received a finding of no effect from the State Historic Preservation Officer (SHPO) for Section 106 clearance. While the EA noted that an expanded Area of Potential Effect (APE)
limits were being cleared for the proposed stormwater management facilities, it did not indicate that additional clearances were being obtained to account for utility relocations or for any adjustments in stormwater management basin locations which may be required based on coordination with permitting agencies. Since the majority of the ponds are shown in wetland areas, avoidance and minimization requirements from the Virginia Department of Environmental Quality (DEQ) and US Corps of Engineers may require those ponds to be reconfigured or relocated as part of the permit approval process.

The potential impact of this risk is that the project schedule could be delayed while additional investigations are completed and permits obtained. Utility relocation corridors and ultimate limits of disturbance are typically not known until after the roadway and drainage design has been completed. Then, once the utility relocations are agreed to with the utility owners as part of the UFI process, the additional environmental study limits be identified. Similarly, permit documents which identify limits of impacts to streams and wetlands are typically not submitted until after roadway and drainage design has progressed far enough to identify limits of project impacts, and permitting agencies require that utility relocations be accounted for in the permit application documents. Only then can the permits be submitted, at which time requests for additional avoidance and minimization efforts could be made, potentially requiring reconfiguration or relocation of stormwater management facilities. This in turn could also require additional environmental studies. Once the utility easements are finalized and permit documents developed, right-of-way plan approval is typically requested. However, if additional cultural resource studies are required as a result of the utility easement areas, or because stormwater management basins have been relocated, then right-of-way plan approval could be delayed until after the additional environmental investigations are completed. A delay to right-of-way plan approval would delay acquisition of right-of-way and easements, in turn delaying utility relocations and construction activities.

In order to avoid Project delays caused by this risk, our Team will complete a wetland delineation of the entire project and initiate early coordination with the DEQ and US Corps of Engineers to determine if additional avoidance and minimization efforts are required based on the preliminary stormwater management basins identified in the RFQ and RFP plans. We will investigate ways to shift stormwater runoff to reduce the number of stormwater management facilities in an effort to avoid impacts to wetlands and waters of the US and to avoid additional cultural investigations. With respect to utility relocations, we will investigate ways to identify common utility corridors which will reduce the project footprint and avoid impacts to property which was previously not investigated for cultural resources. Design modifications, such as rerouting of storm sewer systems or realignment of culvert crossings, will be investigated in an effort to further reduce utility conflicts, eliminating the need for utility relocations and their associated increased easement footprint.

Only as a last resort will additional cultural resource investigations be initiated, and only after close coordination with VDOT, MWAA and permitting agency staff. Should additional investigations be required, our Team will sequence construction work so that delays to the project schedule are avoided. Our Team has experience in doing just this type of re-sequencing while maintaining the existing number of travel lanes. For example, we recently completed this same effort on the Route 50 Widening Design-Build Project where investigations were not completed for many of the required stormwater management facilities prior to award.

Should additional cultural studies be required in specific areas of the Project, we will look for ways to advance right-of-way plans for approval in other areas of the Project to allow acquisitions and utility relocations to begin without impacting the project schedule. Our early coordination with VDOT and permitting agencies will ensure that additional cultural investigations can be initiated at the earliest possible time. This will allow the additional investigations to be completed while plans are being finalized, ensuring that all necessary permits are obtained without introducing impacts to the project schedule.
**VDOT’s and Other Agencies Roles** – Throughout the right-of-way acquisition process, including easements on Airport property, we expect VDOT’s involvement to include review and approval of the Right-of-Way Acquisition Plan, as well as with review and approval of the right-of-way plans. For acquisition of easements on Airport property, we expect MWAA to be involved in plan reviews for improvements on their property, acceptance of the Work Permit application package, issuance of the MWAA Work Permit, recordation of the metes and bounds documents and descriptions required for federal properties, and issuance of the utility License Agreements. During plan development, we expect VDOT will review all plan submissions prior to plan approval and provide comments on specific design details, including stormwater management and utility easements which could have an impact on the project footprint. We anticipate VDOT will provide documentation as to limits of previous investigations, and offer insight and guidance prior to additional investigations being initiated. Permitting agencies, including DEQ, VMRC, and the US Corps of Engineers, will review all wetland and water permit applications, provide comments on limits of jurisdictional waters and wetlands, and issue permit approvals once all forms and documentation are completed. With regard to third party utilities, the Shirley Team recognizes and are prepared to take responsibility for managing the process successfully to completion. However, despite best efforts, should a utility prove unresponsive, we would work with VDOT to explore options they may have to assist with motivation of the utility to perform.

**Critical Risk #3 – Project Worsening of Traffic Congestion**
As noted on the conceptual plans provided in the RFQ, the existing 2-lanes of Route 606 carries over 22,000 vehicles per day. Daily queuing on southbound Route 606 routinely extends from Route 50 and Evergreen Mills Road to beyond the Dulles Greenway Interchange towards Route 28, a distance of more than 6 miles. Commuters commonly experience 45 minutes or more of travel time on this section of road and significant delays are created to others trying to access the Dulles Greenway and connecting roads. With this high volume of traffic already choking the road network in and around the Project, there is the real risk that construction will further this problem and create significant gridlock for the traveling public. This in turn, can create public safety issues and other unintended consequences such as increased commuter times, further use of residential neighborhoods for cut-through traffic, loss of business, delays to construction, and an erosion of public support.

**Mitigation of the Risk**
Our Team has extensive experience working on heavily congested corridors during implementation of widening and roadway improvement projects. At the outset of the Project, we will investigate ways to improve traffic operations prior to and during construction and anticipate being able to mitigate the adverse impacts through the following efforts:

**Planning to Minimize/Optimizing Temporary Lane Closures** – As Route 606 is currently a 2-lane road, temporary lane closure of 1 of those lanes will instantly create congestion and require a flagging operation. For this reason, the Shirley Team will plan and sequence our construction activities to minimize to the greatest extent possible the use of lane closures. If necessary for safety reasons, these will be limited to off-peak hours. We will plan the work so that construction of the new project elements occur outside of existing travel ways, and switch traffic to these completed sections before working in the existing alignment. This will require close integration with all of the other disciplines and as part of the development of the project schedule.

In advance of implementation of temporary lane closures and as part of the work zone traffic analysis required by the Transportation Operations Plan component of the TMP, our Team will analyze the allowable closure hours to ensure that temporary closures will still provide acceptable operations throughout the construction site. Using analysis software such as Synchro, Quick Zone, and HCS+, we will ensure that temporary lane closures are limited to hours which align with the smallest impacts to the travelling public.
Crash Prevention – In order to reduce the impacts to the travelling public associated with crash response and clean-up, our Team believes we can implement minor modifications to help improve the safety of the existing corridor during construction. This can be done by utilizing enhanced site-specific temporary traffic control devices, such as raised pavement markers (reflectors), wider temporary lanes, centerline rumble strips, temporary curve warning signs, and or temporary transverse rumble strips in advance of curves to alert motorists to the upcoming changes in alignment.

Maintaining Access During Construction – Careful consideration of the continuous maintenance of Route 606 thru traffic and intersecting streets during the development of the sequence of construction will be critical to avoiding adverse impacts to motorists. The proposed construction will be split into stages, and temporary grading, temporary retaining structures, and temporary crossover pavement will be installed as necessary to maintain high-level traffic operations and safety. Careful consideration will be given to the continuous maintenance of the Dulles Greenway ramps at the north end of the Project, which is complicated by the significant grade changes proposed as well as the construction of the twin bridge structures.

In addition, the continuous maintenance of intersecting streets throughout construction is imperative, as the majority of residential and commercial properties along these streets have no alternative access points. As many of these streets will be subject to substantial vertical adjustment, connection work will be multi-staged, and will include temporary diversion pavement where necessary to continuously maintain access. Careful consideration will also be given to the preservation of safe sight distance for these intersections at all times during construction.

Sequencing of Right-of-Way Acquisitions – At the outset of the Project, we will identify property acquisitions which are not only critical for utility relocations, but also for construction of interim improvements or sequencing of construction. Based on traffic data available and areas where queuing causes impacts to the travelling public, we will determine if advance right-of-way acquisitions are appropriate in an effort to implement interim improvements, or advanced construction of permanent elements. An example of one such area is the advance acquisition and construction of the widening and realignment of Route 606 from the Arcola Road Intersection to points south towards Route 50. Right-of-way acquisition and utility relocations could be focused in this area at the outset to provide additional stacking and storage area approaching the Route 50 intersection. The immediate widening and reconstruction at the south end of the Project will help to reduce queues along the entire Route 606 corridor.

Phased Construction Openings – As work progresses on the widening of Route 606, we will investigate ways to phase the opening of improvements to provide relief to motorists as soon as possible. Intersection improvements will be completed so that improved traffic operations and signalized improvements can be placed into operation as soon as possible, even if the full widening and final roadway configuration is not completed along the entire corridor length. Widening at intersections will be sequenced so that additional or lengthened turn lanes can be provided as early as possible, in an effort to eliminate turning traffic from stopping in the thru lane, which currently causes some of the queuing and delays along the corridor.

VDOT’s and Other Agencies Roles – During development of the plans, VDOT will be involved from a review and approval standpoint. Analysis of traffic patterns and potential interim improvements phased sequencing will be discussed with VDOT to determine if additional analysis or alternate configurations are acceptable. Early coordination with MWAA staff will determine if advance construction is possible on some areas of their property, and what specific design or construction details are required to allow for such advance work. During construction, VDOT will be involved with the public outreach effort and coordination with elected officials. We recognize that constant coordination between our Team, VDOT, Loudoun County, and elected officials will be required throughout construction and during operation of temporary roadway configurations.
ATTACHMENT 2.10

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

RFQ NO. C00097529DB64
PROJECT NO.: 0606-053-983, P101

ACKNOWLEDGEMENT OF RFQ, REVISION AND/OR ADDENDA

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

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

1. Cover letter of RFQ 07/12/2013 (Date)

2. Cover letter of RFQ Addendum No. 1 08/09/2013 (Date)

3. Cover letter of (Date)

SIGNATURE 8/27/13 DATE
Offerors shall furnish a copy of this Statement of Qualifications (SOQ) Checklist, with the page references added, with the Statement of Qualifications.

<table>
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<th>Statement of Qualifications Component</th>
<th>Form (if any)</th>
<th>RFQ Cross reference</th>
<th>Included within 15-page limit?</th>
<th>SOQ Page Reference</th>
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<td><strong>Statement of Qualifications Checklist and Contents</strong></td>
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<td>Section 3.1.2</td>
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<td>Section 2.10</td>
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## ATTACHMENT 3.1.2

**Project: 0606-053-983, P101**  
**STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS**

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**DBE statement within Letter of Submittal** confirming Offeror is committed to achieving the required DBE goal  
NA | Section 3.2.11 | yes | 2 |

**Offeror’s Team Structure**  
NA | Section 3.3.1 | yes | 3 |
| Identity of and qualifications of Key Personnel | Attachment 3.3.1 | Section 3.3.1.1 | no | N/A |
| Key Personnel Resume – DB Project Manager | 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 – Lead Geotechnical Engineer | Attachment 3.3.1 | Section 3.3.1.6 | no | N/A |
| Key Personnel Resume – Dam Design and Construction Specialist (optional) | Attachment 3.3.1 | Section 3.3.1.7 | no | N/A |
## ATTACHMENT 3.1.2

### Project: 0606-053-983, P101

#### STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

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### Project Risk

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

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

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<th>Address</th>
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<tr>
<td>Affiliate</td>
<td>Atkinson Construction</td>
<td>7500 Old Georgetown Road, Bethesda, MD 20814</td>
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<td>Atkinson Contractors, LP</td>
<td>7500 Old Georgetown Road, Bethesda, MD 20814</td>
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<td>Affiliate</td>
<td>Shirley Design/Build, LLC</td>
<td>8435 Backlick Road, Lorton, Virginia 22079</td>
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<tr>
<td>Affiliate</td>
<td>SCC Infrastructure</td>
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<tr>
<td>Affiliate</td>
<td>Clark Construction Group, LLC</td>
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<td>Clark Real Estate Advisors, LLC</td>
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## ATTACHMENT 3.2.6

**State Project No. 0606-053-983**

### Affiliated and Subsidiary Companies of the Offeror

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<td>Clark/Balfour Beatty NCE, A Joint Venture</td>
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<td>Affiliate</td>
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<td>Affiliate</td>
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<td>Affiliate</td>
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3.2.7 Debarment Forms
ATTACHMENT NO. 3.2.7(a)

CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

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

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

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

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

Shirley Contracting Company, LLC

Name of Firm

President/CEO/Manager

Title

Date

8/27/13
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

Dave Mahoney 8/22/13 Executive Vice President
Signature Date Title

Dewberry Consultants LLC

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

[Signature] 8/14/2013 [Principal]

[Date] [Title]

GeoConcepts Engineering, Inc.

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

[Signature] August 21, 2013 [Date] [President]
[Title]

Quinn Consulting Services, Inc.
Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

[Signature] [August 21, 2013] Regional Vice President
[Date] Title

Froehling & Robertson, Inc.
Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

Signature Date 6 Aug 2013

Vice President Title

Haley & Aldrich, Inc.

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

[Signature] 8/16/13  
W. F. McKeague  
Vice President

[AeroMetric, Inc.]  
Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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.

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

Signature Date 8/16/13 Title

Accumark, Inc.

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

[Signature]
Date

[Name]
Title

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

Signature: ____________________________ Date: 8/16/13

Name of Firm: Skelly and Loy, Inc.

Secretary

Title
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

[Signature] 8/15/13 [Title]

[ALVIAN ASSOCIATES, INC.]

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

[Signature] 8/12/13
Signature Date

President
Title

Diversified Property Services, Inc.
Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-053-983

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

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

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

[Signature] [Date] [Title]

Name of Firm

[Official Name]

[Title]
S018
SHIRLEY CONTRACTING COMPANY, LLC
PREQ. EXP : 09/30/2013

--PREQ ADDRESS ------------------ WORK CLASSES (LISTED BUT NOT LIMITED TO)
8435 BACKLICK RD.
LORTON, VA 22079-1403
PHONE : 703-550-8100
FAX : 703-550-7897

002 - GRADING
003 - MAJOR STRUCTURES
007 - MINOR STRUCTURES
045 - UNDERGROUND UTILITIES

BUSINESS CONTACT: CLYMORE, DANIEL EDWARD
EMAIL: DCLYMORE@SHIRLEYCONTRACTING.COM

-------DBE INFORMATION------

DBE TYPE : N/A
DBE CONTACT: N/A

S1365
HARLAND J. SHOEMAKER & SON, INC.
PREQ. EXP : 09/30/2013

--PREQ ADDRESS ------------------ WORK CLASSES (LISTED BUT NOT LIMITED TO)
P.O. BOX 733
NEW MARKET, MD 21774
PHONE : 301-865-2062
FAX : 301-865-4085

011 - CLEARING AND GRUBBING
033 - ROADSIDE DEVELOPMENT
036 - SOIL STABILIZATION
044 - UNDERDRAINS
101 - EXCAVATING

BUSINESS CONTACT: BURDETT, III, MAYNARD LEE
EMAIL: MAYNARD@HARLANDSHOEMAKER.COM

-------DBE INFORMATION------

DBE TYPE : N/A
DBE CONTACT: N/A
August 19, 2013

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

Re: Request for Qualifications - Contract ID Number: C000975290B64 - A Design-Build Project
Route 606 Loudoun County Parkway/Old Ox Road From: Route 621 Evergreen Mills Road
To: Route 267 Dulles Greenway, Loudoun County, Virginia
Estimated Contract Value: $105,000,000

Dear Mr. Daoulas:

Travelers Casualty and Surety Company of America (A.M. Best Financial Strength Rating A+, Financial Size Category XIV) and their co-surety partners, have the privilege of providing surety bonds for Shirley Contracting Company, LLC. The available bonding capacity on individual projects is in excess of $150,000,000 with an aggregate of $3,560,000,000.

In our opinion, Shirley is one of the finest, best managed construction firms in the country. Shirley has handled each of its projects in a professional manner and completed all satisfactorily.

As surety for the above named Contractor, Shirley Contracting Company, LLC, Travelers Casualty and Surety Company of America is capable of obtaining 100% Performance Bond and 100% Labor and Materials Payment Bond in the amount of the anticipated cost of construction, and said bonds will cover the project and any warranty periods as provided for in the Contract Documents on behalf of the Contractor, in the event that such firm be the successful bidder and enter into a contract for this project, subject to acceptable review of the contract documents and bond forms, financing, availability of reinsurance, and Shirley Contracting Company, LLC continuing to satisfy other underwriting considerations at the time the bonds are requested.

This letter is not an assumption of liability and is issued only as a prequalification reference from our client.

Sincerely,

Travelers Casualty and Surety Company of America
A.M. Best Rating A+ XIV

By: [Signature]
Karen C. Bowling, Attorney-in-Fact
POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 219657
Certificate No. 005454513

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the “Companies”), and that the Companies do hereby make, constitute and appoint

Diana L. Parker, and Karen C. Bowling

of the City of Columbia, State of Maryland, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 22nd day of April, 2013.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By:

Robert L. Raney, Senior Vice President

On this the 22nd day of April, 2013, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed 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 hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2016.

Marie C. Tetreault, Notary Public

58440-6-12 Printed in U.S.A.
This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty 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, I have hereunto set my hand and affixed the seals of said Companies this 19th day of August, 2013.

[Signature]
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.
**ATTACHMENT 3.2.10**

**State Project No. 0606-053-983**

**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 listed are active and in good standing.

<table>
<thead>
<tr>
<th>Business Name</th>
<th>SCC Number</th>
<th>SCC Type of Corporation</th>
<th>SCC Status</th>
<th>DPOR Registered Address</th>
<th>DPOR Registration Number</th>
<th>DPOR Expiration Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shirley Contracting Company, LLC</td>
<td>S082038-3</td>
<td>Limited Liability Co.</td>
<td>Active</td>
<td>8435 Backlick Road</td>
<td>2705071652</td>
<td>October 31, 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lorton, VA. 22079</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dewberry Consultants, LLC</td>
<td>S044733-6</td>
<td>Limited Liability Co.</td>
<td>Active</td>
<td>8410 Arlington Blvd.</td>
<td>0407003966</td>
<td>December 31, 2013</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fairfax, VA. 22031</td>
<td></td>
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<tr>
<td>GeoConcepts Engineering, Inc.</td>
<td>0516767-1</td>
<td>Corporation</td>
<td>Active</td>
<td>19955 Highland Vista</td>
<td>0407004404</td>
<td>December 31, 2013</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>Drive Ste. 170</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td>Ashburn, VA. 20147</td>
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<tr>
<td>Quinn Consulting Services, Inc.</td>
<td>0492551-7</td>
<td>Corporation</td>
<td>Active</td>
<td>14160 Newbrook Drive</td>
<td>0407003733</td>
<td>December 31, 2013</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suite 220</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Chantilly, VA. 20151</td>
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<tr>
<td>Froehling &amp; Robertson, Inc.</td>
<td>0027211-2</td>
<td>Corporation</td>
<td>Active</td>
<td>22923 Quicksilver Dr.</td>
<td>0411000051</td>
<td>February 28, 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suite 111</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sterling, VA. 20166</td>
<td></td>
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</tr>
<tr>
<td>Haley &amp; Aldrich, Inc.</td>
<td>F108818-8</td>
<td>Corporation</td>
<td>Active</td>
<td>7926 Jones Branch Drive</td>
<td>0407003076</td>
<td>December 31, 2013</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suite 870 McLean, VA.</td>
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<td></td>
<td>22102</td>
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<tr>
<td>Aero-Metric, Inc.</td>
<td>F113594-8</td>
<td>Corporation</td>
<td>Active</td>
<td>45180 Business Court</td>
<td>0407005489</td>
<td>December 31, 2013</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>Suite 800</td>
<td></td>
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<td>Sterling, VA. 20166</td>
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<tr>
<td>So-Deep, Inc.</td>
<td>0216275-8</td>
<td>Corporation</td>
<td>Active</td>
<td>8397 Euclid Avenue</td>
<td>0407002900</td>
<td>December 31, 2013</td>
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<tr>
<td></td>
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<td></td>
<td>Manassas Park, VA.</td>
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<td>22111</td>
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<tr>
<td>Skelly &amp; Loy, Inc.</td>
<td>F113636-7</td>
<td>Corporation</td>
<td>Active</td>
<td>449 Eisenhower Blvd.</td>
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<td>December 31, 2013</td>
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<td></td>
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<td></td>
<td></td>
<td>Suite 300</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Harrisburg, PA. 17112</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### ATTACHMENT 3.2.10

**State Project No. 0606-053-983**

**SCC and DPOR Information**

<table>
<thead>
<tr>
<th>Business Name</th>
<th>Individual’s Name</th>
<th>Office Location Where Professional Services will be Provided (City/State)</th>
<th>Individual’s DPOR Address</th>
<th>DPOR Type</th>
<th>DPOR Registration Number</th>
<th>DPOR Expiration Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alvi Associates, Inc.</td>
<td></td>
<td></td>
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<tr>
<td>F179975-0 Corporation</td>
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<tr>
<td>Diversified Property Services, Inc.</td>
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<td>F130410-6 Corporation</td>
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<td>Old Dominion Settlements, Inc.</td>
<td>0243891-9 Corporation</td>
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<td></td>
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</tr>
<tr>
<td>(key Title)</td>
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**DPOR INFORMATION FOR INDIVIDUALS (RFQ Sections 3.2.10.3 and 3.2.10.4)**

<table>
<thead>
<tr>
<th>Business Name</th>
<th>Individual’s Name</th>
<th>Office Location Where Professional Services will be Provided (City/State)</th>
<th>Individual’s DPOR Address</th>
<th>DPOR Type</th>
<th>DPOR Registration Number</th>
<th>DPOR Expiration Date</th>
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<tr>
<td>Dewberry Consultants LLC</td>
<td>David Mahoney</td>
<td>Fairfax, Va.</td>
<td>8401 Arlington Boulevard Fairfax, VA. 22031</td>
<td>Professional Engineer</td>
<td>0402020798</td>
<td>December 31, 2013</td>
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<tr>
<td>Quinn Consulting Services, Inc.</td>
<td>John Vicinski</td>
<td>Chantilly, Va.</td>
<td>4609 Marble Rock Court Chantilly, VA. 29151</td>
<td>Professional Engineer</td>
<td>0402026380</td>
<td>August 31, 2015</td>
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<tr>
<td>GeoConcepts Engineering, Inc.</td>
<td>Tadeusz Lewis</td>
<td>Ashburn, Va.</td>
<td>18955 Highland Vista Dr. Suite 170 Ashburn, VA. 20147</td>
<td>Professional Engineer</td>
<td>0402021276</td>
<td>April 30, 2014</td>
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<tr>
<td>Dewberry Consultants LLC</td>
<td>Geoffrey Cowan</td>
<td>Fairfax, Va.</td>
<td>13805 Cynthia Court Manassas, VA. 20112</td>
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<td>0402019977</td>
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LLCM3220 LLC DATA INQUIRY

LLC ID: 8082038 - 3 STATUS: 00 ACTIVE STATUS DATE: 08/01/02

LLC NAME: Shirley Contracting Company, LLC

DATE OF FILING: 08/01/2002 PERIOD OF DURATION: INDUSTRY CODE: 00

STATE OF FILING: VA VIRGINIA MERGER INDICATOR:

CONVERSION/DOMESTICATION INDICATOR: Y

PRINCIPAL OFFICE ADDRESS

STREET: 8435 BACKLICK RD

CITY: LORTON STATE: VA ZIP: 22079-0000

REGISTERED AGENT INFORMATION

R/A NAME: CT CORPORATION SYSTEM

STREET: 4701 COX RD STE 301

CITY: GLEN ALLEN STATE: VA ZIP: 23060-6802

R/A STATUS: 5 ENTITY AUTHORIZ EFF DATE: 03/02/04 LOC: 143 HENRICO COUNTY

YEAR FEES PENALTY INTEREST BALANCE

13 50.00

(Screen Id:/LLC_Data_Inquiry)
**Commonwealth of Virginia**  
State Corporation Commission

**LLCM3220**  
**LLC DATA INQUIRY**

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<td>STATE:</td>
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<td>ZIP:</td>
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<td>STREET:</td>
<td>Bank of America Center, 16th Floor</td>
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<td>ZIP:</td>
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<td>EFF DATE:</td>
<td>04/29/11</td>
<td>LOC:</td>
<td>216 RICHMOND CITY</td>
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(Screen Id:/LLC_Data_Inquiry)
CISM0180 CORPORATE DATA INQUIRY

CORP ID: 0516767-1 STATUS: 00 ACTIVE STATUS DATE: 02/25/99
CORP NAME: GEOCONCEPTS ENGINEERING, INC.

DATE OF CERTIFICATE: 02/25/1999 PERIOD OF DURATION: INDUSTRY CODE: 00
STATE OF INCORPORATION: VA VIRGINIA STOCK INDICATOR: S STOCK
MERGER IND: CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y MONITOR INDICATOR:
CHARTER FEE: 50.00 MON NO: MON STATUS: MONITOR DTE:
R/A NAME: VIVIAN LEWIS

STREET: 19955 HIGHLAND VISTA DR #170 AR RTN MAIL:
CITY: ASHBURN STATE: VA ZIP: 20147
R/A STATUS: 2 OFFICER EFF. DATE: 11/24/04 LOC: 153
ACCEPTED AR#: 213 02 3773 DATE: 01/17/13 LOUDOUN COUNTY
CURRENT AR#: 213 02 3773 DATE: 01/17/13 STATUS: A ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
13 100.00

(Screen Id: Corp_Data_Inquiry)
CISMO180  CORPORATE DATA INQUIRY

CORP ID: 04925517  STATUS: 00 ACTIVE  STATUS DATE: 12/01/08
CORP NAME: QUINN CONSULTING SERVICES INCORPORATED

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

STREET: 2208 S KNOLL ST  AR RTN MAIL:

CITY: ARLINGTON  STATE : VA ZIP: 22202 2134
R/A STATUS: 4 ATTORNEY  EXPI. DATE: 10/24/97 LOC : 108
ACCEPTED AR#: 212 14 5571 DATE: 09/11/12  ARLINGTON COUNT
CURRENT AR#: 212 14 5571 DATE: 09/11/12  STATUS: A ASSESSMENT INDICATOR: 0
YEARS FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
13 100.00  100.00  5,000

(Screen Id: Corp_Data_Inquiry)
**Commonwealth of Virginia**

**State Corporation Commission**

**CISM0180 CORPORATE DATA INQUIRY**

**CORP ID:** 0027211-2  **STATUS:** 00 ACTIVE  **STATUS DATE:** 11/13/09

**CORP NAME:** FROHLING & ROBERTSON, INCORPORATED

**DATE OF CERTIFICATE:** 10/11/1924  **PERIOD OF DURATION:**  INDUSTRY CODE: 00

**STATE OF INCORPORATION:** VA VIRGINIA  **STOCK INDICATOR:** S STOCK

**MERGER IND:** CONVERSION/DOMESTICATION IND:

**GOOD STANDING IND:** Y  **MONITOR INDICATOR:**

**CHARTER FEE:** 2480.00  **MON NO:**

**MON STATUS:** MONITOR DTE:

**R/A NAME:** WILLIAM H HOOPNAGLE III

**STREET:** 1900 ONE JAMES CENTER  **AR RTN MAIL:**

901 E CARY ST

**CITY:** RICHMOND  **STATE:** VA  **ZIP:** 23219

**R/A STATUS:** 4 ATTORNEY  **EFF. DATE:** 09/21/11  **LOC:** 216

**ACCEPTED AR#:** 212 14 0123  **DATE:** 08/29/12  **RICHMOND CITY**

**CURRENT AR#:** 212 14 0123  **DATE:** 08/29/12  **STATUS:** A

**ASSESSMENT INDICATOR:** 0

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<th>BALANCE</th>
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(Screen Id:/Corp_Data_Inquiry)
CISM0180        CORPORATE DATA INQUIRY

CORP ID:        STATUS:  00  ACTIVE
CORP NAME:      STATUS DATE:  09/03/02

DATE OF CERTIFICATE:  05/13/1999  PERIOD OF DURATION:
INDUSTRY CODE:  00
STATE OF INCORPORATION:  MA MASSACHUSETTS  STOCK INDICATOR:  S STOCK
MERGRR IND:
CONVERSION/DOMESTICATION IND:
GOOD STANDING IND:  Y
MONITOR INDICATOR:
CHARTER FEE:  400.00  MON NO:
MON STATUS:  MONITOR DTE:
R/A NAME:  INCORP SERVICES INC

STREET:  7288 HANOVER GREEN DR
AR RTN MAIL:

CITY:  MECHANICSVILLE  STATE : VA ZIP:  23111
R/A STATUS:  S  B.E. AUTH IN VI  EFF. DATE:  05/12/08  LOC : 142
ACCEPTED AR#:  213 53 4057  DATE:  07/23/13  HANOVER COUNTY
CURRENT AR#:  213 53 4057  DATE:  07/23/13  STATUS:  A  ASSESSMENT INDICATOR:  0
YEARS TAXES PENALTY INTEREST BALANCE TOTAL SHARES
13  1,270.00  200,000

(Screen Id:/Corp_Data_Inquiry)
CISM0180  CORPORATE DATA INQUIRY

CORP ID:  F113594   STATUS: 00 ACTIVE   STATUS DATE: 03/14/01
CORP NAME:  AERO-METRIC, INC.

DATE OF CERTIFICATE: 02/09/2000   PERIOD OF DURATION:    INDUSTRY CODE: 00
STATE OF INCORPORATION: WI   WISCONSIN   STOCK INDICATOR: S STOCK
MERGER IND: S SURVIVOR   CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y   MONITOR INDICATOR:
CHARTER FEE: 200.00   MON NO:   MON STATUS:   MONITOR DTE:
R/A NAME:  CT CORPORATION SYSTEM

STREET:  4701 COX RC STE 301   AR RTN MAIL:

CITY: GLEN ALLEN   STATE : VA   ZIP: 23060 6802
R/A STATUS: 5   B.E. AUTH IN VI   EFF. DATE: 01/05/04   LOC : 143
ACCEPTED AR#: 213 02 6031   DATE: 01/23/13
HENRICO COUNTY
CURRENT AR#: 213 02 6031   DATE: 01/23/13   STATUS: A
ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
13  670.00  0

(Screen Id:/Corp_Data_Inquiry)
CISM0180   CORPORATE DATA INQUIRY

CORP ID: 0216275-8   STATUS: 00   ACTIVE   STATUS DATE: 11/15/85
CORP NAME: SO-DEEP, INC.

DATE OF CERTIFICATE: 04/07/1981   PERIOD OF DURATION:    INDUSTRY CODE: 00
STATE OF INCORPORATION: VA VIRGINIA   STOCK INDICATOR: S STOCK
MERGER IND:    CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y   MONITOR INDICATOR:
CHARTER FEE:    MON NO:    MON STATUS:    MONITOR DTE:
R/A NAME: THUY ANH PHAM

STREET: 8397 EUCLID AVENUE   AR RTN MAIL:

CITY: MANASSAS PARK   STATE: VA   ZIP: 20111
R/A STATUS: 2   OFFICER   BRF. DATE: 04/09/97   LOC: 315
ACCEPTED AR#: 213 51 7036   DATE: 04/08/13   MANASSAS PARK
CURRENT AR#: 213 51 7036   DATE: 04/08/13   STATUS: A   ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
13 130.00 10,000

(Screen Id:/Corp_Data_Inquiry)
CISM0180  CORPORATE DATA INQUIRY  

CORP ID: SKELLY AND LOY, INC.  
CORP NAME:  

DATE OF CERTIFICATE: 04/05/1993  PERIOD OF DURATION:  
INDUSTRY CODE: 00  
STATE OF INCORPORATION: PA PENNSYLVANIA  STOCK INDICATOR: S STOCK  
MERGER IND:  
GOOD STANDING IND: Y  

CHARTER FEE: 200.00  MON NO:  
MON STATUS:  
MONITOR DTE:  
R/A NAME: CORPORATION SERVICE COMPANY  

STREET: Bank of America Center, 16th Floor  
1111 East Main Street  
CITY: RICHMOND  
STATE: VA  
ZIP: 23219  
R/A STATUS: 5 B.E. AUTH IN VI  
EFP. DATE: 04/29/11  
LOC: 216  
ACCEPTED AR#: 213 51 6817  DATE: 04/05/13  
RICHMOND CITY  
CURRENT AR#: 213 51 6817  DATE: 04/05/13  
STATUS: A  
ASSESSMENT INDICATOR: 0  

YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES  
13 670.00 100,000  

(Screen Id:/Corp_Data_ Inquiry)
Please note: The SCC website will be unavailable Thursday, June 20, from 6-10 p. system maintenance. We apologize for the inconvenience and appreciate your patience.

ALERT to Virginia Corporations Regarding Solicitation from Corporate Records Service; more information can be found in the Bulletin Archive in the right-hand navigation pane.

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**Commonwealth of Virginia**

**State Corporation Commission**

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**CISM0180**

**CORPORATE DATA INQUIRY**

**CORP ID:** F179975

**CORP NAME:** ALVI ASSOCIATES, INC.

**DATE OF CERTIFICATE:** 08/13/2009

**PERIOD OF DURATION:**

**INDUSTRY CODE:** 00

**STATE OF INCORPORATION:** MD MARYLAND

**STOCK INDICATOR:** S STOCK

**MERGER IND:**

**CONVERSION/DOMESTICATION IND:**

**GOOD STANDING IND:** Y

**MONITOR INDICATOR:**

**CHARTER FEE:** 50.00

**MON NO:**

**MON STATUS:** MONITOR DTE:

**R/A NAME:** INCORP SERVICES, INC.

**STREET:** 7288 HANOVER GREEN DR

**AR RTN MAIL:**

**CITY:** MECHANICSVILLE

**STATE:** VA

**ZIP:** 23111

**R/A STATUS:** 5 B.E. AUTH IN VI

**EFP. DATE:** 08/13/09

**LOC:** 142

**ACCEPTED AR#:** 212 52 7204

**DATE:** 07/20/12

**HANOVER COUNTY**

**CURRENT AR#:** 212 52 7204

**DATE:** 07/20/12

**STATUS:** A

**ASSESSMENT INDICATOR:** 0

**YEAR FEES:** 100.00

**PENALTY:**

**INTEREST:**

**TAXES:**

**BALANCE:** 100.00

**TOTAL SHARES:** 1,000

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(Screen Id:/Corp_Data_Inquiry)
CISM0180 CORPORATE DATA INQUIRY

CORP ID: V130410-6
CORP NAME: DIVERSIFIED PROPERTY SERVICES OF VIRGINIA, INC.
DID IN VA BY: DIVERSIFIED PROPERTY SERVICES, INC.

DATE OF CERTIFICATE: 08/05/1997 PERIOD OF DURATION: INDUSTRY CODE: 00
STATE OF INCORPORATION: MD MARYLAND STOCK INDICATOR: S STOCK
MERGER IND:
GOOD STANDING IND: Y MONITOR INDICATOR:
CHARTER FEE: 50.00 MON NO:
R/A NAME: BRENDAN R HANTZES

STREET: 3771 VERMACCHIA DR AR RTN MAIL:
CITY: CHANTILLY STATE: VA ZIP: 20151
R/A STATUS: 2 OFFICER EFF. DATE: 08/09/02 LOC: 129
ACCEPTED AR#: 213 10 8592 DATE: 07/05/13 FAIRFAX COUNTY
CURRENT AR#: 213 10 8592 DATE: 07/05/13 STATUS: A ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
13 100.00

(Screen Id:/Corp_Data_Inquiry)
CISM0180  CORPORATE DATA INQUIRY  08/21/13  11:09:23

CORP ID:  0243891 - 9  STATUS: 00  ACTIVE  STATUS DATE: 05/22/97

CORP NAME: OLD DOMINION SETTLEMENTS, INC.

STATE OF INCORPORATION: VA VIRGINIA  STOCK INDICATOR: S STOCK
MERGER IND: CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y  MONITOR INDICATOR:
CHARTER FEE:  MON NO:  MON STATUS: MONITOR DTE:
R/A NAME: RONALD H. LAZARUS

STREET: 7010 LITTLE RIVER TURNPIKE, SUITE 240  AR RTN MAIL:

CITY: ANNANDALE  STATE: VA  ZIP: 22003
R/A STATUS: 4 ATTORNEY  EFF. DATE: 09/05/95  LOC: 129
ACCEPTED AR#: 213 08 5532  DATE: 05/16/13  FAIRFAX COUNTY
CURRENT AR#: 213 08 5532  DATE: 05/16/13  STATUS: A  ASSESSMENT INDICATOR: 0

YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
13  220.00

(Screen Id:/Corp_Data_Inquiry)
Details of license number 2705071652

Name: SHIRLEY CONTRACTING COMPANY LLC
License Number: 2705071652
License Description: Contractor Class A
Business Type: LLC
Address: 8435 BACKLICK ROAD
LORTON, VA 22079
Specialties/Classifications:
Classification Definitions [http://lirs.virginia.gov/cgi-bin/legp604.exe?000+cod+54.1-1100]
Initial Certification Date: 2002-10-08
Expiration Date: 2014-10-31

No Open Complaints

"Open Complaints" reflect only those complaints against regulants for which a departmental investigation has determined that sufficient evidence exists to establish probable cause of a violation of the law or regulations. Only those cases that have proceeded through an investigation to the adjudication stage are displayed. **State law prohibits the disclosure of any information about open complaints** [Code of Virginia Section 54.1-108], [http://leg1.state.va.us/cgi-bin/legp004.exe?000+cod+54.1-108] Members of the public may review official records and obtain copies only after a complaint investigation is closed.

No Closed Complaints

"Closed Complaints" reflect complaints against regulants closed since 1990. Cases closed without disciplinary action are purged after three years in accordance with DPOR's record retention policy.

To inquire about closed complaints, see the department's Public Records Access [http://www.dpor.virginia.gov/recordsanddocuments/] or contact the department's Information Management Section at (804) 367-8583 or publicrecords@dpor.virginia.gov.

Recovery Fund Claims include claims against a licensee where a judgment has been obtained for improper or dishonest conduct in a court of law. The Contractors Transaction Recovery Fund and the Real Estate Transaction Recovery Fund provide monetary relief to consumers who incur losses through the improper and dishonest conduct of a licensed contractor or licensed real estate professional. The funds are supported entirely by assessments paid by licensed contractors and licensed real estate professionals, not by any tax revenues.

The information on this page was last updated on 2013-08-22.
Details of license number 0407003966

Name: DEWBERRY CONSULTANTS LLC
License Number: 0407003966
License Description: Business Entity Registration
Business Type: LLC
Address: 8401 ARLINGTON BLVD
FAIRFAX, VA 22031
Initial Certification Date: 2000-03-14
Expiration Date: 2013-12-31

Related Licenses

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<td>0402026519</td>
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<td>Professional Engineer License</td>
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<td>0403001932</td>
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<td>0406000847</td>
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Showing 1 to 4 of 4 entries

No Open Complaints

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http://166.67.70.234/rlvi/licenseDetail.cfm?lrn=0407003966 8/21/2013
Details of license number 0407004404

Name: GEOCONCEPTS ENGINEERING INC
License Number: 0407004404
License Description: Business Entity Registration
Business Type: CORP
Address: 19555 HIGHLAND VISTA DRIVE SUITE 170
ASHBURN, VA 20147
Initial Certification Date: 2003-03-28
Expiration Date: 2013-12-31

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No Open Complaints

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The information on this page was last updated on 2013-08-20.
Details of license number 0407003733

Name: QUINN CONSULTING SERVICES INC
License Number: 0407003733
License Description: Business Entity Registration
Address: 14160 NEWBROOK DR SUITE 220
CHANTILLY, VA 20151
Initial Certification Date: 1998-03-05
Expiration Date: 2013-12-31

Related Licenses

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<td>Professional Engineer License</td>
<td>2015-08-31</td>
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<td>0402039904</td>
<td>VYAS, KAUSHIKKUMAR BHUPENDRAPRASAD</td>
<td>Professional Engineer License</td>
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Showing 1 to 2 of 2 entries

No Open Complaints

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No Closed Complaints

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To inquire about closed complaints, see the department's Public Records Access ([http://www.dpor.virginia.gov/recordsanddocuments/](http://www.dpor.virginia.gov/recordsanddocuments/)) or contact the department's Information Management Section at (804) 367-8583 or publicrecords@dpor.virginia.gov (mailto:publicrecords@dpor.virginia.gov).

The information on this page was last updated on 2013-08-20.
Details of license number 0411000051

Name: FRCEHLING & ROBERTSON INC
License Number: 0411000051
License Description: Business Entity Branch Office Registration
Business Name: FRCEHLING & ROBERTSON INC
Business Type: CORP
Address: 2293 QUICKSILVER DR STE 111
STERLING, VA 20166
Initial Certification Date: 1992-04-08
Expiration Date: 2014-02-28

Related Licenses

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<td>0402041203</td>
<td>MERIDA, OSCAR ROLANDO JR</td>
<td>Professional Engineer License</td>
<td>2013-12-31</td>
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Showing 1 to 1 of 1 entries

No Open Complaints

"Open Complaints" reflect only those complaints against regulants for which a departmental investigation has determined that sufficient evidence exists to establish probable cause of a violation of the law or regulations. Only those cases that have proceeded through an investigation to the adjudication stage are displayed. State law prohibits the disclosure of any information about open complaints [Code of Virginia Section 54.1-108]. (http://leg1.state.va.us/cgi-bin/legs504.exe?000+cod+54.1-108) Members of the public may review official records and obtain copies only after a complaint investigation is closed.

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The information on this page was last updated on 2013-08-22.
Details of license number 0407003076

Name: HALEY & ALDRICH INC
License Number: 0407003076
License Description: Business Entity Registration
Business Type: CORP
Address: 7926 JONES BRANCH DRIVE SUITE 870
MCLEAN, VA 22102
Initial Certification Date: 1992-04-20
Expiration Date: 2013-12-31

Related Licenses

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<td>0402028122</td>
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<td>ARIGOVINDAN, MUTHUKUMARAN</td>
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No Open Complaints

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No Closed Complaints

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To inquire about closed complaints, see the department's Public Records Access (http://www.dpor.virginia.gov/recordsanddocuments/) or contact the department's Information Management Section at (804) 367-8583 or publicrecords@dpor.virginia.gov (mailto:publicrecords@dpor.virginia.gov).

The information on this page was last updated on 2013-08-20.
Details of license number 0407005489

Name: AERO-METRIC INC.
License Number: 0407005489
License Description: Business Entity Registration
Business Type: CORP
Address: 45180 BUSINESS CT SUITE 800
STERLING, VA 20166
Initial Certification Date: 2009-07-30
Expiration Date: 2013-12-31

Related Licenses

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<th>License Type</th>
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<tr>
<td>0408000008</td>
<td>MCKEAGUE, WILLIAM J</td>
<td>Surveyor Photogrammist License</td>
<td>2015-02-28</td>
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</table>

Showing 1 to 1 of 1 entries

No Open Complaints

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The information on this page was last updated on 2013-08-20.
Details of license number 0407002900

Name: SO-DEEP INC.
License Number: 0407002900
License Description: Business Entity Registration
Business Type: CORP
Address: 8397 EUCLID AVENUE
MANASSAS PARK, VA 22111
Initial Certification Date: 1989-02-06
Expiration Date: 2013-12-31

Related Licenses

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<th>License Expiry</th>
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<td>SKAHN, CARY ALAN</td>
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<td>2015-06-30</td>
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<tr>
<td>SPENCER, MELVIN E</td>
<td>Land Surveyor License</td>
<td>2015-01-31</td>
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Showing 1 to 2 of 2 entries

No Open Complaints

"Open Complaints" reflect only those complaints against regulators for which a departmental investigation has determined that sufficient evidence exists to establish probable cause of a violation of the law or regulations. Only those cases that have proceeded through an investigation to the adjudication stage are displayed. State law prohibits the disclosure of any information about open complaints (Code of Virginia Section 54.1-108). (http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+54.1-108) Members of the public may review official records and obtain copies only after a complaint investigation is closed.

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The information on this page was last updated on 2013-08-20.
Details of license number 0407001402

Name: SKELLY & LOY INC
License Number: 0407001402
License Description: Business Entity Registration
Address: 449 EISENHOWER BLVD SUITE 300
HARRISBURG, PA 17112
Initial Certification Date: 1982-08-31
Expiration Date: 2013-12-31

Related Licenses

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<tr>
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<td>0402030378</td>
<td>SCHMIDT, TERRY WILLIAM</td>
<td>Professional Engineer License</td>
<td>2014-06-30</td>
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Showing 1 to 1 of 1 entries

No Open Complaints

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To inquire about closed complaints, see the department's Public Records Access (http://www.dpor.virginia.gov/recordsanddocuments/) or contact the department's Information Management Section at (804) 367-8583 or publicrecords@dpor.virginia.gov (mailto:publicrecords@dpor.virginia.gov).

The information on this page was last updated on 2013-08-20.

http://166.67.70.234/rlvi/licenseDetail.cfm?l rn=0407001402

8/21/2013
Details of license number 0407002864

Name: ALVI ASSOCIATES INC.
License Number: 0407002864
License Description: Business Entity Registration
Address: 110 WEST ROAD SUITE 410
TOWSON, MD 21204
Initial Certification Date: 1988-04-04
Expiration Date: 2013-12-31

Related Licenses

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<td>0402033361</td>
<td>ALVI, IRFAN AHMAD</td>
<td>Professional Engineer</td>
<td>2015-02-28</td>
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Showing 1 to 1 of 1 entries

No Open Complaints

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To inquire about closed complaints, see the department's Public Records Access or contact the department's Information Management Section at (804) 367-8583 or publicrecords@dpor.virginia.gov.
Details of license number 4008001190

Name: DIVERSIFIED PROPERTY SERVICES OF VIRGINIA INC
License Number: 4008001190
License Description: Appraisal Business Registration
Business Type: Corporation
Address: 20 E TIMONIUM ROAD SUITE 111
TIMONIUM, MD 21093
Initial Certification Date: 2000-11-29
Expiration Date: 2014-11-30

No Open Complaints

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The information on this page was last updated on 2013-08-20.
Details of license number 0402020798

Name: MAHONEY, DAVID JOHN
License Number: 0402020798
License Description: Professional Engineer License
Address: FAIRFAX VA, 22031
Initial Certification Date: 1990-01-26
Expiration Date: 2013-12-31

No Open Complaints

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The information on this page was last updated on 2013-08-20.
Details of license number 0402026380

Name: VICINSKI, JOHN KEVIN
License Number: 0402026380
License Description: Professional Engineer License
Address: CHANTILLY VA, 20151
Initial Certification Date: 1995-08-10
Expiration Date: 2015-08-31

Related Licenses

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The information on this page was last updated on 2013-08-20.
Details of license number 0402021276

Name: LEWIS, TADEUSZ WILLIAM
License Number: 0402021276
License Description: Professional Engineer License
Address: ASHBURN VA, 20147
Initial Certification Date: 1990-07-16
Expiration Date: 2014-04-30

Related Licenses

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<td>GEOCONCEPTS ENGINEERING INC</td>
<td>Business Entity Registration</td>
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Showing 1 to 1 of 1 entries

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The information on this page was last updated on 2013-08-22.
Details of license number 0402033361

Name: ALVI, IRFAN AHMAD
License Number: 0402033361
License Description: Professional Engineer License
Address: LUTHERVILLE MD, 21093
Initial Certification Date: 1999-02-22
Expiration Date: 2015-02-28

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<td>ALVI ASSOCIATES INC.</td>
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The information on this page was last updated on 2013-08-21.
Details of license number 0402019977

Name: COWAN, GEOFFREY LIND
License Number: 0402019977
License Description: Professional Engineer License
Address: MANASSAS VA, 20112
Initial Certification Date: 1989-07-17
Expiration Date: 2015-07-31

Related Licenses

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Showing 1 to 1 of 1 entries

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The information on this page was last updated on 2013-08-25.

http://166.67.70.234/rlvi/licenseDetail.cfm?ln=0402019977

8/26/2013
### ATTACHMENT 3.3.1

**KEY PERSONNEL RESUME FORM**

<table>
<thead>
<tr>
<th>Brief Resume of Key Personnel anticipated for the Project.</th>
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<tbody>
<tr>
<td><strong>a. Name &amp; Title:</strong></td>
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<tr>
<td>Jeffrey Austin, P.E., Vice President</td>
</tr>
<tr>
<td><strong>b. Project Assignment:</strong></td>
</tr>
<tr>
<td>Design-Build Project Manager</td>
</tr>
<tr>
<td><strong>c. Name of Firm with which you are now associated:</strong></td>
</tr>
<tr>
<td>Shirley Contracting Company, LLC</td>
</tr>
<tr>
<td><strong>d. Years experience:</strong></td>
</tr>
<tr>
<td>With this Firm 13 Years With Other Firms 8 Years</td>
</tr>
<tr>
<td>Please list chronologically (most recent experience first)</td>
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<td>your employment history, position and general experience</td>
</tr>
<tr>
<td>or fields of practice for the last fifteen(15) years. (NOTE:</td>
</tr>
<tr>
<td>If you have less than 15 years of experience, please list all</td>
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<tr>
<td>of your experience for those years you have worked.):</td>
</tr>
<tr>
<td>Shirley Contracting Company, LLC, Shirley Design-Build, LLC</td>
</tr>
<tr>
<td>Vice President, July 2011 to Present</td>
</tr>
<tr>
<td>• Loudoun Water, Water Treatment Plant Site Access and Program Administration Facilities Design-Build Project, May 2013 to Present, Design Build Project Manager.</td>
</tr>
<tr>
<td>• I-64, Exit 91 Interchange Improvements D-B Project, October 2012 to Present, Design-Build Project Manager.</td>
</tr>
<tr>
<td>• Route 27/244 Interchange Modifications Project, September 2011 to Present, Design-Build Project Manager.</td>
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<tr>
<td>• Pacific Boulevard Extension Project, July 2011 to July 2013, Design-Build Project Manager.</td>
</tr>
<tr>
<td>• Route 50 Widening Project, March 2011 to Present, Design-Build Project Manager.</td>
</tr>
<tr>
<td>• University Boulevard PPTA Project, March 2011 to Present, Design-Build Project Manager.</td>
</tr>
<tr>
<td>• Route 28 Corridor Improvements Project, September 2004 to Present, Design-Build Project Manager.</td>
</tr>
<tr>
<td><strong>Contract Manager, September 2004 to July 2011</strong></td>
</tr>
<tr>
<td>• Waxpool Road/Loudoun County Parkway Intersection Improvements, April 2010 to March 2011, Design-Build Project Manager.</td>
</tr>
<tr>
<td>• Pacific Boulevard Design-Build Project, July 2008 to August 2010, Design-Build Project Manager.</td>
</tr>
<tr>
<td>• Battlefield Parkway Design-Build Project, July 2007 to November 2009, Design-Build Project Manager.</td>
</tr>
<tr>
<td>• Dulles Greenway Capital Improvements Program, March 2005 to December 2007 -- Design-Build Project Manager.</td>
</tr>
<tr>
<td><strong>Senior Project Manager, October 2000 to September 2004</strong></td>
</tr>
<tr>
<td>• Springfield Interchange Phase IV, October 2000 to September 200 – Responsible for managing construction.</td>
</tr>
<tr>
<td><strong>Alpha Corporation</strong></td>
</tr>
<tr>
<td>Various Positions, 1992 to October 2000</td>
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<tr>
<td>• Prince George’s County, MD, January 2000 to October 2000, Senior Engineer.</td>
</tr>
<tr>
<td>• Route 7/Fairfax County Pkwy Interchange, August 1998 to December 1999, Sr. Inspector &amp; Office Engineer.</td>
</tr>
<tr>
<td><strong>e. Education:</strong></td>
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<tr>
<td>Virginia Polytechnic Institute and State University/Blacksburg, VA/ Bachelor of Science/ 1992/Civil Engineering</td>
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<tr>
<td><strong>f. Active Registration:</strong></td>
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<tr>
<td>Year First Registered/ Discipline/VA Registration #:</td>
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<tr>
<td>1999 / PROFESSIONAL ENGINEER / 0402 033555</td>
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<tr>
<td><strong>g. Document the extent and depth of your experience and qualifications relevant to the Project.</strong></td>
</tr>
<tr>
<td>1. Note your specific responsibilities and authorities for each assignment, not those of the firm.</td>
</tr>
<tr>
<td>2. Note whether experience is with current firm or with other firm.</td>
</tr>
<tr>
<td>3. Provide beginning and end dates for each assignment.</td>
</tr>
<tr>
<td>(List at least three (3), but no more than five (5) relevant projects for which you have performed a similar function.)</td>
</tr>
</tbody>
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**1. University Boulevard PPTA Project - Prince William County, Virginia**

Shirley Design/Build, LLC, Design-Build Project Manager (March 2011 – December 2013)

Mr. Austin is responsible for management and direction of the discipline managers for the overall design-build process including design, permitting, utility relocations, right-of-way acquisition, quality assurance & quality control, and construction for this $29 million design-build PPTA project for Prince William County. The Project elements include construction of University Boulevard between Sudley Manor Drive and Hornbaker Road as a six-lane divided urban roadway including two bridges. Mr. Austin is also overseeing the upgrading of 7,000 L.F. of Hornbaker Road to a four-
Build Project Manager for the Shirley/Dewberry Team, Mr. Austin was responsible for contract interchange at Route 606, and new interchanges at Routes 653 and Route 654. He managed and build disciplines of the Shirley/Dewberry Team including design, permitting, utility relocations, right-of-way acquisition, quality assurance & quality control, and construction for this $19 million design-build project which extends from Auto World Drive to Severn Way in Loudoun County, Virginia. As the main point of contact for the Shirley/Dewberry Team, Mr. Austin was responsible for communication and coordination with VDOT, NVRPA, permitting agencies, impacted property owners, and other stakeholders on the Project. He developed the CPM schedule and monitored progress of the project which was completed on schedule in August 2010. In cooperation with VDOT, Mr. Austin coordinated with the Eugenia Investments, the primary property owner impacted by the Project, and the Design Team to prepare exhibits and cost estimates to ultimately revise the Project’s design to incorporate improved entrance features for the property. As a result of this partnering effort, Eugenia Investments agreed to dedicate the right-of-way at no cost, saving VDOT over $3 million and facilitating the early start of construction activities.

2. Pacific Boulevard Design-Build Project - Loudoun County, Virginia
Shirley Design/Build, LLC, Design-Build Project Manager (July 2008 – August 2010)
Mr. Austin was responsible for management and direction of the discipline managers for the overall design-build process including design, permitting, utility relocations, right-of-way acquisition, quality assurance & quality control, and construction for this $26.5 million design-build project to extend Battlefield Parkway from Kinkaid Boulevard to Route 7 in Leesburg, Virginia. He was also the point of contact for communication and coordination with VDOT, the Town of Leesburg, NVRPA, permitting agencies, impacted property owners, and local communities on the project. Mr. Austin developed the CPM schedule for the project. The project was completed on schedule in November 2009.

3. Battlefield Parkway Design-Build Project - Leesburg, Virginia
Shirley Design/Build, LLC, Design-Build Project Manager (July 2007 – November 2009)
As the Design-Build Project Manager for the Shirley/Dewberry Team, Mr. Austin was responsible for contract administration and management of the overall design-build process including design, permitting, utility relocations, right-of-way acquisition, quality assurance & quality control, and construction for this $71 million design-build project which extended from Auto World Drive to Severn Way in Loudoun County, Virginia. As the main point of contact for the Shirley/Dewberry Team, Mr. Austin was responsible for communication and coordination with VDOT, the Town of Leesburg, NVRPA, permitting agencies, impacted property owners, and local communities on the project. Mr. Austin developed the CPM schedule for the project. The project was completed on schedule in November 2009.

4. Dulles Greenway Capital Improvements Program - Loudoun County, Virginia
Shirley Contracting Company, LLC, Design-Build Project Manager (March 2005 – December 2007)
Mr. Austin was responsible for the overall contract administration for this $71 million design-build project which included widening the mainline roadway from four to six lanes, expansion of the mainline toll plaza, improvements to the existing Greenway interchange at Route 606, and new interchanges at Routes 653 and Route 654. He managed and integrated the individual design-build disciplines of the Shirley/Dewberry Team including design, permitting, utility relocations, and construction to ensure constructability and eliminate conflicts. Mr. Austin was the main point of contact for the communication and coordination with the Owner, VDOT, the Town of Leesburg, MWAA, permitting agencies, and other stakeholders on the Project. He developed the CPM schedule and monitored project controls for the duration of the contract to ensure on-time project completion. As a result of the D-B Team’s excellent performance through the first eighteen months of the project, he was able to negotiate the addition of the Greenway/Route 772 Interchange to the Project. With Mr. Austin’s leadership, the D-B Team was able to complete the design, permitting, utility relocations, and construction of this added project in just 16 months and to complete the entire project by the original completion date of December 2007. In recognition of the success of this project, Mr. Austin was part of the design-build team that received the Design-Build Institute of America 2008 Regional Design-Build Excellence Award.

5. Centreville Road Widening Design-Build Project - Centreville, Virginia
Shirley Contracting Company, LLC, Design-Build Manager (June 2005 – September 2008)
As Design-Build Manager, Mr. Austin was responsible for leading the Shirley/Dewberry Team through all phases of the Design-Build process including design, permitting, ROW acquisition, utility relocations and construction. He was the primary point of contact for our team coordinating the design and construction with VDOT, local land owners, developers, the Fairfax County Department of Transportation and Board of Supervisors for the Centreville Road Widening Project. Shirley Contracting was awarded a $26 million change order to design and construct the Centreville Road Widening Project as part of the Route 28 Corridor Improvements Project.
### Brief Resume of Key Personnel anticipated for the Project.

<table>
<thead>
<tr>
<th>a. Name &amp; Title:</th>
<th>John K. Vicinski, P.E., DBIA, Quality Assurance Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Project Assignment:</td>
<td>Quality Assurance Manager</td>
</tr>
<tr>
<td>c. Name of Firm with which you are now associated:</td>
<td>Quinn Consulting Services, Incorporated</td>
</tr>
<tr>
<td>d. Years experience: With this Firm</td>
<td>4.8 Years With Other Firms</td>
</tr>
<tr>
<td>Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice for the last fifteen (15) years.</td>
<td></td>
</tr>
<tr>
<td>Quinn Consulting Services, Incorporated (June 2008 - Present)</td>
<td></td>
</tr>
<tr>
<td>As Quality Assurance Manager, worked exclusively on design-build projects in lead QA and QC roles.</td>
<td></td>
</tr>
<tr>
<td>• March 2012 to Present – Quality Assurance Manager for the VDOT Design-Build Rt. 27/244 Interchange Reconstruction project in Arlington, Virginia.</td>
<td></td>
</tr>
<tr>
<td>• September 2011 to Present – Quality Assurance Manager for the VDOT Design-Build Rt. 50 Widening Project West of Rt. 28 in Fairfax and Loudoun Counties in Virginia.</td>
<td></td>
</tr>
<tr>
<td>• February 2012 to Present – Quality Assurance Manager for the VDOT Design-Build Pacific Blvd. Extension Project in Loudoun County, Virginia.</td>
<td></td>
</tr>
<tr>
<td>• March 2012 to December 2012 – Quality Assurance Manager for the FHWA Design-Build project Fort Lee Garrison “A” Gate Roundabout in Prince George County, Virginia.</td>
<td></td>
</tr>
<tr>
<td>• January 2011 to March 2013 - Client: Dewberry. Quality Assurance Manager for the FHWA Fairfax County Improvements (Phase III) Design-Build Project.</td>
<td></td>
</tr>
<tr>
<td>• April 2010 to December 2010 – Quality Assurance Manager for the VDOT Waxpool Road and Loudoun County Parkway Interchange Improvements Design-Build Project.</td>
<td></td>
</tr>
<tr>
<td>• November 2008 to March 2010 – Area Quality Control Engineer on the VDOT/FHWA PPTA Design-Build Project adding HOT Lanes to 14 miles of the Virginia side of the Capital Beltway.</td>
<td></td>
</tr>
<tr>
<td>• June 2008 to November 2008 – Quality Assurance Manager for the VDOT Pacific Boulevard Design-Build Project.</td>
<td></td>
</tr>
<tr>
<td>• June 2008 to November 2008 – Quality Assurance Manager for the VDOT Battlefield Parkway Design-Build Project.</td>
<td></td>
</tr>
<tr>
<td>• June 2008 to November 2008 – Quality Assurance Manager for the VDOT Design-Build Gilberts Corner Project near the intersection of Rt.15 and Rt. 50 in Loudoun County, VA.</td>
<td></td>
</tr>
<tr>
<td>Alpha Corporation (September 1995 - June 2008)</td>
<td></td>
</tr>
<tr>
<td>As vice president and director of transportation services in Virginia, managed up to 25 contracts simultaneously primarily providing CEI services on design-build, district-wide, and project specific projects for VDOT and other transportation clients.</td>
<td></td>
</tr>
<tr>
<td>• January 2008 to June 2008 – Quality Assurance Manager for the VDOT Battlefield Parkway Design-Build Project.</td>
<td></td>
</tr>
<tr>
<td>• January 2008 to June 2008 – Quality Assurance Manager for the VDOT Design-Build Gilberts Corner Project</td>
<td></td>
</tr>
<tr>
<td>• 2007-2008 – Quality Assurance Manager on $56 million , 5.6 mile rail and roadway D-B project in Portsmouth, Va.</td>
<td></td>
</tr>
<tr>
<td>• 2006-2008 – Project Director providing CEI inspectors and support services on I-66 Gainesville Interchange project.</td>
<td></td>
</tr>
<tr>
<td>• 2005-2008 – Project Director on construction of $500 million container terminal in Portsmouth, Va.</td>
<td></td>
</tr>
<tr>
<td>• 1998-2008 – Inspector coordinator on three consecutive VDOT Culpeper District-wide CEI contracts</td>
<td></td>
</tr>
<tr>
<td>• 2004-2008 – Project Director/Task Manager providing constructability review and CPM scheduling services.</td>
<td></td>
</tr>
<tr>
<td>• 2004-2008 – Project Director in charge of providing CEI services on multiple transportation projects.</td>
<td></td>
</tr>
<tr>
<td>• 2006-2008 – Project Director in charge of providing CEI services on Monroe Street Design-Build project.</td>
<td></td>
</tr>
<tr>
<td>• 2005-2008 – Project Director in charge of providing CEI services on transportation projects in Prince William County.</td>
<td></td>
</tr>
<tr>
<td>e. Education: Name &amp; Location of Institution(s)/Degree(s)/Year/Specialization:</td>
<td>University of Pittsburgh @ Johnstown / BS / 1982 / Civil Engineering Technology</td>
</tr>
<tr>
<td>f. Active Registration: Year First Registered/ Discipline/VA Registration #:</td>
<td>1992 / Civil Engineer / 0402 026380</td>
</tr>
<tr>
<td></td>
<td>Also registered as professional engineer in the State of Maryland &amp; Commonwealth of Pennsylvania</td>
</tr>
</tbody>
</table>
g. Document the extent and depth of your experience and qualifications relevant to the Project.
   1. Note your specific responsibilities and authorities for each assignment, not those of the firm.
   2. Note whether experience is with current firm or with other firm.
   3. Provide beginning and end dates for each assignment.

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

1. **Route 27/244 Interchange Design-Build Project - Arlington, Virginia**
   Quinn Consulting Services, Inc., Quality Assurance Manager (March 2012 – August 2015)
   Quality Assurance Manager on this $50 million interchange project in Arlington, Virginia. This project included
   the replacement of the Washington Blvd. bridge over Columbia Pike that was built in the 1940’s by the War Department as
   part of the Pentagon Roadway Network. The new bridge has many architectural and aesthetic features including;
   decorative pylons in each corner, hunched steel fascia girders with a two-tone paint scheme to mimic the previous arch, a
   relief pattern incorporated into the vertical outer surfaces, a concrete block pattern on retaining and abutment walls, and
   medallions with images reflecting the historical significance of Freedmen’s Village, for which the bridge will be named.
   Responsible for all of the QA oversight and testing as well as monitoring the QC program for compliance with the project
   specific QA/QC plan as well as the Virginia Department of Transportation (VDOT) Minimum Requirements for Quality
   Assurance & Quality Control on Design-Build & Public-Private Transportation Act Projects.

2. **Route 50 Widening Design-Build Project - Chantilly, Virginia**
   Quinn Consulting Services, Inc., Quality Assurance Manager (September 2011 – June 2015)
   Quality Assurance Manager for this approximately $58 million design-build project to widen Route 50 in Fairfax and
   Loudoun Counties between Rte. 742 (Poland Road) to Rte. 28 (Sully Road) from a four-lane divided highway to a six-lane
   divided highway. Responsibilities include oversight of the QA team that works closely with the Contractor’s QC team to
   assure that the project adheres to the project specific QA/QC Plan and the Minimum Requirements for QA and QC as set
   forth in the VDOT Design-Build Manual. Responsibilities of the QA team include: scheduling and chairing activity
   preparatory meetings; performing the required QA inspection and testing; monitoring the performance and documentation
   of the QC team, reviewing and approving monthly pay estimates, developing project punch lists, and addressing non-
   conforming items with contractor QC personnel.

3. **Fairfax County Parkway Phase III-Design-Build Project - Fairfax County, Virginia**
   Quinn Consulting Services, Inc., Quality Assurance Manager (February 2010 – March 2013)
   Quality Assurance Manager on this $22 million interchange and roadway FHWA/VDOT Design-Build project. Project
   included the construction of a six-lane divided limited access highway; the Franconia-Springfield Parkway interchange
   improvements; a shared use path alongside a portion of relocated Rolling Rd.; sound barriers along relocated Rolling Rd.
   and Ramp D; and a new bridge over the Fairfax County Parkway. Responsibilities included overseeing QA and QC staff to
   make certain the project was completed in accordance with the contract documents and the VDOT Design-Build Minimum
   Standards. Other responsibilities included facilitating preparatory meetings before new activities began, documenting
   asphalt and aggregate testing within the FHWA QL Pay System, and coordinating QA laboratory testing services.

4. **I-495 HOT Lanes Design-Build Project - Fairfax County, Virginia**
   Quinn Consulting Services, Inc., Area Quality Control Engineer (November 2008 – April 2009)
   Area Quality Control Engineer on the design-build widening on 14 miles of the Capital Beltway. The $1.5 billion project
   added two-lanes in each beltway direction, replaces more than 50 bridges and overpasses, upgrades 10 interchanges, and
   improves bike and pedestrian access. Responsible for managing teams of inspectors to provide quality control inspection
   and testing services in accordance with the project specific quality assurance/quality control plan and VDOT’s Minimum
   Quality Control & Quality Assurance Requirements for Design Build & Public-Private Transportation Act Projects.
   Responsibilities also include interfacing with project design engineers on RFI’s, field design changes (FDC’s), and non-
   compliance reports (NCR’s) and daily coordination with QA and general engineering consultant (GEC) personnel.

5. **Gilberts Corner Design-Build Project - Loudoun County, Virginia**
   Alpha Corporation, Area Quality Control Engineer (January 2008 – November 2008)
   Quality Assurance Manager on construction of four new traffic circles installed near the intersection of Rt. 15 and Rt. 50 in
   Loudoun County, Va. Responsible for overseeing all QA and QC activities and assuring that work was performed in
   accordance with the project specific QA/QC plan and VDOT’s Minimum Quality Control & Quality Assurance
   Requirements for Design Build & Public-Private Transportation Act Projects. In the initial stages of the project, helped
   write the QA/QC plan and assemble a team of QA inspectors and QC technicians that had the required experience and
   certifications to implement the plan and track all project documentation. Reviewed and signed monthly pay estimates after
   comparing pay requests with actual progress and compliance with minimum QA/QC technical standards.
**Key Personnel Resume Form**

**Brief Resume of Key Personnel anticipated for the Project.**

<table>
<thead>
<tr>
<th>a. Name &amp; Title:</th>
<th>David Mahoney, P.E., Senior Vice President</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Project Assignment:</td>
<td>Design Manager</td>
</tr>
<tr>
<td>c. Name of Firm With Which you are now Associated:</td>
<td>Dewberry Consultants LLC</td>
</tr>
<tr>
<td>d. Years experience: With this Firm: <strong>21 years</strong> With Other Firms: <strong>3 years</strong></td>
<td></td>
</tr>
</tbody>
</table>

Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list all of your experience for those years you have worked:)

**Dewberry Consultants LLC (formerly Dewberry & Davis LLC)**

**Design Manager, August 1994 to Present**

- **Intercounty Connector (ICC) Contract C**, February 2008 to 2011, Design Manager for the Shirley D/B Team
- **Pacific Boulevard Design-Build Project**, July 2008 to 2010, Design Manager for the Shirley D/B Team
- **Battlefield Parkway Design-Build Project**, July 2007 to November 2009, Design Manager for the Shirley D/B Team
- **Route 28 Corridor Improvements Project**, September 2002 to Present, Design Manager for the led Shirley design-build team
- **I-66 Widening Project from Route 234 to Route 29/Gainesville Road**, June 1999 to June 2010, Project Manager
- **Dulles Greenway Capital Improvements Program**, March 2005 to December 2007, Design Manager for the Shirley D/B Team.
- **Route 1/Route 123 Interchange**, March 1997 to June 2004, Project Manager
- **Route 123 Widening from I-495 to Dulles Toll Road**, January 2001 to January 2002, Project Manager
- **Spriggs Road Widening from Hoadly Road to Route 234**, February 1996 to March 1999, Project Manager
- **Sam Eig Interchange at Washingtonian Center**, August 1994 to July 1996, Project Manager

<table>
<thead>
<tr>
<th>e. Education: Name &amp; Location of Institution(s)/Degree(s)/Year/Specialization:</th>
<th>South Dakota State University, Brookings, SD / BS / 1984 / Civil Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>f. Active Registration: Year First Registered/ Discipline/VA Registration #:</td>
<td>Professional Engineer/VA-1990 (#80402020798)</td>
</tr>
<tr>
<td>Member of the Design Build Institute of America and the American Public Works Association</td>
<td></td>
</tr>
<tr>
<td>g. Document the extent and depth of experience and qualifications relevant to the Project</td>
<td></td>
</tr>
<tr>
<td>1. Note your specific responsibilities and authorities for each assignment, not those of the firm.</td>
<td></td>
</tr>
<tr>
<td>2. Note whether experience is with current firm or with other firm.</td>
<td></td>
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<tr>
<td>3. Provide beginning and ending dates of each assignment.</td>
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<tr>
<td>(List at least (3), but no more than (5) relevant projects for which you have performed a similar function)</td>
<td></td>
</tr>
</tbody>
</table>

1. **Intercounty Connector Contract C - Montgomery and Prince George’s Counties, Maryland**
   **Dewberry, Design Manager (February 2008 – June 2009 Design)**
   As part of the Dewberry Team, Mr. Mahoney was responsible for all aspects of the design for Contract C, a $513M design-build project that included new three-level interchanges with both Route 29 and I-95, and a diamond interchange with Briggs Chaney Road. Mr. Mahoney directed a team of engineers to complete the design for the interchanges and roadways including: 20 bridges, 12 retaining walls, five noise walls, stormwater management facilities, floodplain analysis, scour analysis, permitting and environmental approvals, mapping, surveys, geotechnical investigations, utility designations and test pitting, utility relocation design, ITS and ETC design, lighting, signing and marking, signals and maintenance-of-traffic. Project included a roadway crossing of the AutoPark Dam, a high-hazard dam. He coordinated with the Team and Maryland Dam Safety Division to analyze the PMF and sunny day dam break analysis to show that the roadway had no effect of the dam. Mr. Mahoney coordinated the design with the other discipline managers including permitting, right-of-way, utilities and construction and monitors and documents all design QA and QC efforts.

2. **Dulles Greenway - Loudoun County, Virginia**
   **Dewberry, Design Manager (March 2005 – December 2007)**
   Mr. Mahoney was responsible for all roadway and bridge design for the improvement of the Dulles Greenway, including: expansion of the mainline plaza to 18 lanes, eight miles of widened mainline roadway from four lanes to six lanes, two new interchanges, and upgrades to two additional interchanges. Developed environmentally sensitive plans for the highway corridor including protection of Goose Creek, a state scenic river, and innovative wetland mitigation design. Guided the division of the improvements into multiple packages to facilitate design-build mode construction. Attended weekly meetings with the contractor...
to coordinate design and construction activities, provided oversight of the project engineers responsible for the design of the improvements, and coordination with VDOT and local agencies. Implemented a Design QA/QC program for design quality and constructability through the design process, and actively monitored the design schedule and allocated staff resources to achieve compliance with the design schedule. Project consisted of nine improvement projects to the Dulles Greenway, including two phases of mainline widening from four to six lanes, widening of the Goose Creek Bridge from four to six lanes, design of improvements to the Route 606 and Route 772 Interchanges, design of two new interchanges at Route 653 and Route 654, widening of the mainline toll plaza from 14 to 18 lanes, and design of a new direct ramp from the eastbound lanes to Dulles Airport. Mr. Mahoney also served as the lead roadway designer for the original Greenway roadway design which provided an analysis of the high hazard Horsepen Dam in 1990 with the improvements to the interchange of Route 606 and Greenway. Plans were developed for the owner in a design-build format with Shirley Contracting. The design build team was responsible for design and construction of the improvements, as well as utility relocations, toll plaza design, and utility tunnel design at the mainline toll plaza. Mr. Mahoney and his team received an award from the Design-Build Institute of America (DBIA) for the project, recognizing their expertise in project delivery through design-build method.

3. Prince William Parkway - Woodbridge, Virginia
Dewberry, Lead Design Engineer (June 1988 -1990)
Lead Design Engineer, Responsible for the preliminary and final design of 5 miles of a four and six lane divided arterial roadway. Design responsibilities included establishing horizontal and vertical alignments, coordinating utility relocation, preparing construction documents, estimating preliminary cost and project coordination. This project included a crossing of Cow Branch and utilized the roadway embankment to create a regional stormwater management facility treating a watershed of 300 ac. The embankment is 50’ high and the dam was designed as an earthen zoned dam, having an impervious zone core. The dam passes the full PMF and the spillway was designed for the ½ probable maximum flood (PMF). This dam is a high hazard dam and is regulated by DCR Dam Safety. Dewberry currently are performing inspection for the annual reporting to DCR Dam Safety.

4. Route 28 Corridor Improvements Project - Fairfax and Loudoun Counties, Virginia
Dewberry, Design Manager (Sept 2002 - Present)
As the Design Manager for the Dewberry design-build team, he is responsible for the overall design of the $330M project that includes roadway widening, 10 new interchanges and various secondary roadways, including implementation and monitoring of all Design QA/QC measures to ensure that the Plans, Specifications, and other documents prepared by the Design Team meet applicable standards and the Contract Documents. Attends weekly meetings with the contractor and owner to handle construction issues, oversight of the project engineers responsible for the design of individual roadway elements, coordination with VDOT and local agencies including MWAA, Loudoun County, Fairfax County, as well as the NVRPA. Conducted public hearings and other community and public involvement meetings during development of the secondary roadway projects to ensure that the local residents and businesses were involved in the development process. Actively monitors the design schedule and staff resources allocation to ensure design schedule compliance. As part of his commitment to his profession, Mr. Mahoney has made presentations regarding the project to the Design-Build Institute of America (DBIA), is a member of the team that received the Tower of Dulles Award, and was a contributor to an article published in the Mid-Atlantic Builder magazine highlighting the Route 28 project’s success.

5. Route 50 Widening Design-Build, Fairfax, VA
Dewberry, Design Manager (March 2011 - Present)
Responsible for overseeing all aspects of the roadway plan development and coordination with each of the other disciplines (hydraulics, environmental, and structural). Also responsible for significant utility relocation including design of the 36-inch water main relocation and sanitary sewer relocations on the project, serving as the client direct contact for all design-related submissions, reviews, and comments, and led the design coordination efforts for utility relocations designed by others for the $67.8M project. Project scope includes the widening of Route 50 from four to six-lanes for 3.7 miles from Poland Road (Route 742) to Sulley Road (Route 28); acquisition required right-of-way from 68 parcels; extensive coordination and relocation of facilities owned by 15 different utility companies; acquisition of environmental permits, improvements to eight signalized intersections, four new storm water management facilities; widening and reconstruction of the existing bridges over Cub Run; a new 10’ wide shared use path on each side of the road; coordination of public involvement; coordination of spot waterline relocations with Fairfax County Water Authority. Coordinated utility relocations and right-of-way acquisition in a linear transportation corridor where the majority of the widening results in direct utility conflicts. Closely coordinated the Transportation Management Plan with the right-of-way and utility relocation priorities to ensure that we provided adequate float to third-party controlled utility relocations without compromising an aggressive schedule.
**ATTACHMENT 3.3.1**

**KEY PERSONNEL RESUME FORM**

**Brief Resume of Key Personnel anticipated for the Project.**

a. Name & Title: Tony Jefferys, Senior Project Superintendent

b. Project Assignment: Construction Manager

c. Name of Firm with which you are now associated: Shirley Contracting Company, LLC

d. Years experience: With this Firm 13 Years With Other Firms 25 Years

Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list all of your experience for those years you have worked.):

**Shirley Contracting Company, LLC - Senior Project Superintendent, 1999–Present**

- **USCG Saint Elizabeth’s West Site Access Road**, 2011 to 2013 - Superintendent and Construction Manager for $32 million roadway and utilities for main entrance into DHS/USCG Headquarters Campus for GSA.

- **Lake Barton Dam Improvements** 2010 to 2011-Superintendent and Construction Manager for the $3 million project to improve the high-hazard Lake Barton Dam.

- **Washington Headquarters Service DoD BRAC 133**, December 2008 to August 2011 – Construction Manager for the $143 million design-build for the WHS Mark Center Site/Civil Construction Project.

- **I-95 4th Lane Widening**, March 2008 to September 2011 – Project Superintendent in charge of $91 million highway and bridge widening VDOT project.

- **Dulles Greenway Capital Improvements, Leesburg, VA**, 2006-2008 - Superintendent on this $75 million design-build project that included the widening of 14 bridges, construction of over six miles of mainline widening, and expansion of the mainline toll plaza, and improvements to existing Greenway interchanges.

- **Route 606 Interchange Project, Loudoun County, VA**, 2005-2006 - Superintendent on one of the individual design-build components of the Route 28 Corridor Improvements Project, this new interchange at the intersection of Route 28 and Route 606 in Loudoun County consisted of construction of a relocated detour intersection, eight new loops and ramps, a new bridge overpass, interchange lighting, and signalization.


**The Lane Construction Corporation – Foreman 1974-1999**

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: None

f. Active Registration: Year First Registered/ Discipline/VA Registration #: Will obtain Virginia Department of Conservation and Recreation DCR RLD and Virginia Erosion and Sediment Control Contractor Certification (ESCCC) prior to the commencement of construction.

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

1. Note your specific responsibilities and authorities for each assignment, not those of the firm.
2. Note whether experience is with current firm or with other firm.
3. Provide beginning and end dates for each assignment.

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

1. **Saint Elizabeths West Site Access Road - Washington, DC**

Shirley Contracting Company, Construction Manager (2011 to 2013)

Responsible for Construction Management of the West Site Access Road for the new Saint Elizabeths West Campus Improvements as part of the new USCG/DHS Headquarters facility for GSA. Shirley Contracting Company, LLC is constructing the 3,000 foot long West Access Road which will serve as the Main Entrance into the Campus. Mr. Jefferys is responsible for the entire construction effort which is highlighted by the construction of over 55,000 SF of a tied-back retaining wall system supporting the new roadway adjacent to the I-295 corridor. Managing three utility crews working simultaneously in order to meet schedule demands, Mr. Jefferys managed the successful installation of over 4,000 LF of stormwater piping and 2,500 LF of new waterline serving the campus. He also coordinated with DC Water in order to perform the tie-in connections to the existing watermains along Firth Sterling Avenue and I-295. Mr. Jefferys managed...
Shirley's earthwork and grade crews who have moved and disposed of over 150,000 cubic yards of soil, much containing contaminated fly ash materials in order to meet final roadway elevations. Stormwater systems including the use of Bio-Retention Basins and Storm Filters are being installed by Mr. Jefferys crews. Mr. Jefferys is also serving as Construction Manager for the new Intersection of the West Campus Access Road and Firth Sterling Avenue.

2. DoD/BRAC 133 Washington Headquarters Services - Alexandria, VA
Shirley Contracting Company, LLC, Senior Project Superintendent (2008 to 2011)
Senior Project Superintendent responsible for the overall construction operations on the $143 million Design-Build Garage and Site Work Improvements Package for the DoD/BRAC 133 at Mark Center Project including the Mark Center Road Improvements Project. Shirley Contracting Company, LLC was the General Contractor for all site-work; on-site infrastructure, precast concrete parking structures, Remote Delivery, Remote Inspection, and Visitor Center Facilities. Managing a field manpower of over 200 people per day, Mr. Jefferys successfully managed the excavation and disposal of over 400,000 cubic yards or earthwork, installation of over 15,000 LF of stormwater, waterline and sanitary sewer utility piping as well as grading and paving of over two miles of internal roadway systems. Working with Dominion Virginia Power, Verizon, Alexandria Service Authority and Virginia American Water, Shirley Contracting Company, LLC and Mr. Jefferys managed the design and construction of these major utility services into the Mark Center site. An enormous coordination and teaming effort enabled the Shirley Team to complete the project six weeks early allowing for accelerated move-in date for the government and its clients. Mr. Jefferys also served as the Senior Superintendent for the $4.8 million Mark Center Offsite Roadway Improvements. These improvements included the newly opened widened portions of both Seminary Road and North Beauregard Street and other improvements associated with the DoD/BRAC 133 project designed to mitigate impacts to local traffic. Roadwork for the improvements was in both the City of Alexandria and VDOT right-of-way. Through Mr. Jefferys management efforts, the Shirley Team completed the project in time for the opening of the WHS Headquarters in September 2011.

3. Lake Barton Dam Improvements - Fairfax, Virginia
Shirley Contracting Company, LLC, Project Superintendent/Construction Manager (October 2010 to June 2011)
Mr. Jeffery’s was responsible for the construction management and oversight of the $3 million high-hazard Lake Barton Dam Improvements project which included installation of below grade concrete walls within the dam’s auxiliary spillway, installation of a cast in place concrete retaining wall to raise the dam’s spillway elevation, and additional spillway improvements to improve the strength of the dam structure. Mr. Jeffery’s managed and was responsible for all Shirley’s self-perform field forces and project subcontractors, monitored the construction work for compliance with all project specifications and standards, and maintained the project schedule. Mr. Jeffery’s was also responsible for coordinating with local residents, Fairfax County, Virginia Department of Conservation & Recreation (DCR), and the National Resources Conservation Service (NRCS).

4. I-95 4th Lane Widening Project - Fairfax County, Virginia
Shirley Contracting Company, LLC, Senior Project Superintendent (2008 to 2011)
Mr. Jefferys was the Senior Project Superintendent on this $91 million project to widen I-95 from six to eight lanes from the Fairfax County Parkway (Route 7100) to Route 123 at the Prince William County line (approximately six miles). Mr. Jefferys was responsible for overseeing all day-to-day field construction activities including coordinating self-perform and subcontracted work, maintaining the CPM schedule, and coordinating with the Virginia Department of Transportation. This six mile long project included widening I-95 to four lanes in each direction, multiple bridge widenings including a bridge over the Occoquan River, extensive retaining and noise barrier walls as well as the maintenance of traffic for over 200,000 vehicles per day traveling through the project.

5. Dulles Greenway Capital Improvements - Leesburg, Virginia
Shirley Contracting Company, LLC, Senior Project Superintendent (2006 to 2008)
Mr. Jeffery’s was the Senior Project Superintendent for this $75 million design-build project that included the widening of 14 bridges, construction of over six miles of mainline widening, expansion of the mainline toll plaza, improvements to the existing Greenway interchanges at Route 606 and Route 772, and new interchanges at Routes 653 and Route 654. Mr. Jefferys was responsible for directing all Shirley Contracting crews and all project subcontractors for roadway construction activities. Mr. Jefferys monitored the construction activities for compliance with the VDOT standards and specifications as well as the standards of the private owners of the toll road facility. Using a fast-tracked phased design and construction process, the Shirley Team opened the mainline widening of the Greenway six months ahead of schedule.
ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

<table>
<thead>
<tr>
<th>Brief Resume of Key Personnel anticipated for the Project.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Name &amp; Title: W. Lewis, PE, Geotechnical Engineering</td>
</tr>
<tr>
<td>b. Project Assignment: Lead Geotechnical Engineer</td>
</tr>
<tr>
<td>c. Name of Firm with which you are now associated: GeoConcepts Engineering, Inc.</td>
</tr>
<tr>
<td>d. Years experience: With this Firm 14  Years With Other Firms 12</td>
</tr>
</tbody>
</table>

Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice for the last fifteen(15) years. (NOTE: If you have less than 15 years of experience, please list all of your experience for those years you have worked.):

<table>
<thead>
<tr>
<th>Geotechnical Engineering Design and Construction Projects including roadways, embankment dams and office buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Route 50 Widening from Route 742 to Route 28, Loudoun and Fairfax Counties, VA, 10/2011 to On-going, Quality Control/Project Reviewer</td>
</tr>
<tr>
<td>2. Pacific Boulevard, Sterling, Loudoun County, VA, 7/2008 to 6/2011, Quality Control/Project Reviewer</td>
</tr>
<tr>
<td>4. Fort A P Hill Dam Inspection Services, 10/2006 to 2/2007, Project Reviewer</td>
</tr>
<tr>
<td>6. Summit Dam, Frederick County, VA, 10/2002 to 3/2006, Project Reviewer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Schnabel Engineering, Inc. Senior Associate, 1987 to 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Branch Manager for satellite office in Leesburg, Virginia</td>
</tr>
<tr>
<td>2. Senior Reviewer for geotechnical engineering design and construction projects including roadways, embankment dams and office buildings</td>
</tr>
<tr>
<td>3. Provided management of office staff of 18 employees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years With Other Firms</th>
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<tr>
<th>Education: Name &amp; Location of Institution(s)/Degree(s)/Year/Specialization:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Virginia Polytechnic Institute, Blacksburg, VA BS/1986/Agricultural Engineering</td>
</tr>
<tr>
<td>2. Virginia Polytechnic Institute, Blacksburg, VA MS/1987/Civil Engineering</td>
</tr>
<tr>
<td>3. Averett College, MBA/1991/Business Administration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Active Registration: Year First Registered/ Discipline/VA Registration #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990/Professional Engineer/Virginia # 0402021276</td>
</tr>
</tbody>
</table>

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<tr>
<th>Document the extent and depth of your experience and qualifications relevant to the Project.</th>
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</tr>
<tr>
<td>2. Note whether experience is with current firm or with other firm.</td>
</tr>
<tr>
<td>3. Provide beginning and end dates for each assignment.</td>
</tr>
</tbody>
</table>

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

1. **Route 50 Widening from Route 742 to Route 28 - Loudoun and Fairfax Counties, Virginia**  
   GeoConcepts, Quality Control/Project Reviewer (October 2011 – Ongoing)  
   Geotechnical engineering design and construction materials testing services for the federally funded design-build project involving widening the 4-lane roadway to six lanes from Route 742 to Route 28. Mr. Lewis serves as quality control manager and project reviewer for the geotechnical engineering investigation and observation and materials testing services during construction.

2. **Pacific Boulevard, Sterling - Loudoun County, Virginia**  
   GeoConcepts, Quality Control/Project Reviewer, (July 2008 – June 2011)  
   Geotechnical engineering design and construction materials testing services for a design-build project for the 0.6 mile extension of the 4-lane roadway, two bridges, a variable-width median, curb and gutter, a 10-foot wide shared-use path, and two stormwater management ponds. Also provided services for the 0.7-mile segment of roadway from Relocation Drive to Dresden Street.
Recommendations were provided regarding abutments and piers foundations, pavement design, design parameters for MSE retaining walls, subdrainage, loadbearing fills including an assessment of on-site soils to be excavated for re-use as fill, rock excavation as well as identification of unsuitable soils.

3. Battlefield Parkway Extension, Leesburg - Loudoun County, Virginia
**GeoConcepts, Quality Control (August 2007 – September 2008)**
Design-build project including the construction of 0.7 miles of a 4-lane divided highway from Kincaid Boulevard to Market Street (Route 7) including three bridges, a mechanically stabilized earth (MSE) retaining wall, a dry stormwater management pond, and the widening of the roadway at an intersection. Responsible for the field investigations including 35 soil test borings, 200 linear feet of rock coring, and the installation of groundwater monitoring walls. Recommendations were provided regarding foundations, retaining wall design, scour potential of stream bed soils, identifying unsuitable soils, and earthwork requirements.

4. USDA- National Resource Conservation Service South River Watershed Dam Rehabilitations, Waynesboro, Augusta County, Virginia
Geotechnical investigation of rehabilitation of three different dams, all classified as “high hazard” by the Virginia Department of Conservation and Recreation (DCR): Toms Branch, Inch Branch, and Robinson Hollow. The geotechnical investigation program included drilling of multiple soil test borings, drilled with a USDA-NRCS representative present to evaluate subsurface conditions.

5. Summit Dam, Frederick County, Virginia
**GeoConcepts, Project Reviewer (October 2002 – March 2006)**
Geotechnical engineering study and safety inspection services for a zoned, earthfill “high hazard” dam with a maximum height of 100 feet. Conducted inspection and developed a geotechnical engineering report. Detected water seepage on the downstream side, caused concern of an internal piping issue. Developed a groundwater well program to monitor the phreatic water surface to ensure dam continues to meet high hazard safety standards.
ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title:
   Geoffrey Cowan, PE, Senior Associate

b. Project Assignment:
   Dam Design Specialist

c. Name of Firm with which you are now associated:
   Dewberry Consultants LLC

d. Years experience: With this Firm 32 Years With Other Firms 9 Years
   Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice for the last fifteen(15) years. (NOTE: If you have less than 15 years of experience, please list all of your experience for those years you have worked.):
   Dewberry Consultants LLC (formerly Dewberry & Davis LLC)
   Dam Design Specialist, 1981 to Present
   • Lake Accotink Dam Rehabilitation, September 2008 to Present, Water Resources Service Line Lead
   • New Big Cherry RCC Dam, January 2003 to September 2008, Project Manager
   • Hungry Mother Dam Rehabilitation, August 1991 to January 2003, Project Manager
   • Flood Insurance Studies, August 1981 to August 1983, Engineer.

  e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:
   Virginia Polytechnic Institute and State University, Blacksburg, VA/BS/1981/Civil Engineering

  f. Active Registration: Year First Registered/ Discipline/VA Registration #:
   Professional Engineer/1989/VA #0402019977

  g. Document the extent and depth of your experience and qualifications relevant to the Project.
     1. Note your specific responsibilities and authorities for each assignment, not those of the firm.
     2. Note whether experience is with current firm or with other firm.
     3. Provide beginning and end dates for each assignment.

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

  1. Silver Lake Dam, Prince William County, Virginia
     Dewberry, Project Manager (June 2010 – August 2013)
     Responsible for preparation of Operation & Maintenance (O&M) Certificate Application package for this high hazard earthfill embankment dam including dam inspection and report, spillway design flood development, spillway capacity analysis, dam break analysis and inundation mapping, preparation of Emergency Action Plan (EAP), and preparation of O&M Plan & Schedule.

  2. Lake Accotink Dam Rehabilitation, Fairfax, County, Virginia
     Dewberry, Project Manager (April 2008 – September 2010)
     Conducted periodic dam safety inspections and evaluations for high hazard dam. Inspected for structural condition and hydraulic capacity. Performed dam break and incremental damage analysis, prepared plans and specs for rehabilitation. Conducted construction phase services and prepared a Record Report for DCR submission documenting satisfactory completion of the dam rehabilitation project.

  3. Fawn Lake Dam, Spotsylvania County, Virginia
     Dewberry, Project Manager (November 2008 - April 2011)
     Conducting dam break analysis and inundation mapping for this 61’ high, 2,230’ long, high hazard earthfill embankment dam. Used HEC-1 to develop the PMF inflow hydrograph based on NRCS TR60 procedures and dam breach hydrographs for various failure scenarios. Used unsteady HEC-RAS to route dam breach hydrographs through the Po River stream valley for a distance of 22 miles below the dam.

  4. New Big Cherry Dam, Big Stone Gap, Virginia
     Dewberry, Project Manager (2000 – March 2006)
     Designed a new, high hazard, roller compacted concrete dam located downstream from an existing, unsafe cyclopean
concrete gravity dam. Directed geotechnical field investigations, bathymetric and field surveys, preliminary design and alternative evaluation, and final design and preparation of construction plans and specifications. Directed construction phase services including full time construction observation, materials testing, and construction administration services.

5. **Hungry Mother Dam Rehabilitation, Smyth County, Virginia**  
Dewberry, Project Manager (Sept 1997 - May 1998)  
Responsible for design of dam rehabilitation measures, including roller compacted concrete (RCC) overtopping protection, repairs to the outlet works and masonry chute spillway for this high hazard dam. Performed preliminary and final design, and managed construction administration services.
<table>
<thead>
<tr>
<th>Brief Resume of Key Personnel anticipated for the Project.</th>
</tr>
</thead>
</table>
| **a. Name & Title:**  
  Irfan A. Alvi, PE, President and Chief Engineer |
| **b. Project Assignment:**  
  Dam Design Specialist |
| **c. Name of Firm with which you are now associated:**  
  Alvi Associates, Inc. |
| **d. Years experience:**  
  With this Firm 24 Years  
  With Other Firms 0 Years |
| Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice for the last fifteen (15) years. (NOTE: If you have less than 15 years of experience, please list all of your experience for those years you have worked.): |
|  
  **Alvi Associates, Inc.**  
  President and Chief Engineer, May 1989-Present |

Mr. Alvi has more than 24 years of multidisciplinary experience in structural, water resources, geotechnical, and transportation engineering for dams and other infrastructure facilities, and he has completed many hundreds of projects involving inspection, testing, studies, remedial design, and new design. This includes inspection, nondestructive testing, repair design, rehabilitation design, improvement design, replacement design, and new design for hundreds of structures, including embankment dams and concrete dams. Many of these projects have involved providing innovative solutions to meet challenging situations, with the result that he has won eight design awards during the past several years (2007 to 2012), several of these being for VDOT projects. In this regard, his experience includes 22 continuous years working on about 50 VDOT projects, giving him the relatively unique qualification of having expertise with both dam engineering and VDOT projects.

With respect to dam engineering, Mr. Alvi is a nationally-recognized expert, having served as technical leader for Alvi Associates’ 15-year project involving inspection, forensic investigation, rehabilitation design, and construction management for Prettyboy Dam. This project received the **2010 National Rehabilitation Project of the Year Award** from the Association of State Dam Safety Officials (ASDSO), which is perhaps the most prestigious award attainable in the dam engineering profession. The project also received three additional awards in 2011 and 2012.

More generally, Mr. Alvi has completed a diverse range of dam projects involving inspection, materials testing, hydrologic and hydraulic analysis, reservoir routing and spillway capacity analysis, dam break modeling and inundation mapping, stream geomorphic study and restoration design, fish passage design, seepage and stability analysis, three-dimensional structural analysis, forensic investigation, remedial design, design of new concrete and embankment dams, evaluation and design for dam removal, and construction management.

Mr. Alvi has also served for several years as a member of the national ASDSO Dam Failure & Incidents Committee (DFIC), and is one of only two consultants on the committee (by invitation). He has led the committee’s work related to addressing human factors in dam failures, and has recently published a seminal paper on the topic, presented at the ASDSO 2013 national convention. In addition, he has had an active role in developing the DFIC Dam Failure Investigation Guidelines.

e. **Education:**  
  Name & Location of Institution(s)/Degree(s)/Year/ Specialization:  
  **University of Maryland, College Park, MD / Bachelor of Science (Honors)/1989/Civil Engineering**

f. **Active Registration:**  
  Year First Registered/ Discipline/VA Registration #:  
  **Professional Engineer/ VA-1999 (#033361)/ MD-1994 (#20775)**

g. **Document the extent and depth of your experience and qualifications relevant to the Project.**  
  1. **Note your specific responsibilities and authorities for each assignment, not those of the firm.**  
  2. **Note whether experience is with current firm or with other firm.**  
  3. **Provide beginning and end dates for each assignment.**  
  (List at least three (3), but no more than five (5) relevant projects for which you have performed a similar function.)

1. **Rehabilitation of Prettyboy Dam - Baltimore County, Maryland**  
  Mr. Alvi was involved in this project from start to finish, performing a multitude of tasks for this high-hazard dam:  
  review of extensive records related to dam’s construction and history (including previous monitoring and investigations),  
  above-water and underwater inspection using an ROV in order to prepare detailed defect mapping, concrete coring and
testing, forensic investigation of structural cracking using three-dimensional structural/foundation analysis (accounting for creep effects) and an innovative causes/effects matrix model, gatehouse stability analysis considering a wide range of potential failure surfaces, remedial design for a $6 million post-tensioned anchorage system installed underwater in water depths up to more than 100 feet and consisting of 38 anchors drilled up to 70 feet into the dam (the first system of this type in the world), contractor prequalification, and extensive construction-phase services including development and evaluation of a preproduction anchor testing program. The project received the prestigious 2010 ASDSO National Rehabilitation Project of the Year, along with three additional awards in 2011 and 2012.

2. Study and Design for Reconstruction of Mill Pond Dam - Cecil County, Maryland
Mr. Alvi performed an alternatives study for reconstruction of Mill Pond Dam in Cecil County, Maryland. The dam carries Mill Lane over Scotchman Creek, and consists of two main portions: (a) an earth embankment and (b) a four-cell concrete box culvert which serves as an outlet control structure. The embankment has a maximum height of about 18 feet. During the previous 150 years, the dam was overtopped many times by floods, causing damage on several occasions, with complete washout of a portion of the embankment in 1999, causing the pond to be drained. Prior to failure of the embankment, the dam provided a nominal maximum pond water depth of about 12 feet, used mainly for recreational activities. Various reconstruction alternatives were studied, incorporating removal of the existing culvert, a new twin-cell box culvert outlet control structure with a multi-stepped weir and a fish ladder, reconstruction of the failed embankment, widening of the embankment on the upstream side to allow a wider roadway, reconstruction of the roadway above the dam, a new sheet pile wall, riprap slope protection, and measures to control seepage, piping, and erosion within the new and re-used portions of the embankment dam. The project was coordinated with Cecil County DPW, SHA, MDE, COE, DNR, FWS, and NMFS.

3. Studies and Design for Bishopville Pond Dam Removal - Bishopville, Maryland
To address fish passage needs on a tidal waterway, Mr. Alvi performed inspection of an existing steel sheet pile dam, tidal hydrologic and hydraulic analysis using TR-20 and HEC-RAS to assess feasibility of dam removal and floodplain impacts (accounting for an existing bridge in the model), and design of a new offline pond isolated via an embankment in order to meet recreational needs of local residents.

4. Design of Seneca Crossing Dam - Montgomery County, Maryland
Mr. Alvi performed complete structural, geotechnical and hydraulic design for a new concrete gravity dam flanked by embankment dams at each abutment. The dam is about 13 feet high and 310 feet long. The purpose of the dam was to create a large stormwater management facility, and a concrete gravity dam was selected in order to minimize the dam footprint and thus the impact to wetlands. Due to adverse subsurface conditions, an innovative design founding the dam on steel piles was developed. This design is estimated to have reduced construction cost by at least 40% relative to a conventional concrete dam. The steel pile design was optimized for various loading conditions, and resulted in use of two rows of piles, with vertical heel piles and toe piles on a 6:12 batter to account for large lateral hydrostatic forces in the event of a 100-year storm. In addition to the subsurface soils being relatively weak and compressible, they were also relatively permeable. To prevent seepage and reduce uplift on the dam under these conditions, a sheet pile cutoff wall extending 18 feet deep was designed. Use of this type of cutoff wall also, again, allowed a smaller footprint than a cutoff trench, thereby reducing wetland impact.
ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title:
   Gary S. Christensen, Project Executive

b. Project Assignment:
   Dam Construction Specialist

c. Name of Firm with which you are now associated:
   Shirley Contracting Company, LLC

d. Years experience: With this Firm 2 Years With Other Firms 30 Years
   Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice for the last fifteen(15) years. (NOTE: If you have less than 15 years of experience, please list all of your experience for those years you have worked.):
   Shirley Contracting Company, LLC., 2011 to Present
     - Lake Merriweather Dam Remediation, Goshen, VA, 2011 to 2013, Project Manager
   Lerner Enterprises, 2006-2011
     - Presidential Golf Course, Dulles, VA, 2008 to 2011, Contract Manager
     - 20 M Street Office Building, Washington D.C., 2006 to 2008, Senior Project Manager
   HITT Contracting, 2003-2006
     - Sally Mae World Headquarters, 2003 to 2006 Senior Project Manager
   Flippo Construction, 1998-2003, Division Manager
     - Corporate oversight of various heavy civil projects across the Northern Virginia region

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:
   Brigham Young University, Provo, Utah BS/1981/Mechanical Engineering

f. Active Registration: Year First Registered/ Discipline/VA Registration #: None

g. None

h. Document the extent and depth of your experience and qualifications relevant to the Project.
   1. Note your specific responsibilities and authorities for each assignment, not those of the firm.
   2. Note whether experience is with current firm or with other firm.
   3. Provide beginning and end dates for each assignment.

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

1. Lake Merriweather Dam Remediation - Goshen, Virginia
   Shirley Contracting Co., LLC, Project Manager (September 2011 – August 2013)
   Managed the design team to prepare documents for jurisdiction approvals and obtained Dam Alteration Permit. Reviewed documents for constructability, prepared bidding documents, selected subcontractors. Negotiated contract with Owner. Responsible for day to day construction activities of this high hazard dam moving over 400,000 cubic yards of material in order to construct a new emergency spillway. Worked with the Corp of Engineers to preserve and modify where necessary the wetlands downstream of the dam. Worked with the design team to find creative cost effect solutions to the differing site condition such as extending the concrete keyway to protect the clay core and tie-in to acceptable rock. Coordinated with the Corp of Engineers for the scheduling of their work on the dam which included gate controls and new debris boom. Coordinated all construction activities around the schedule dependent Owner requirements of scout camp or working through the fall and winter to open for scouts in June. Managed the schedule to complete the work one month ahead of schedule and under budget. Coordinated with various utilities to have their work completed during this aggressive schedule.

2. Presidential Golf Course Dulles, Loudoun County, Virginia
   Lerner Enterprises, Contract Manager (October 2008 – March 2011)
   Supervised construction of the tenant constructing this golf course located in the flood plain of the Broad Run. When the tenant declared chapter 7 bankruptcy assumed operational control of the completed 12 holes. Negotiated with and selected an operator to run the course after completion of the remaining 6 holes. Worked with County, State, and Federal authorities to complete the design of the remaining holes and club house. Managed the assets though the bankruptcy process. Supervised construction of the course to opening day.
3. Task order contract MWAA, Dulles and National Airports - Dulles, Virginia and Washington, DC
Flippo Construction, Division Manager (2000-2003)
Supervised task order contract at both airports including construction of the new NOAA building in preparation for the new runway construction. Coordinated crews and subcontractors to work in secure environments.

4. Reconstruction of the Benning Road Bridge over the Anacostia River - Washington D. C.
Flippo Construction, Division Manager (October 1998 – March 2001)
Supervised all construction activities of the deck replacement of this bridge over the sensitive Anacostia watershed. Negotiated directly with DDOT and Federal Highway during the construction. Coordinated with Pepco to minimize interruption to the Benning Road Power Generation Plant. Identified potential hazardous materials and developed remediation plan to properly dispose of.
3.4.1 Work History Forms
In 2002, the design-build team led by Shirley Contracting Company, LLC, serving as the Lead Contractor, and Dewberry Consultants, LLC (formally Dewberry & Davis, LLC) serving as the Lead Designer, was awarded the first Public-Private Transportation Act (PPTA) project to be implemented in the Northern Virginia area by VDOT. The scope included the design/build construction of ten (10) miles of roadway along the Route 606 Corridor. This task was responsible for all design and engineering, permitting, rights-of-way acquisition, utility relocations, construction, maintenance of traffic, QA/QC, and coordination of public involvement for all project work. This complete scope of work performed by our Team has permitted VDOT to only assign three (3) full-time personnel to oversee the Project. To date, each and every component of the Project has been completed on or ahead of schedule and without a single claim.

Many of the Key Managers proposed for the Route 606 Loudoun County Parkway/Old Ox Road Reconstruction and Widening Project (Route 606 Reconstruction Project) are the same Key Managers that have worked so closely together for the past eleven (11) years on Route 28. We have developed, implemented and improved upon proven techniques and practices during this time that allow us to efficiently manage the design-build process. From Route 28, we have learned that it is absolutely essential to integrate all of the various design and construction disciplines from the earliest stages of concept development until final completion. Our Construction Team members have day-to-day input on every stage of the design and our Team pledges to not submit any plans until this constructability review is complete. We create this ‘buy-in’ from the Construction Team as early as possible to produce an efficient design and to begin the overall project scheduling and phasing elements. We know that it is critical for the right-of-way and utility disciplines to closely coordinate their work, and to further integrate these elements with the design documents and project schedule. Through the Route 28 project we have developed close relationships with over 25 public and private utilities including each of the utilities that will be encountered on the Route 606 Reconstruction Project.

Since having acquired more than 200 parcels of right-of-way on Route 28, we have learned how vital the timely completion of the right-of-way acquisition process is to the project schedule and budget. This experience will be especially beneficial in maintaining the Route 606 Reconstruction Project will impact over 40 properties. As part of the constructability process we focus our efforts on developing a right-of-way priority list early on, in order to optimize the construction and utility schedule. We also complete an early analysis of whether there are any total takes or relocations that could affect the schedule, profits that may be available, and any hazardous, historic, or other environmental issues affecting any property. We have also facilitated the negotiation of settlements whereby the property owner dedicates the necessary right-of-way in exchange for certain improvements being added to the project scope, requiring extensive coordination between the Design/Build Team and VDOT and adjacent property owners. These types of agreements have resulted in savings in the overall project cost while expediting the right-of-way acquisition process.

Another instance where our Team worked through significant right-of-way issues was on the Route 28/McLaren Road Interchange. Early in the design process for this interchange, Metropolitan Washington Airports Authority (MWAA) advised that they had planned development that was in conflict with the proposed interchange. Our Team redesigned the interchange to relocate the loop ramp 250 feet to the south, thus avoiding MWAA’s planned development. This design modification required MWAA to change their Airport Laydown Plan (ALP) - a process that the Shirley Team supported and that took over a year for MWAA to complete. Even with this long delay, Shirley was able to resequence the construction schedule by prioritizing the work on the main Interstate 66 (Interstate 80) ramp. This ramp was our main concern and we were able to complete the project before its original completion date with no increased cost to VDOT. Our Team also coordinated closely with MWAA to obtain plan approval, acquire permanent easements on airport property, and obtain MWAA Work Permits on five of the Route 28 interchanges including Route 606, Innovation Avenue, Frying Pan Road, McLaren Road, and Barnesfield Road. In each case our team prepared the property conveyance agreements with plats and metes and bounds exhibits; coordinated plans submittals directly to MWAA and addressed the airport’s comments, and prepared and submitted MWAA Permit applications. On each project we also coordinated with MWAA inspectors and security personnel for the relocation and construction of the Airports perimeter fence and security road. The MWAA work performed on 606 Loudoun County Parkway/Old Ox Road Reconstruction and Widening Project was a process that the Shirley Team supported and that took over a year for MWAA to complete.

In addition to the ten (10) interchanges, Shirley and Dewberry have also been responsible for design-build completion of numerous parallel secondary roads as part of the Route 28 project. These included several road construction and widening projects with similar scope as the Route 606 Reconstruction Project. On Centerville Road between Route 50 and McLaren Road our team constructed a 2.1 mile widening of an existing two lane road to four lanes, including complete reconstruction of the existing pavement, an asphalt trail and eight new signals. On Loudoun County Parkway between Route 625 and Route 7 we constructed 1.5 miles of widening and new four-lane roadway. At Atlantic Boulevard we constructed 0.4 miles of new four lane roadway including a new bridge over the W&OD Trail. In constructing the ten interchanges and secondary roads we have successfully relocated more than 52,000 feet of overhead and underground power lines, 205,000 feet of communication/fiber optic lines, 11,000 feet of water lines, 6,400 feet of sanitary sewer, and 5,100 feet of gas lines. On the Centreville Road Widening Project, a component of the Route 606 Corridor Improvements Project, we were able to eliminate or reduce many utility relocations by coordinating with the utility companies, raising the roadway profile, and other innovative design changes. Shirley’s utility coordination effort contributed to a 35% reduction in the utility relocation costs on the project saving VDOT over $1.9 million from the Utility Relocation Allowance.

All of the improvements on the Route 28 Project were constructed without permanent removal of any of the existing traffic movements or reduction in traffic capacity during construction. One of the very first design activities conducted by the Team has been to evaluate the existing and projected traffic volumes and movements. From this data, the ultimate design concepts are created by our Team, presented to VDOT, the Counties, and other affected parties, and ultimately approved for final design. But along with this, the Team carefully evaluates the data to determine maintenance of traffic requirements during construction. One example of this is the Willard Interchange where our Team recognized a opportunity to incorporate a second left turn lane into the temporary detour plans to improve traffic flows during construction and provide early relief of congestion ahead of the ultimate opening of the interchange. The Route 606 Reconstruction Project will require very similar emphasis of maintenance of traffic to reduce construction related impacts to this busy commuter corridor.
The Dulles Greenway Capital Improvement Program (Greenway) included eight individual projects combined into a single design-build program. The original scope of this program included two new interchanges at Battlefield Parkway and Shaw Mill Road, enhancements to an existing interchange at Route 606, widening of the mainline roadway from four to six lanes for a distance of 6.2 miles, construction of a new ramp to Dulles Airport, expansion of the mainline toll plaza, and widening of the existing twin 660 foot long, 100 foot high bridges over Goose Creek. Shirley Contracting Company, LLC (as the Lead Contractor) and Dewberry Consultants, LLC (as the Lead Designer) provided all design, construction, permitting, utility relocations, and construction administration, all in a format to allow VDOT acceptance at completion. In August 2006, TRIP II awarded Shirley a Change Order to design and construct improvements to the Route 772/Greenway Interchange. Even with this added scope, the Design-Build Team completed the original contract work and the additional interchange by the original completion date of December 2007. The 6.2 miles of mainline widening from 4 to 6 lanes completed by our Team on the Greenway project is similar to the scope of work required for the Route 606 Loudoun County Parkway/Old Ox Road Reconstruction and Widening Project (Route 606 Reconstruction Project).

Impacts to traffic on this limited access roadway were not only a project safety concern and an inconvenience to the traveling public, but also directly affected the Owner’s profitability, which made this Project unique. In addition to enhanced safety features and increased capacity in final design, our Team developed detailed traffic management plans that focused on maintaining lane widths and travel speeds, and reduced the impact to traffic during interim construction phases. Shirley and Dewberry are committed to bringing this experience to the Route 606 Reconstruction Project in order to develop Traffic Management Plans (TMP) that minimize the impact to the traveling public during construction. Where possible our TMP will also include enhancements to address existing traffic concerns.

On the Battlefield Parkway Interchange, Shirley partnered with the Town of Leesburg and the local community to avoid impact to soccer fields during the summer of 2005. A segment of the Town’s right-of-way between the Greenway and Evergreen Mills Road that was acquired for the project was conditioned impacting the area until after the completion of the soccer season allowing the community time to find alternate playing fields for the next season without impacting their 2005 season. This schedule re-sequence was completed at no cost to the Owner, without impacting the project completion date and is an example our Team’s willingness to partner with the Owner and local communities to maintain positive public perception.

Our Team is committed to providing a safe and healthy environment for our employees, subcontractors and to the general public who may enter our jobsite or workzone. We consider the prevention of accidents to be an integral part of our operation, and to these ends, we established a comprehensive, project specific, Safety, Health and Welfare Program for the Greenway to assure the continued safety of everyone on the project. On the Greenway our employees logged more than 300,000 man hours with no lost-time accidents. We continue to develop and enhance our safety program and proactively train our employees and subcontractors to repeat this success on all future projects.

The east end of the Dulles Greenway is located on Washington Metropolitan Airports Authority (MWAA) property including the areas of the mainline toll plaza expansion and the new ramp to Dulles Airport. On these portions of the project our Team worked closely with MWAA staff for approval of the plans and MWAA Work Permits prior to the start of construction. During construction our Team worked closely with MWAA inspectors for electrical, mechanical, plumbing and building inspection of the Toll Plaza. This successful coordination with MWAA was yet another example of our team’s proven track record with MWAA, experience that will be critical to the success of the Route 606 Reconstruction Project.

With Shirley as the Lead Contractor and Dewberry as the Lead Designer, the Dulles Greenway Capitol Improvements Program provides yet another example of the Team’s proven design-build experience. Shirley and Dewberry completed this $71 million design-build program, including design, environmental permitting, utility relocations, construction, and VDOT acceptance in less than three years earning our Team recognition as a recipient of the 2008 Regional Design-Build Excellence Award for large transportation projects presented by the Design-Build Institute of America (DBIA).
Shirley Contracting Company, LLC as the Lead Contractor, was selected by VDOT in May 2008 to design and construct 0.64 miles of the Route 28 parallel road network along the west side of Route 28 between Auto World Circle and Severn Way. The Shirley Team was responsible for all aspects of the design-build process including design, permitting, right-of-way acquisition, utility relocations, public relations, construction, safety, and quality assurance and quality control. The project included dual 129’ long single span bridges over the W&OD trail and a two span 239’ long bridge over Cabin Branch. Other project features include a five foot wide sidewalk along the east side of the roadway and a 10 foot wide trail along the west side of the roadway along with connections to the W&OD Trail. The project required close coordination with the Northern Virginia Regional Park Authority (NVRPA) to gain approval of the design concept, aesthetics and to minimize impacts to the regional park and W&OD Trail users. During design our Team coordinated with NVRPA on design details including the minimum open area of the structure and the light well between bridges to maintain the NVRPA’s desirable open feel of the park. We also included an ashlar stone finish to all of the vertical faces of the MSE walls at both abutments of the trail to achieve the NVRPA’s desirable aesthetic appeal.

As planned, the project was segmented into three areas, the area south of the W&OD Trail, the area north of Cabin Branch and the area between the two bridge crossings. The only available access to the area between the two bridges within right-of-way was by crossing the W&OD Trail or installing an extensive temporary stream crossing of the environmentally sensitive Cabin Branch. In order to minimize environmental impacts at Cabin Branch and the avoid crossing the W&OD Trail, a crossing that was precluded by the project’s environmental document, Shirley coordinated with an adjacent property owner to obtain a right-of-entry agreement that allowed for construction of a 1300 LF temporary access road from Route 28. Although this access Road was expensive to construct and maintain it allowed the project to comply with environmental commitments at the W&OD Trail, minimize anticipated environmental impacts at Cabin Branch and enabled the construction Team to advance the construction of the center section of the Project ahead of schedule. This type of property owner coordination and focus on reducing environmental impacts will also be an important part of the Route 606 Loudoun Count Parkways/Old Ox Road Reconstruction and Widening Project (Route 606 Reconstruction Project).

During the right-of-way acquisition phase of the project, our Team worked closely with VDOT and Loudoun County to call in available proffered right-of-way and negotiate with property owners to minimize project costs. The majority of the right of way was required from a single property owner who owned all of the proposed right-of-way along 75% of the Project’s length. Although some of this right-of-way was proffered the additional non-proffered right-of-way was appraised at over $3 million dollars. The Shirley/Dewberry Team and VDOT worked closely with the Loudoun County proffer department to negotiate proffer agreements. The project was also coordinated with other ongoing VDOT projects in the area, to enable concurrent construction of critical infrastructure without delay to the project. These other improvements included a 24’’ waterline improvement from Loudoun Water that ran the length of the project. Our team incorporated this water line betterment construction into our sequence of construction allowing its construction after our cuts and fills were completed and prior to proceeding with the roadway and trail construction. We also modified the design of the MSE walls for the W&OD Trail Bridge and Access Road within the project limits. Other improvements included a 30’’ waterline for Loudoun Water, construction of sanitary sewer manholes and pipe for a future sanitary sewer line and empty conduits for future utilities and signals requested by adjacent property owners. All of this work was accommodated in cooperation with VDOT, Loudoun Water, and property owners without delay to the project schedule. Allowing the utility betterments to occur during the project will also minimize the need to open cut the new roadway for future utility construction reducing future maintenance costs.

The Team that we are proposing for the Route 606 Reconstruction Project including Shirley as the Design-Builder, Dewberry as the Lead Designer, Diversified for right-of-way acquisition, GeoConcepts for geotechnical investigations and QC, and many of the key personnel are that same team members that successfully completed the Pacific Boulevard Project. Our Team has proven working together, as a team, in the fast paced design-build environment as is ready to provide this same level of service to the Route 606 Reconstruction Project.

Route 606 Loudoun County Parkway/Old Ox Road Reconstruction and Widening Project

ATTACHMENT 3.4.1(a)
LEAD CONTRACTOR - WORK HISTORY FORM

<table>
<thead>
<tr>
<th>Name: Pacific Boulevard</th>
<th>Location: Loudoun County, Virginia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: Dewberry Consultants LLC (formerly Dewberry &amp; Davis LLC)</td>
<td>Name of Client: VDOT 4975 Alliance Drive Fairfax, VA 22030</td>
</tr>
<tr>
<td>Project Manager: Christiana Briganti-Dunn, PE</td>
<td>Project Manager: <a href="mailto:Christianabriganti@VDOT.Virginia.gov">Christianabriganti@VDOT.Virginia.gov</a></td>
</tr>
<tr>
<td>Phone: 703-497-2960</td>
<td>Date: August 2010</td>
</tr>
<tr>
<td>Email: <a href="mailto:Christianabriganti@VDOT.Virginia.gov">Christianabriganti@VDOT.Virginia.gov</a></td>
<td>Date: August 2010</td>
</tr>
</tbody>
</table>

- **Value of Work Performed by the Firm identified as the Lead Contractor for this procurement.**
  - Original Contract Value: $18,977
  - Final or Estimated Contract Value: $19,294
  - Difference due to Owner added scope: $19,294
  - Total: $19,294

- **Original Contract Value:** $18,977
- **Final or Estimated Contract Value:** $19,294
- **Difference due to Owner added scope:** $19,294
- **Total:** $19,294

- **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.**
  - Shirley Contracting Company, LLC as the Lead Contractor, was selected by VDOT in May 2008 to design and construct 0.64 miles of 4-lane roadway to complete a critical segment of the Route 28 parallel road network along the west side of Route 28 between Auto World Circle and Severn Way. The Shirley Team was responsible for all aspects of the design-build process including design, permitting, right-of-way acquisition, utility relocations, public relations, construction, safety, and quality assurance and quality control. The project included dual 129’ long single span bridges over the W&OD trail and a two span 239’ long bridge over Cabin Branch. Other project features include a five foot wide sidewalk along the east side of the roadway and a 10 foot wide trail along the west side of the roadway along with connections to the W&OD Trail. The project required close coordination with the Northern Virginia Regional Park Authority (NVRPA) to gain approval of the design concept, aesthetics and to minimize impacts to the regional park and W&OD Trail users. During design our Team coordinated with NVRPA on design details including the minimum open area of the structure and the light well between bridges to maintain the NVRPA’s desirable open feel of the park. We also included an ashlar stone finish to all of the vertical faces of the MSE walls at both abutments of the trail to achieve the NVRPA’s desirable aesthetic appeal.
  - As planned, the project was segmented into three areas, the area south of the W&OD Trail, the area north of Cabin Branch and the area between the two bridge crossings. The only available access to the area between the two bridges within right-of-way was by crossing the W&OD Trail or installing an extensive temporary stream crossing of the environmentally sensitive Cabin Branch. In order to minimize environmental impacts at Cabin Branch and the avoid crossing the W&OD Trail, a crossing that was precluded by the project’s environmental document, Shirley coordinated with an adjacent property owner to obtain a right-of-entry agreement that allowed for construction of a 1300 LF temporary access road from Route 28. Although this access Road was expensive to construct and maintain it allowed the project to comply with environmental commitments at the W&OD Trail, minimize anticipated environmental impacts at Cabin Branch and enabled the construction Team to advance the construction of the center section of the Project ahead of schedule. This type of property owner coordination and focus on reducing environmental impacts will also be an important part of the Route 606 Loudoun County Parkway/Old Ox Road Reconstruction and Widening Project (Route 606 Reconstruction Project).
  - During the right-of-way acquisition phase of the project, our Team worked closely with VDOT and Loudoun County to call in available proffered right-of-way and negotiate with property owners to minimize project costs. The majority of the right of way was required from a single property owner who owned all of the proposed right-of-way along 75% of the Project’s length. Although some of this right-of-way was proffered the additional non-proffered right-of-way was appraised at over $3 million dollars. The Shirley/Dewberry Team and VDOT worked closely with the Loudoun County proffer department to negotiate proffer agreements. The project was also coordinated with other ongoing VDOT projects in the area, to enable concurrent construction of critical infrastructure without delay to the project. These other improvements included a 24’’ waterline improvement from Loudoun Water that ran the length of the project. Our team incorporated this water line betterment construction into our sequence of construction allowing its construction after our cuts and fills were completed and prior to proceeding with the roadway and trail construction. We also modified the design of the MSE walls for the W&OD Trail Bridge and Access Road within the project limits. Other improvements included a 30’’ waterline for Loudoun Water, construction of sanitary sewer manholes and pipe for a future sanitary sewer line and empty conduits for future utilities and signals requested by adjacent property owners. All of this work was accommodated in cooperation with VDOT, Loudoun Water, and property owners without delay to the project schedule. Allowing the utility betterments to occur during the project will also minimize the need to open cut the new roadway for future utility construction reducing future maintenance costs.
  - The Team that we are proposing for the Route 606 Reconstruction Project including Shirley as the Design-Builder, Dewberry as the Lead Designer, Diversified for right-of-way acquisition, GeoConcepts for geotechnical investigations and QC, and many of the key personnel are that same team members that successfully completed the Pacific Boulevard Project. Our Team has proven working together, as a team, in the fast paced design-build environment as is ready to provide this same level of service to the Route 606 Reconstruction Project.
**ATTACHMENT 3.4.1(c)**

**DAM CONSTRUCTION - WORK HISTORY FORM**

<table>
<thead>
<tr>
<th>a. Project Name &amp; Location</th>
<th>b. Name of the prime design consulting firm responsible for the overall project design.</th>
<th>c. Contact information of the Client or Owner and their Project Manager who can verify Firm’s responsibilities.</th>
<th>d. Contract Completion Date (Original)</th>
<th>e. Contract Completion Date (Actual or Estimated)</th>
<th>f. Contract Value (in thousands)</th>
<th>g. Dollar Value of Work Performed by the Firm identified as the Dam Construction Specialist for this procurement. (in thousands)</th>
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<tbody>
<tr>
<td><em>Lake Barton Dam Improvements</em></td>
<td>Name: URS Corporation 200 Orchard Ridge Drive Gaithersburg, MD 20878 301-298-9780</td>
<td>Name of Client/Owner: Fairfax County Dep't of Public Works and Environmental Services Phone: 703-324-5111 Project Manager: Anthony M. Knizner Email: <a href="mailto:anthony.knizner@FairfaxCounty.gov">anthony.knizner@FairfaxCounty.gov</a></td>
<td>Oct. 2010</td>
<td>Jun 2011</td>
<td>$2,807</td>
<td>$2,805</td>
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</tbody>
</table>

h. Narrative describing the Work Performed by the Firm identified as the contractor for Dam Construction for this Project.

Lake Barton Dam in Fairfax County, Virginia was built in 1978 and was originally classified as a low hazard dam. However, since the initial construction, significant development downstream of the dam has been completed, including 193 structures providing homes for 535 residents and 840 employees, as well as a portion of the Virginia Railway Express facility and public roads which accommodate over 75,000 vehicles per day. Since this development occurred within the breach zone of the dam, it was reclassified to a high hazard dam due to the potential for significant economic damage resulting from a dam failure. In order to reduce risks to the downstream property owners and public, avoiding the estimated $64 million in potential public and private losses, as well as to comply with current dam design and safety standards while maintaining the present lake level of flood control and recreation benefits, significant dam rehabilitation and modifications were required.

In Spring 2011, Shirley Contracting Company, LLC (Shirley) was contracted by Fairfax County to construct the required dam modifications in order to meet the requirements of a high-hazard dam. These modifications included the following major construction components:

1. Install two below-grade, concrete cut-off walls within the auxiliary spillway. For this, Shirley installed two secant walls totaling approximately 200 feet in length with a depth of over 70 feet in most areas. The secant walls consisted of over 2,600 linear feet of primary reinforced drilled shafts with approximately the same quantity of unreinforced secondary drilled shafts. The wall’s strength is developed from the over-lapping of the primary and secondary shafts that are constructed within strict tolerances and timelines. Following curing of the concrete of the drilled shafts, the walls were further reinforced by use of over 1,300 linear feet of drilled tieback anchors.

2. Lengthen and raise the training dike to better protect the toe of the dam. Shirley installed a 125 linear feet long 8 foot high cast in place retaining wall to meet the required spillway elevations. All work was performed in the live spillway channel and special safety restrictions were closely followed to keep the functionality of the dam.

3. Additional spillway improvements were made including turf reinforcement, grading adjustments and overall site and pedestrian walkway upgrades.

Construction was performed in a narrow six month timeframe during the Winter and Spring Season so as not to impact the surrounding residents who use the area as a local recreation park and walking trail. To meet the aggressive schedule, Shirley closely coordinated material and construction method submittals with the design engineers and on-site inspection staff. Progress and Safety Inspections were performed by the National Resources Conservation Service and Virginia Department of Conservation and Recreation with no violations of any kind. Work was completed on time and within the County's tight budget constraints.
Dewberry, serving as Lead Engineer for the Shirley/Dewberry Team, completed the plans for the Route 50 Widening design-build project in early 2012, allowing right-of-way acquisitions, utility relocations, and construction to occur in a concurrent process on this heavily travelled corridor. The Route 50 Widening project consists of widening of Route 50 from 4 lanes to 6 lanes between Poland Road and just west of Route 28, a distance of approximately 3.5 miles in both Fairfax and Loudoun Counties. As Lead Engineer, Dewberry’s Fairfax office was responsible for all engineering services including field surveys (re-establishment of project control, survey of property corners, existing drainage facilities, sanitary sewers, existing easement research and identification, and stakeout of geotechnical borings), environmental services (wetland delineation, coordination with DEQ and the US Corps of Engineers, preparation and submission of permit documents through the Inter-Agency Coordination Meeting (IACM) process), roadway design (vertical and horizontal geometric design, typical sections, and cross sections), hydraulic, stormwater management and E&S design (Cub Run H&H analysis and modeling, 4 stormwater management basins, analysis of 2 large culvert crossings, all roadway drainage design), structural design (bridges and retaining walls), traffic engineering (temporary and permanent traffic signal plans, signing and pavement marking plans, temporary traffic control (TTC) plans and transportation management plan (TMP)), utility relocation designs (Loudoun Water watermain facilities and all sanitary sewer relocations), and right-of-way plan development (plats for more than 60 impacted properties and metes and bounds documents for MWAA property impacts). During construction, Dewberry provided engineering support and attended all public information meetings and project coordination meetings. Additionally, Dewberry is providing construction QC inspection services throughout construction.

Through close coordination with construction, right-of-way, and utility staff on our Team, temporary traffic control and sequence of construction plans were developed so that initial construction phases were able to commence immediately without impacts to existing utilities or requiring acquisition of right-of-way. Sequence of construction plans were developed to maintain operation of all turn lanes and thru lanes during construction of the improvements while recognizing the significant vertical and horizontal adjustments required to provide the 60mph design speed identified for the corridor. This close coordination and recognition of the need to resequence work to allow overlapping right-of-way, utility, and construction activities has been critical to the continued progress of work on Route 50, and similar efforts may be necessary on Route 606, which is similar in size and scope of work.

Another improvement Dewberry worked to incorporate on the Route 50 project was the development of preliminary utility relocation plans for impacted utility owners. Utility relocation designs were developed in an effort to accelerate identification of utility easements required for the project, and those designs were then turned over to the utility companies for final engineering and development of their detailed relocation plans. This up-front coordination helped to accelerate easement acquisition for the project and also helped ensure that all project features – including drainage improvements, signs, private entrances, and other utility relocations – were coordinated to avoid re-design efforts and the additional time impacts which would result from duplicate efforts. The experience gained from this effort, and the fact that many of the same utility owners will be involved on the Route 606 Project, will ensure that lessons learned will be directly translated to Route 606, helping to ensure successful coordination and design of utility adjustments and relocations.

The Route 50 Project also required close coordination with MWAA for the improvements between Route 28 and Lee Road. Coordination with MWAA for these improvements included an added complexity since the property impacted by the Route 50 Widening was leased to the Smithsonian Institution for the Udvar-Hazy Air & Space Museum. Dewberry coordinated directly with MWAA to develop metes and bounds exhibits and deed descriptions for conveyance of the necessary easement areas, and plan packages were submitted directly to MWAA as required for acquisition of the MWAA Work Permit. The Route 50 Widening required the relocation of numerous utilities on Airport property, and the knowledge and experience gained in navigating this process, especially with respect to the additional graphics, sketches, and details required for plan approval, will help lead to successful and timely acquisition of easements required for the Route 606 Project which will require significant easement conveyance from MWAA and Airport property.

Many of the components of the Route 50 Project directly correlate to the plan elements which will be required on the Route 606 Project. The number of property impacts (more than 60 on Route 50 and more than 40 on Route 606) and the maintenance of significant traffic volumes on both roadways are key project elements in addition to those identified above. The knowledge gained from the Route 50 Project will be directly applied to Route 606, ensuring a quick start to the project is possible, allowing for quick development of plans and proper identification of project challenges and appropriate solutions which will help lead to a successful project.
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 Completion Date (Original)
e. Construction Contract Completion Date (Actual or Estimated)
f. Construction Contract Value (in thousands)
g. Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)

<table>
<thead>
<tr>
<th>Name: Route 28 Corridor Improvements Project</th>
<th>Name: Shirley Contracting Company, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location: Fairfax and Loudoun Counties, Virginia</td>
<td>Virginia Department of Transportation 4975 Alliance Drive Fairfax, Virginia 22030 Ms. Susan Shaw, PE, DBIA, CCM 703-259-1995 <a href="mailto:Susan.Shaw@VDOT.Virginia.gov">Susan.Shaw@VDOT.Virginia.gov</a></td>
</tr>
<tr>
<td></td>
<td>May 2007</td>
</tr>
<tr>
<td></td>
<td>July 2014 (Time extension due to Owner added scope)</td>
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<td></td>
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<td>$356,153</td>
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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.

Dewberry, in the role of the Lead Designer as part of the Shirley Design-Build Team, was selected by VDOT on the first Public-Private Transportation Act (PPTA) Project to be implemented in the Northern Virginia area. This design-build project included design and construction of ten grade-separated interchanges along Route 28, completing a freeway type facility from just north of I-66 in Fairfax County to Route 7 in Loudoun County. Dewberry’s Fairfax, Virginia office was responsible for all preliminary and final roadway and interchange design, right-of-way plan development, bridge design, stormwater management, field surveys, geotechnical investigations, environmental investigations, permitting, lighting design, utility relocation designs, hydraulic and hydrologic analysis, maintenance-of-traffic design and construction inspections. The original six interchanges were completed and opened to traffic on schedule before May 2007. The success and timely completion of the first six interchanges was a key element in the decision by the Tax District landowners, Loudoun County, Fairfax County and VDOT to extend the contract by issuing a change order for the remaining four (4) interchanges (Willard Road, McLearen Road, Innovation Avenue, and Nokes Boulevard), all of which were completed and opened to traffic on schedule by November 2009.

In addition to the ten interchanges described above, the Team was also responsible for design and construction of numerous secondary road improvements including the widening of Centreville Road from two-lanes to four-lanes for a length of 2.0 miles, the complete reconstruction and widening of Loudoun County Parkway from 2- to 4-lanes for a length of 1.5 miles, a new four-lane section of Atlantic Boulevard, and two additional sections of Pacific Boulevard, from Sterling Boulevard to Cedar Green Road and Seven Way to Nokes Boulevard. Consistent with the Route 28 Interchange improvements, the Shirley/Dewberry Team was responsible for all design, permitting, right-of-way acquisition (residential and commercial properties), utility relocations, construction, quality assurance and quality control for all of the parallel road improvements completed under the Route 28 contract.

The Route 28 project incorporated many of the project elements which will be required by the Route 606 Project. Specifically, the improvements made at the Air & Space Museum Parkway, McLearen Road, Frying Pan Road, Innovation Avenue, and Route 606 Interchanges all required direct coordination with MWAA for approval of the MWAA work permit as well as for conveyance of easements for roadway, drainage, and utility improvements on Airport property. This coordination and experience over multiple improvement projects has given our designers and entire Team a very detailed understanding of the requirements of obtaining the Work Permit, as well as a direct working relationship with MWAA staff who will be responsible for coordination and approval of work on Airport property for the Route 606 Project.

Another component of the Route 28 project which will help lead to the success of the Route 606 Project are the detailed design efforts required for complex roadway widening projects where alternate design solutions, utility avoidance measures, and sequencing of construction help lead to successful completion of linear roadway widenings. On the Centreville Road Widening, sequence of construction plans were developed to allow construction to begin prior to utility relocations being completed. Following approval of the right-of-way plans, construction began on a parallel track with utility relocations in an effort to reduce the overall timeline of the project. Sequence of construction plans and temporary traffic control plans were developed to maintain 2-lanes of traffic throughout the entire length of the project site during all phases of construction.

One of the most important features of each of the individual projects completed as part of the Route 28 contract was that all turning movements and thru lanes were maintained to public traffic for the duration of construction. At no time were temporary lane reductions implemented to accelerate construction or avoid utility impacts or relocations. This was critical to providing the maximum roadway capacity to the travelling public and ensuring that additional delays and traffic impacts were not caused by our Team or the project. In fact, at the Westfields Boulevard and Willard Road Interchanges, Dewberry developed interim detour plan packages which provided increased turn lane capacity to help reduce existing intersection queues during construction, well in advance of the ultimate interchange improvements being completed. This effort to improve traffic flow during all phases of the project represents our Team’s efforts to implement immediate improvements for the travelling public. This type of design effort and understanding of the importance of implementing traffic improvements as soon as possible will carry over directly to the Route 606 project, where interim improvements will help to alleviate the existing congestion in advance of completion of the ultimate improvements.
The Route 606 Project. Both the scope and cost of the Dulles Greenway CIP project were comparable to the Route 606 Project an

dation, coordination with DEQ

The original scope of the Dulles Greenway CIP did not include the improvements at the Route 772 Interchange. During development of the other roadway and bridge improvement plans, TRIP II determined that adding the ultimate expansion of the Route 772 Interchange to the contract would be beneficial based on the continud rapid growth of the surrounding area. Our Team was able to complete design and construction of this additional interchange within 18 months and without extending the contract duration.

The interchange improvements made at the Route 606 Interchange included construction of new loop ramps to complete the full cloverleaf interchange. The footprint of the Route 606 Interchange lies partially within the footprint of the proposed widening of Route 606, and the three ramps identified to be adjusted as part of the Route 606 Widening project were designed or modified by our Team as part of the Dulles Greenway CIP project. Additionally, within the TRIP II transportation easement on MWAA property, we designed the ultimate widening of Route 606 to provide the ultimate 6-lane roadway section.

Many of the lead engineers identified for the Route 606 Project served in the same role on the Dulles Greenway CIP project. This continuity between projects will ensure that the experience and knowledge gained from the Dulles Greenway CIP will be transferred directly to the Route 606 Project. Both the scope and cost of the Dulles Greenway CIP project were comparable to the Route 606 Project and will ensure that challenges which may be faced on Route 606 will be addressed efficiently and successfully. The experience our Team gained from making significant changes to the Route 606 Interchange as well as from direct coordination with MWAA for improvements made on their property will provide invaluable understanding of the northern end of the Route 606 Project area.
The Virginia Department of Conservation and Recreation (DCR) has described the 45 foot high, 600 foot long earthen dam in Hungry Mother State Park as scenic, historic, and risky. As with many other dams across the nation, the Depression-era structure was found to have insufficient spillway capacity, and a large storm event could cause the dam to breach, posing a risk to downstream structures. In addition, the dam’s distinctive stone masonry spillway also was showing signs of deterioration, while a leaking outlet works and deterioration in other parts of the structure had the potential to worsen an already risky situation. The state requested that the Dewberry Team design a comprehensive repair strategy that would restore the dam’s integrity and maintain its beauty without interfering with the park’s seasonal operations.

Under contract to the VA DCR, Dewberry developed overtopping protection by using roller compacted concrete (RCC), an increasingly popular approach to dam restoration projects. Plans and specifications were prepared for installation of RCC overtopping protection for the earthen dam embankment and for repairs to the masonry chute spillway and concrete outlet works. Construction administration services were provided for the RCC overtopping protection and chute spillway repairs. Repairs to the outlet works were performed on an emergency basis and administered by the owner. To preserve the original appearance of the dam embankment, including two 10-foot-wide benches on the downstream embankment slope, the RCC was covered with topsoil and revegetated. The stone masonry spillway floor and walls were completely reconstructed in several locations, including placement of supplemental underdrains. Leaks in the outlet works conduit were grouted using hydro-active polyurethane grout per Dewberry specifications. Two new sluice gates (disc and frame) were installed and the existing stem/hoist systems were refurbished. Dewberry also designed a removable steel bulkhead to allow dewatering of the outlet works tower for repairs to the sluice gates. This bulkhead was installed by a diving contractor and may be used for future tower dewatering, if necessary. Once in place, the RCC overtopping protection was backfilled, covered with soil, and sculpted to restore the dam’s distinctive terraces. When repairs began on the stone masonry emergency spillway, which had been hand-built by Civilian Conservation Corps workers more than 60 years ago, a new challenge arose. The spillway walls were not as thick as indicated on the original plans, and the extent of undermining beneath the spillway was far more extensive than originally thought. Racing against time and an extremely wet winter, the project team added a concrete buttress to strengthen the spillway walls. The spillway floor and walls were then reconstructed using much of the original masonry.

The project included surveys, conceptual, preliminary, and final design services. In addition to providing overall project management, Dewberry’s Fairfax Office in the role of lead designer performed all hydrologic analysis, SDF development, proportioning and hydraulic analysis of RCC overtopping, and design of repairs to the existing masonry chute spillway and concrete outlet works. Dewberry also provided full construction administration and inspection services for the project. The success of this project was recognized at the 1999 Association of State Dam Safety Officials Annual Conference in St. Louis, where this project won the Southeastern Regional Award of Merit for outstanding contributions to dam safety.