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FORM A-1 – Lead Design Firm Experience

PROPOSED KEY STAFF INFORMATION

Name of Proposer: Shirley Contracting Company, LLC

Position	Name	Years of Experience¹	Education/ Registrations	Name of Employer
Project Design Manager	Kenneth Davis, PE, DBIA	7 / 17	MS BS PE DBIA	Dewberry Consultants LLC
Hydrological / Hydraulics Design Engineer	Rahul Kesarkar, PE, PMP, LEED AP	10 / 15	MS BS PE PMP LEED AP	Dewberry Consultants LLC
Geotechnical Design Engineer	Michael Johnson, PE	20 / 30	MS BS PE	Hillis-Carnes Engineering Associates Inc.
Landscape Architect	Tobi Kester, RLA, AICP, CA, LEED AP	1 / 20	MS BS RLA AICP CA LEED AP	NMP Engineering Consultants, Inc.
Highway Engineer	Michael Rectanus, PE	4 / 16	BS PE	Dewberry Consultants LLC
Traffic Engineer	Steven Shapiro, PE, PTOE	9 / 30	MS BS PE PTOE	Dewberry Consultants LLC
Structural Engineer	Frank Kaul, PE, DBIA	6 / 26	BS PE DBIA	Dewberry Consultants LLC
Stream Restoration Specialist	Michael Blose, PE, MBA	1.5 / 15	BS MBA PE	Straughan Environmental, Inc.

¹ Present Firm/Total

EDUCATION

MS | Civil Engineering | 1998

BS | Civil Engineering | 1996

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

2003 | Professional Engineer | MD #28350

2010 | Professional Engineer | DC #905709

2012 | Professional Engineer | GA #037220

2009 | DBIA | US #D590

SUMMARY OF EXPERIENCE

Mr. Davis has over 17 years of project management and technical experience as a Highway Design Engineer. His years of progressive highway design experience include large complex transportation design-build projects nationwide, including ICC Contract C and D/E in Maryland, I-25 TREX in Colorado, and the Monorail DBOM project in Seattle, WA.

He has a strong background in working with design-build performance specifications and selecting and applying AASHTO design guidelines supporting specifications.

He has developed Definitive Design drawings through Issued for Construction (IFC) plans and coordinated additional project disciplines efforts including environmental documentation, roadway geometrics, storm drainage, SWM, ESC, MOT, signing and striping, utility coordination/ relocation, lighting, ITS, and ETC. Mr. Davis is thoroughly familiar with relevant design codes such as AASHTO, MUTCD, MD SHA's Standards and Specifications and other applicable codes and federal and state laws.

RELEVANT EXPERIENCE

Intercounty Connector (ICC) Contracts D/E Design-Build, SHA, Prince George's County, MD. Design Manager for the \$102M design-build Project that includes 1.25 miles of the new six-lane roadway, 4 miles of new CD roads, a half diamond interchange, a Continuous Flow Interchange (CFI), 1.5 miles of roadway widening/ reconstruction, 1 new bridge, 4 retaining walls, and 1 sound wall. Responsible for the Project's technical and commercial oversight; all design package reviews including managing and allocating design resources to ensure meeting schedule deadlines. Led weekly task force meetings with the contractor and owner; coordinated RFI's and field design changes; prepared monthly invoices; identification, preparation, and negotiation (including conflict resolution) of owner and contractor identified change orders; and meeting 25% Project minority subconsultant goal. Responsibilities also included leading bi-weekly coordination meetings with the two adjacent Projects (Contee Road and Virginia Manor Road Extension). Participated in public involvement meetings.

ICC Contract C Design-Build, SHA, Montgomery & Prince George's Counties, MD. Roadway Lead for the \$528M Project that included 3.8 miles of the new six-lane roadway, 20 new bridges, 2 new three level interchanges, a half diamond interchange, 5 miles of CD roads, and 3 miles of roadway widening/reconstruction. Developed and delivered four submission packages (DD drawings, Interim, Final, and RFC plans) for both roadway and fencing disciplines. Provided overall coordination with roadway drainage, SWM, floodplain studies, ESC, bridge and structures (retaining and noise walls), signing and marking, fencing, signals, ITS system, electronic toll collection (ETC), lighting, traffic analyses, signal design, environmental services, noise analyses, landscaping, and utility relocations. Responsibilities also included participation in Project meetings including partnering, public involvement, task force and internal meetings. During construction, responsible for answering field generated roadway related RFI's and reviewing storm drain related shop drawings.

Dulles Rail Extension – Phase II Design-Build, MWA, Fairfax & Loudoun Counties, VA. Deputy Civil Lead for the \$1.2B WMATA Silverline extension from Wiehle Ave to Ashburn in eastern Loudoun County including stations at Reston Town Center, Herndon, Innovation Center Station, Dulles Airport, Route 606 and Route 702. Responsible for the civil technical oversight and design package reviews including managing and allocating design resources to ensure schedule deadlines are met. Coordinated the efforts of 30 engineers in the disciplines of roadway and drainage, stormwater management, erosion and sediment control, track retaining walls, noise walls, signing and marking, signals, ITS system, electronic toll collection (ETC), lighting, traffic analysis, environmental services, noise analysis, landscaping, and utility relocations. Required coordination with other Project design disciplines including track, facilities, systems, site/civil, and geotechnical teams. Responsibilities also included leading Project meetings including task force and internal meetings.

I-25 Design-Build Project (Trex), CDOT, Colorado. Roadway Design Engineer for the \$1.28B, 19-mile Interstate and parallel Light Rail Design-Build Project. Submitted DD through IFC design packages along with the required QA/QC documentation. Responsibilities included roadway design for for the widening of I-25, and two diamond interchanges. Design responsibilities included horizontal and vertical alignments and storm drain design. Coordinated with signing, marking, MOT, SWM and ESC, bridge (including deckover structure) and other highway related structures (retaining and noise walls), utility relocations, traffic analyses, landscaping, lighting, and light rail alignments, and stations.



Rahul Kesarkar, PE, PMP, LEED® AP

Hydrological/Hydraulics Design Engineer

EDUCATION

MS | Civil Engineering | 1999

BS | Civil Engineering | 1997

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

2005 | Professional Engineer | MD #25193

2006 | MDE E&S Green Card Certified

2006 | SHA E&S Yellow Card Certified

2005-2007 | Stream Restoration Certification Rosgen Level I, II, & IV

2009 | LEED® AP

2014 | Project Management Professional Certified

SUMMARY OF EXPERIENCE

Mr. Kesarkar has 15 years of experience in hydrology/hydraulics (H/H) and transportation design for both public and private clients.

His extensive experience includes managing design build projects, working and coordinating with contractors, drainage design, H/H studies, stormwater management design (SWM) including environmental site design (ESD), Chesapeake Bay Total Daily Maximum Load (TMDL), erosion and sediment control (ESC) design criteria and requirements, traffic control design, GIS, cost estimating and permitting.

He is trained and experienced in stream restoration design, sediment transport principles; completed all levels of Rosgen training in Stream Classification and River Restoration; and provided on-site water resources design and review services to SHA and MDTA to augment their staff.

RELEVANT EXPERIENCE

ICC Contracts D/E Design-Build, SHA, Prince George's County, MD. Lead H/H Engineer for the \$102M design-build Project extending MD 200 over to U.S. 1 and completing I-95 CD roads (NB and SB) to MD 198. The Project also includes one new bridge, three retaining walls, SWM BMPs and utility relocations. Responsible for all of the H/H design activities. Designed SWM using ESD to MEP MDE Criteria. SWM BMPs included bioswales, grass swales, bioretention and ponds. Responsible for coordination with roadway drainage, SWM, floodplain studies, ESC, environmental services, noise analysis, and landscaping. Performed QA/QC of all SWM, H/H, storm drain and ESC designs; coordination with ICC, permitting agencies, subconsultants and contractor, obtain environmental permits in a timely manner to keep the Project on schedule. During construction, responsible for answering field generated H&H related RFI's and was responsible for the development of the SWM as-built documents.

ICC Contract C Design-Build, SHA, Montgomery & Prince George's Counties, MD. Lead H/H Engineer for Area E (east of Old Gunpowder Road to east of I-95). ICC section C, comprised of 3.7 miles from just west of US 29 (Columbia Pike) to just east of I-95 including 1.9 miles of collector-distributor (CD) lanes on I-95 to MD 212. Responsibilities included overall coordination with adjacent structures, roadway drainage, SWM, floodplain studies, ESC, environmental services, noise analysis, and landscaping. Performed QA/QC of all SWM, H/H designs; coordinated with ICC, permitting agencies, subconsultants and contractor; obtained environmental permits in a timely manner to keep the Project on schedule. During construction, responsible for answering field generated H&H related RFI's.

Design, Build, Operate & Maintain (DBOM) SWM, Charles County, MD: Design Manager for the 2.2M Pilot DBOM Project. Responsible for all technical and commercial activities of the Project. Project included routine maintenance, remedial maintenance and retrofit work at 99 SWM facilities. Responsible for retrofitting 9 SWM facilities and changed 7 SW facility types due to current site conditions. All designs included ESC and are per current MDE SW criteria and regulations. Administered, managed and facilitated all design issues and activities, prepared and reviewed work orders, tracked design schedules and as-built certifications, coordinated with adjacent property owners and between SHA, contractor, sub-consultants and reviewing agencies; obtained environmental permits in a timely manner to keep the Project on schedule. During construction, responsible for answering field generated H&H related RFI's. Participated in monthly progress and partnering meetings.

H/H Engineering Services, Statewide, MD SHA: Water Resources Project Manager/Contract Manager. Contracts included H/H studies, SWM, drainage, ESC designs, reviews, SWM BMP inspections and TMDL, drainage investigations for statewide SHA Projects and rehabilitation of small structures. Prepared J-permits and General Waterway Construction Permits for work in wetlands, waters of US and 100-year floodplain. Managed budgets, staff, subconsultants and trained junior engineers; reviewer for SHA HHD for SHA District special Projects; MTA Projects adjacent to SHA ROW; and access and utility permits for private development within SHA ROW statewide. Performed H/H studies for SHA small structures crossing waterways for replacement or to eliminate crossings flooding. Reviewed, analyzed and resolved drainage complaints for SHA HHD. Managed over 600 SWM BMP inspections throughout Maryland. Managed Water Quality Mitigation for TMDL goal tasks in Charles, Prince Georges, Anne Arundel and Washington County to treat 50 ac of legacy pavement, streamline MDE permitting process used by SHA for other corridors in the state.

EDUCATION

MS | Geotechnical Engineering | 1983

BS | Civil Engineering | 1982

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

1987 | Professional Engineer | MD #15852

SUMMARY OF EXPERIENCE

Mr. Johnson has over 26 years of experience in geotechnical engineering and project management.

Major areas of responsibility have included the management of senior engineers and the technical review and preparation of engineering reports and proposals.

He has developed and managed Geotechnical Engineering programs pertaining to feasibility studies, proposed development, and failure analyses. Programs have covered conventional shallow/deep foundation analyses for bridges, buildings towers, and other structures' slope stability assessments, tunneling in soil and rock, pavement design and failure assessments, groundwater-related problems, design of temporary supports of excavation, and soil and rock exploration.

RELEVANT EXPERIENCE

ICC Contracts D/E Design-Build, SHA, Prince George's County, MD. Lead Geotechnical Engineer for the \$102M Contract D/E extending MD 200 over to U.S. 1 and completing the I-95 collector-distributor (CD) roads (northbound and southbound) to MD 198. Responsible for leading and coordinating all geotechnical engineering services including exploration and design of VMR bridge, retaining and noise barrier walls, culverts, headwalls, stormwater management facilities, and roadway pavement. Led the design of an extensive exploration program for the Project, test pits, and infiltration testing for SWM facilities. Supervised engineers and geologists staff; responsible for overall test boring inspection program, reviewed test boring data, selection of soil and rock samples for laboratory testing, and selecting the laboratory tests to be performed. Developed the most advantageous foundation and coordinated findings with structural engineers. Involved during construction of foundations for the Project's structures including review of PDA data during driving and input to structural engineers and Contractor when adjustments to the pile driving program became necessary. Participated on the Joint Task Force for geotechnical services.

ICC Contract C Design-Build, SHA, Montgomery & Prince George's Counties, MD. Lead Pavement and Geotechnical Engineer responsible for leading and coordinating all geotechnical engineering services including exploration and design of 21 bridges, retaining and noise barrier walls, culverts, headwalls, stormwater management facilities, jack and bore tunnel under U.S. 29, and over 80 lane-miles of flexible roadway pavement. Approved all subgrades prior to roadway construction; led the design of an extensive exploration program totaling more than 850 test borings, geophysical surveys, test pits, and infiltration testing in over 15 SWM facilities. Supervised engineers and geologists staff; responsible for overall test boring inspection program, reviewed test boring data, selection of soil and rock samples for laboratory testing, and selecting the laboratory tests to be performed. Developed alternative foundation designs for all structures, selected the most advantageous foundation and coordinated findings with structural engineers and the entire design team. Involved during construction all of foundations for the Project's structures including review of PDA data during driving and input to structural engineers and Contractor when adjustments to the pile driving program became necessary. Lead Pavement Engineer who designed all of the Project's hot mix asphalt pavements. Analyzed and made recommendations for subgrade improvements and pavements based upon falling weight deflectometer data and subgrade proof roll inspections. Participated on the Joint Task Force for pavements.

I-70, Phase 2D Design-Build Project, Frederick County, MD. Lead Geotechnical and Pavement Engineer on the rehabilitation of I-70, Phase 2D. This Design-Build contract includes a mile of new four-lane roadway constructed in a Karst geologic area of the Frederick Valley. The Project includes new embankment fills, cuts areas in pinnacled carbonate rocks, drainage facilities, SWM facilities and new ramps and mainline roadways. Responsibilities included leading geotechnical engineering efforts with the design of an extensive test boring program including soil and rock sampling, geophysical surveys consisting of micro-gravity and electrical resistivity surveys, and developed and supervised a thorough laboratory testing program. Analyzed difficult mixed soil and rock cuts in pinnacled carbonate rock that included areas of essentially all rock and soil. Also served as Lead Pavement Engineer with responsibilities of exploring and analyzing an extensive wedge and level program to make certain new roadway improvements properly drain; performed patching survey and supervised pavement condition index surveys.



Tobi Kester, RLA, AICP, CA, LEED® AP
Landscape Architect

EDUCATION

MS | Landscape Architecture | 1995

BS | Landscape Architecture | 1991

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

2000 | Registered Landscape Architect | MD #3055

2009 | LEED Accredited Professional

2005 | Certified Arborist | International #MA-4331-A

1998 | US/American Institute of Certified Planners #014078

SUMMARY OF EXPERIENCE

Ms. Kester has over 20 years experience including extensive involvement with State Highway projects.

She has supervised and prepared numerous Forest Stand Delineations, Forest Conservation Worksheets, and Forest Conservation Plans for project sites throughout Maryland.

She is very familiar with the native vegetation of the Mid-Atlantic Region and is knowledgeable of the requirements pertaining to the Forest Conservation Act and Maryland Roadside Tree Law.

She has worked closely with the Maryland State Highway Administration (MSHA) on its pilot program for Maryland Stormwater Management Retrofit Site Search and Design Development, and a variety of other projects involving stormwater management, she is experienced in stormwater management/bioretenion design and associated planting.

RELEVANT EXPERIENCE

ICC Contracts C and D/E Design-Build, SHA, Montgomery & Prince George's Counties, MD. Lead Landscape Architect responsible for landscape design development and implementation of planting along approximately 9.25 miles of new roadway, 1.5 miles of roadway widening, 1.8 miles of bicycle facilities, and integration of new roadway at 3 major interchanges. Work included providing visual quality review and preparation of planting plans for 17 stormwater management (SWM) facilities, numerous bioretention areas, bioswales, and riparian areas along several major stream crossings, in conformance with aesthetic and environmental requirements defined in SHAs Site Development Criteria Guidelines. Responsible for construction administration tasks including oversight of plant installation and SWM facility as-built inspections. With more than 350,000 plants proposed over the two contracts, in a wide variety of environmental conditions, the use of native, non-invasive species appropriate for the given sites was critical. Integration of planting with all other design disciplines, significant environmental permitting requirements, and construction sequencing was accomplished through careful coordination with both the Contractor Team and the ICC review Team.

SHA TMDL SWM Retrofits, Prince George's County, MD, MSHA: Lead Landscape Architect responsible for providing SWM retrofit and ESC design services, specifically landscape design and reforestation permitting services, for two Project sites located along MD 108. Project involves wetlands, Waters of the US (WUS), and requires improvements to inflows while maintaining existing discharges at outflows and associated structures. Actively coordinating with prime consultant and MSHA.

Design, Build, Operate & Maintain SWM Facilities, Charles County, MD, MSHA: Lead Landscape Architect for the \$2.2M Pilot DBOM Project. In support of Team SWM Engineers, assisted in the analysis of existing conditions, design and retrofit where necessary, so that 97 SWM facilities in Charles County could be effectively constructed, operated, and maintained by the State Highway Administration. Nine facilities thus far identified for retrofit have been designed, and 7 additional SWM facilities will be entirely redesigned with new SWM BMP designations. Landscape plans were prepared in conformance with current and latest MDE SWM regulations and SHAs Site Development Criteria Guidelines.

Water Quality Mitigation for TMDL Goals, Charles County, MD, MSHA: Lead Landscape Architect. Under the purview of SHAs Hydraulics & Highway Division (HHD), provided landscape design involving treatment of run-off to impervious areas owned by SHA in Charles County built prior to 1985, in order to meet SHAs TMDL goals. The first phase of this Project, currently under design and review, is located along US 301 from Nice Bridge to MD 6. Proposed treatment meets SWM BMP selection and design per current and latest MDE SWM regulations and SHAs Site Development Criteria Guidelines.

NPDES Permit Support Services for Maryland Transportation Authority, Statewide, MDTA: Landscape Architect. In support of Team SWM Engineers, provided landscape architecture-related services, including the preparation of landscape designs for two retrofitted SWM facilities. Prepared "Establishment and Maintenance Guidelines for Meadow Planting at Bio-retention Facilities" document. Prepared a variety of SOP documents related to landscape installation and maintenance.

Michael Rectanus, PE

Highway Engineer

EDUCATION

BS | Civil Engineering | 1999

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

2005 | Professional Engineer | MD #31191

SUMMARY OF EXPERIENCE

Mr. Rectanus has over 15 years of technical and project/task management experience on a variety of design-build highway and traffic engineering contracts.

His technical experience includes roadway geometrics, pedestrian and bicycle facilities, drainage, stormwater management (SWM), maintenance of traffic (MOT), erosion & sediment control, signing & pavement marking, cost estimates, construction details and specifications.

He has coordinated the efforts of other project disciplines including surveys, right-of-way, traffic engineering, lighting, ITS, ETC, utility coordination/relocations, geotechnical, pavements, shop drawing, public involvement, as-built plans, and construction support.

Mr. Rectanus is thoroughly familiar with relevant design codes such as NEPA, AASHTO, MUTCD, MD SHA's Standards and Specifications, and other applicable codes and federal and state laws. He is knowledgeable with the use of applications such as MicroStation, Geopak, InRoads, and AutoCAD.

RELEVANT EXPERIENCE

ICC Contracts D/E Design-Build, SHA, Prince George's County, MD. Lead Roadway Engineer for the \$102M design-build Project that includes 1.25 miles of the new six-lane roadway, 4 miles of new CD roads, a half diamond interchange, a Continuous Flow Interchange (CFI), and 1.5 miles of roadway widening/ reconstruction. Project also included the design of numerous pedestrian and bicycle upgrades including one (1) hiker/biker trail. Responsible for all roadway geometric design and details, bicycle and pedestrian facility design, storm drain design and details, and coordination with structures (bridge, retaining wall, noise wall and culverts), drainage, SWM, utilities, lighting, signing and marking, signals, ITS and adjacent Contee Road and Virginia Manor East developer Projects. During construction, responsible for answering field generated roadway related RFI's and reviewing storm drain related shop drawings.

ICC Contract C Design-Build, SHA, Montgomery & Prince George's Counties, MD. Roadway Engineer for the \$528M Project including 3.8 miles of the new six-lane roadway, 20 new bridges, 2 new three level interchanges, a half diamond interchange, 5 miles of CD roads, and 3 miles of roadway widening/reconstruction. Responsibilities included Roadway Engineer for the Area M segment of MD 200 (ICC) west of Briggs Chaney Road to east of Old Gunpowder Road including the partial interchange at Briggs Chaney Road, improvements to Briggs Chaney Road and Old Gunpowder Road and design of respective detour roads. Project also included the design of numerous pedestrian and bicycle upgrades including four hiker/biker trails. Responsibilities included roadway geometric design and details, bicycle and pedestrian facility design, storm drain design and details, and coordination with structures (bridge, retaining wall, noise wall and culverts), drainage, SWM, utilities, lighting, signing and marking, signals and ITS. During construction, responsible for answering field generated roadway related RFI's and reviewing storm drain related shop drawings.

Dulles Rail Extension – Phase II Design-Build, MWA, Fairfax & Loudoun Counties, VA. Lead Roadway Engineer for the East Segment (5 miles) of the roadway improvements associated with the construction of the Dulles Metrorail extension (Silver Line) to Dulles Airport. Responsible for the horizontal and vertical design, drainage design, MOT, signing and pavement markings, and coordination with track, station, site, SWM, erosion and sediment control, landscaping and lighting design.

MD 193 (University Boulevard)/I-495 Interchange Improvement, SHA District 3, Montgomery County, MD. Project Engineer for development of preliminary through final design plans, specifications, and cost estimates for the reconstruction of the I-495 (Capital Beltway) interchange at University Boulevard. The Project included closing off an existing loop ramp from I-495 and constructing a new double-left-turn lane from an existing ramp. Work involved a new roadway alignment, resurfacing, hydraulic and stormwater management analysis, signalization, signing, and striping.

MD 28 at MD 586/MD911 Intersection Improvements, SHA District 3, Montgomery County, MD. Project Engineer for development of preliminary through final design plans, specifications, and cost estimates for intersection improvements at MD 28 at MD 586/MD 911. The Project included extending the left turn bays to two legs of the intersection, ADA improvements, grinding and resurfacing. Work involved a new roadway alignment, resurfacing, hydraulic and stormwater management analysis, signalization, signing, and striping.

Steven Shapiro, PE, PTOE

Traffic Engineer

EDUCATION

MS | Transportation | 1972

BS | Systems Engineering | 1969

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

2003 | Professional Engineer | MD #28166

1985 | Professional Engineer | VA
#0402015489

1986 | Professional Engineer | DC #PE8459

2012 | Professional Engineer | GA
#PE037249

2012 | Professional Engineer | FL #76503

2005 | Professional Traffic Operations
Engineer (PTOE) #1574

SUMMARY OF EXPERIENCE

Mr. Shapiro has 39 years of experience in most phases of traffic engineering, ITS, transportation research, traffic safety, and transportation planning.

His project experience includes: signing and marking design, maintenance of traffic design, TMP development, signal design, traffic security; ITS planning and design; traffic operations; signal timing optimization; capacity analysis; and cost analyses.

He is the author or co-author of numerous publications and reports in these areas, and has developed and taught a variety of courses for the Federal Highway Administration.

He has been a friend and a member of TRB Committees on Traffic Flow Theory and Characteristics, Freeway Operations, and Traffic Control Devices, and VDOT's Statewide Incident Management Committee.

RELEVANT EXPERIENCE

ICC Contracts D/E Design-Build, SHA, Prince George's County, MD. Traffic Engineer for the \$102M design-build Project. This complex Project included the construction of 0.9 miles of new four lane freeway, two interchange modifications along I-95, the construction of 2.4 miles of collector-distributor roadways along I-95, and the construction of an interchange directly on top of cross street while maintaining cross street traffic. Responsibilities include oversight of all signing design including the 26 overhead sign structures; marking, signals, maintenance of traffic including traffic analysis for seven stages of construction; Transportation Management Plan (TMP); and work zone impact management and construction sequencing for the I-95 corridor and Virginia Manor Road segments of the Project. Responsibilities also include coordination and design of all ITS and ETC infrastructure and communications Project-wide. Additional design responsibilities include innovation construction safety strategies such as work zone Automated Speed Enforcement (ASE), as well as re-configuration of major traffic patterns for four interchanges within the Project's limits. The fast-tracked design schedule requires extensive coordination with owner, subconsultants, and contractors.

ICC Contract C, SHA, Montgomery & Prince George's Counties, MD. Principal Designer for the \$528M design-build Project. This complex Project includes 3.7 miles of new alignment 6-lane MD 200 from just west of US 29 (Columbia Pike) to just east of I-95 and includes 1.9 miles of collector-distributor lanes on I-95 to MD 212 (Power Mill Road). Responsibilities included oversight of signing design including overhead signing; marking, signals, maintenance of traffic including traffic analysis; Transportation Management Plan (TMP); and work zone impact management and construction sequencing for Area E (I-95/MD 200 interchange) and Area M (MD 200 east of US 29 to west of I-95). Responsibilities also included coordination and design of all ITS (CCTV and DMS) and the toll gantries infrastructure and communications Project-wide.

Interstate 66 Widening, Prince William County, Virginia. Traffic Engineer for the \$73M widening of three miles of I-66 from Route 29 in Gainesville to west of Route 15 in Haymarket, from four lanes to eight, as well as interchange modifications at Route 15. The Project includes significant maintenance-of-traffic roadway widening and two bridge replacements for over 55,000 cars a day through the Project site. Innovative MOT phasing was also implemented utilizing temporary pavement to open an added lane early in the construction process, delivering relief to commuters earlier than planned. Responsibilities included oversight of the design of the maintenance of traffic plans, TMP, detour plans and temporary signal timings for a road closure, signing and pavement marking plans, traffic signal modification plans, and ITS plans. ITS elements included: CCTV cameras, microwave vehicle detectors, a DMS unit, equipment cabinets, and the conduit and cable design. He also prepared a fiber-optic splice plan for the Project, and is coordinating with the Contractor on the implementation of these elements.

Route 27/244 Interchange Modification Design-Build, VDOT, Arlington County, VA. Traffic Engineer for the \$48M capacity and safety improvement Project at the Route 27/244 interchange, including complete bridge replacement and interchange ramp modifications at I-395. The Project includes maintaining traffic throughout multiple stages of complex bridge, utility, and drainage construction, as well as safely accommodating pedestrians, bicycles, and buses through this densely populated urban area near the Pentagon. Responsibilities included oversight of the design of the maintenance of traffic plans, TMP, temporary on-site diversion (detour) plan design, traffic signal plans, temporary signal plans, and signing and pavement marking plans, and ITS plans for CCTV and LED signs associated with the Project's variable lane use.

Frank Kaul, PE, DBIA

Structural Engineer

EDUCATION

BS | Civil Engineering | 1988

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

1994 | Professional Engineer | MD #20850

2010 | Professional Engineer | DC #905710

2012 | Professional Engineer | GA #037331

2009 | DBIA | US

SUMMARY OF EXPERIENCE

Mr. Kaul has over 26 years of transportation project experience as Lead Structural Engineer and Deputy Project Manager with strong technical, project management, and leadership skills on major transportation and site improvement projects throughout the Mid-Atlantic region. His background encompasses all phases of planning, inspection, evaluation, design, D/B and construction phase services.

He has been involved in D/B projects since 2004. He was the Lead Structural Engineer and Deputy Project Manager for the \$40M MD30 (Hampstead Bypass) D/B. This project was the first D/B in Maryland to include structures. Mr. Kaul was the Lead Structural Engineer for the \$525M ICC Contract C and the \$102M ICC Contract D/E. He is a segment lead for structures on the Dulles Rail Phase 2 D/B. He is currently the Design Manager and Lead Structural Engineer for the Van Buren Street Extended over CSXT D/B in Prince George's County. He was also involved in the successful bidding and preliminary design efforts for the MD 124 D/B in Montgomery County for MSHA.

RELEVANT EXPERIENCE

ICC Contracts D/E Design-Build, SHA, Prince George's County, MD. Lead Structural Engineer for the \$102M Contract D/E extending MD 200 over to U.S. 1 and completing the I-95 collector-distributor (CD) roads (northbound and southbound) to MD 198. Project includes a new interchange of Virginia Manor Road over the ICC on a new bridge with diamond entrance ramps. All designs based on AASHTO LRFD code and followed SHA's current structural standard details. As Lead Structural Engineer set design algorithm, checked computations and did plan review for the two span bridge which included numerous aesthetic details, pile supported foundations and was a gateway structure on the Project. Structural design also included four retaining walls, one noise wall, multiple culverts (new and extensions), stormwater management structures and miscellaneous structures for numerous utility relocations.

ICC Contract C Design-Build, SHA, Montgomery & Prince George's, MD. Lead Structural Engineer responsible for structural design services associated for Section C, just west of U.S. 29 to just east of I-95. New interchanges at U.S. 29, Briggs Chaney Road, and I-95. Structural design for 20 New Bridges, multiple Culverts, Noise Walls, Retaining Walls, Sign Structures, Toll Gantries and miscellaneous structures for utilities. All designs based on AASHTO LFD code and followed SHA's structural standard details. As Lead Structural Engineer set design algorithms, checked computations and did plan reviews for structural designs, some of which required staging for MOT while maintaining existing traffic, and integration with other disciplines. All structures had extensive aesthetic details and bridges included single and multiple span precast concrete beams and steel curved girders. The bridges, including MD 212 over I-95, followed SHA standards.

Dulles Rail Phase 2 Design-Build, MWAA, VA. Primary **Structural Engineer** for the East Segment walls (5 miles) of the roadway improvements associated with the construction of the Dulles Metrorail extension (Silver Line) to Dulles Airport. Design follows AASHTO LRFD, VDOT, WMATA and MWAA codes and standards.

Hampstead Bypass (MD 30) Design-Build, Carroll County, MD, MSHA, Lead Structural Engineer responsible for the design of a four mile bypass of Hampstead, MD in Carroll County for MD 30. The Project structural design included 4 new bridges, 3 culverts, 3,500 LF of noise wall or noise beams. All designs to AASHTO ASD and followed SHA standard details. Set design methods, reviewed plans and checked computations. Lead structural design meetings with SHA and GEC.

Van Buren Street Extended over CSXT Railroad Design-Build, Prince George's County, Prince George's County, MD, Design Manager and Lead Structural Engineer responsible for structural design services associated with the extension of Van Buren Street in Riverdale Park to include a new bridge over CSXT Railroad. The bridge carries a tightly curved roadway on curved steel girder simple span bridge, concrete cantilever abutment on piles, MSE retaining walls and aesthetic details throughout the structures. Designs per AASHTO LRFD and follows current SHA Standards.

MdTA FT 749, Rehabilitation of I-95 from Joh Avenue to Just North of Washington Blvd. (MM51.6): Project Manager and Lead Structural Engineer for professional engineering services for the design of the rehabilitation of a several mile section of I-95 for the development of plans, specifications, and estimates for the rehabilitation of several mile section of I-95. Work included highway widening, pavement rehabilitation and overlay, design of slip ramp, structural rehabilitation and widening of 17 bridges, MOT, E&S, permitting, surveys, and aerial topography.



Michael Blose, PE, MBA

Stream Restoration Specialist

EDUCATION

MBA | Finance | 2008

BS | Agricultural and Biological
Engineering | 1999

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

2004 | Professional Engineer | MD #30704

2014 | Professional Engineer | DC
PE907569

2004 | Professional Engineer | DE #19340

ACEC Leadership Training | MD SHA Erosion
and Sediment Control Certification
Designer Class

National Pollutant Discharge Elimination
System Workshop Rosgen Training Levels
I-IV

GIS-Hydro 2000 Program Workshop

Abscour 7-Bridge Scour Workshop

MD SHA Stormwater Management
Workshop

MDE Stormwater and Waterway/Dam
Safety Workshop

SUMMARY OF EXPERIENCE

Mr. Blose is a Professional Engineer experienced in management and design of environmental, civil and water resource engineering for Federal, State, local, and private construction projects. He's been involved in transportation projects for the past 15 years. His experience includes, NPDES/TMDL & WIP compliance, environmental permitting; stormwater management; stream restoration & stabilization; roadway and site drainage; pond/dam embankment design; construction inspection; hydrology; bridge/culvert/stream hydraulics; roadway design, and preparation of construction documents. Mr. Blose is an approved MDE Expedited Plan Reviewer for ESC and SWM.

RELEVANT EXPERIENCE

TMDL Program Management Support Services, BCS 2008-06, MSHA, Statewide, MD. Water Resource Project Manager responsible for providing TMDL program management support services to the Office of Environmental Design (OED). As TMDL/MS4 Retrofits Manager coordinates SHA Projects including design-build Projects in Anne Arundel, that requires AA CO SCD review and 2 within Jabez watershed in Prince George's and Montgomery Counties related to retrofitting over 80 existing SHA SWM facilities within Phase 1 and 2 NPDES jurisdictions to comply with SHA's TMDL obligations administered by the MDE. Responsibilities also included close coordination with other TMDL implementation strategies such as stream restoration, outfall stabilizations, tree plantings, impervious removal, new SWM locations, and using GIS for site selection.

Exposed Pipe Protection and Required Stream Restoration, Washington Suburban Sanitary Commission (WSSC), Ft. Washington, MD. Water Resources Project Manager responsible for stream design/asset protection and construction inspection at the emergency repair site in Prince George's County, MD involving an exposed sewer manhole and approximately 100 LF of broken/exposed 8" sewer line. Constructed stabilization measures involved stream relocation, overlapping bank protection, riffle grade controls, and step-pool sequences to connect upstream and downstream at acceptable vertical drops and provide long-term protection of assets. The Project involved site investigations, stream survey, channel stabilization and asset protection sketches, stabilization memorandum, and construction inspection. The Project schedule required expert time and human resource management, Project coordination, and QA/QC of the plans.

Stream Restoration and Wetland Mitigation, General Services Administration, Washington, DC. Water Resource Engineer responsible for the 1260 LF of stream restoration design and 0.15 AC. of wetland design to address on-site mitigation requirements associated with the redevelopment of the 176 acre St. Elizabeths West Campus in Washington DC. The purpose of the redevelopment is to consolidate the Department of Homeland Security Headquarters and Coast Guard. This ongoing task includes: cascade/step-pool design, water budget calculations, stream assessments, hydrology and hydraulic analyses, preparing construction bid documents (plans, specifications, and quantity calculations, sediment control design, landscaping and reforestation design, obtaining permits, and extensive coordination with Project stakeholders and road/building/site design consultants.

Horizon Hill SWM Retrofit and Stream Restoration, Department of Public Works, City of Rockville, MD. Water Resources Project Engineer Responsible for watershed analysis for tributary (170 acres) to Watts Branch, field investigations, retrofit design for three in-line stormwater management facilities to address water quality goals, stream restoration and floodplain reconnection for 1300 LF, NRI/FSD, hydrology/ hydraulics analyses, habitat enhancement, reforestation, and public outreach.

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

FORM A-2 – LEAD DESIGN FIRM

PROJECT DESCRIPTION

Name of Proposer: Shirley Contracting Company, LLC

Name of Design Firm: Dewberry Consultants LLC	
Project Role: Lead Designer	
Designer: Dewberry Consultants LLC Other (Describe): _____	
Years of Experience: Roads/Streets: 58 Bridges/Structures: 58 Environmental: 58	
Project Name and Location: Intercounty Connector Contracts D/E Design-Build, Prince George’s County, Maryland	
Project Key Staff (as applicable to project)	
Project Design Manager/Firm: Kenneth R. Davis, PE, DBIA / Dewberry	
Hydrological/Hydraulics Engineer/Firm: Rahul Kesarkar, PE, LEED AP / Dewberry	
Geotechnical Design Engineer/Firm: Michael Johnson, PE / HCEA	
Landscape Architect/Firm: Tobi Kester, RLA, CA, AICP / NMP	
Highway Engineer/Firm: Michael Rectanus, PE / Dewberry	
Traffic Engineer/Firm: David Urbanek, PE, PTOE / WBCM	
Structural Engineer/Firm: Frank Kaul, PE, DBIA / Dewberry	
Stream Restoration Specialist/Firm: N/A	
Description and Specific Nature of Work for which your Firm was responsible and relevance to this contract:	
<p>Dewberry is the Lead Designer on the \$102M ICC Contracts D/E design-build project with Shirley as the Lead Contractor. This contract is the fourth and final contract of the overall ICC projects. Contract D/E extends MD 200 to US 1 and completes the I-95 CD roads (northbound and southbound) to MD 198.</p> <p>The scope of Contracts D/E includes approximately four miles of new collector-distributor roads along I-95, one mile of a new 6-lane MD 200 roadway, 3,500 feet of roadway reconstruction and widening including a new half diamond interchange with Virginia Manor Road, and 3,300 feet of roadway reconstruction and widening including a new Continuous Flow Intersection (CFI) with US 1. The contract also includes 1.8 miles of new bicycle facilities, one new bridge, four retaining walls, one noise barrier, three structural stormwater management ponds and several different types of ESD/LID practices including 13 bio-retention facilities, one submerged gravel wetland, approximately 5,000 feet of bio-swales, and approximately 600 feet of grass swales. Dewberry’s responsibilities on this contract included mapping, surveys, geotechnical investigations, and design for the roadway, interchange, bridge and structures, stormwater management, floodplain studies, culverts, erosion and sediment control, maintenance of traffic (including development of the TMP and multiple phases of TCP), signing and marking, signals, ITS system, electronic toll collection (ETC), lighting, traffic analysis, environmental services, noise analysis, landscaping, and utility relocations for WSSC including 4,200 LF of waterline (30" and 42"); 8" sanitary relocation, telephone, cable, power, 31,000 LF of fiber optic relocations, as well as coordination of electrical power drops and associated access road requirements). Due to limited right-of-way along US 1, Dewberry proposed a combined underground ductbank to be utilized by all multiple utility companies.</p>	<p>RELEVANCE TO MD 210 D/B PROJECT</p> <ul style="list-style-type: none">✓ Design-Build✓ Extensive MOT on extremely high volume roadways (I-95)✓ Roadway Widening✓ New Interchange✓ Bridge and Retaining Walls✓ Noise Walls✓ Coordination with Adjacent Projects✓ Public Outreach✓ Environmental Permitting✓ Environmental Mitigation / Avoidance/Minimization to Wetland Impacts and WUS✓ On-site Reforestation✓ Partnering✓ Multiple Agency Plan Review / Coordination✓ Team Experience – Same Design and Construction Key Staff

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

Dewberry was responsible for the design of the ductbank as well as the coordination with the associated utility companies. Dewberry was also responsible for the coordination of two adjacent projects including the SHA Contee Road Interchange Project and the Prince George's County Virginia Manor Road project. Dewberry led coordination meetings every two weeks with design, construction, and owner representatives for each project discussing all design, construction, and schedule issues. Dewberry attended, presented, and answered questions and several meetings with the West Laurel Civic Associated. Dewberry is also providing construction support services. During construction, the design engineers were responsible to answer requests for information (RFI's); attend pre-construction meetings; attend pre-traffic switch meeting; and deliver as-built plans. Dewberry is also providing construction quality management. Responsibilities include development of the Construction Quality Control Manual, attendance at weekly quality control task force meetings, and field inspections.

Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and relevance to this contract:

Kenneth Davis, PE, DBIA | Design Manager. Responsible for all design activities, design related public involvement and construction support services.
Rahul Kesarkar, PE, LEED AP – Lead H/H Design Engineer: Responsible for all H/H design and SWM and ESC permitting and construction support services (RFIs).
Michael Johnson, PE – Lead Geotechnical Engineer: Responsible for all geotechnical and pavement design and construction support services (RFIs).
Tobi Kester, RLA, CA, AICP – Lead Landscape Architect: Responsible for all L/A design and reforestation and construction support services (RFIs).
Michael Rectanus, PE – Lead Highway Engineer: Responsible for all Highway, bicycle, and pedestrian facility design and construction support services (RFIs).
Steven Shapiro, PE, PTOE – Traffic Engineer: Responsibilities included oversight of the design of for 26 overhead sign structures, signal design, maintenance of traffic design for seven stages of construction, Transportation Management Plan (TMP) development, and ITS and ETC elements along I-95, MD 200, and Virginia Manor Road.
Frank Kaul, PE, DBIA – Lead Structural Engineer: Responsible for all structures design including bridge, retaining walls, culvert extensions and construction support services (RFIs).
Gregory Johannes – Design-Build Project Manager: Responsible for all design and construction activities on the project. Led weekly coordination meetings with the owner and monthly Partnering meetings.
Randall Plyler – General Superintendent: Responsible for the day-to-day coordination and scheduling of all construction work onsite including constructing the project in accordance with approved plans. Provided constructability reviews during design. Coordinated with designers regarding RFI's during construction.
Todd Kief – Utilities: Supported the utility coordination and relocation project-wide. Provided constructability reviews or relocation plans during design.

List any awards and/or commendations received for the project: N/A

Name of Client (Owner/Agency, Contractor, etc.): **Maryland State Highway Administration**

Address: **707 North Calvert Street, Baltimore, Maryland 21202**

Contact Name: **Mark Coblentz** Telephone: **(301) 586-9625**

Owner's Project or Contract No.: **AT3765D60** Fax No.: **443.844.9886**

Initial Design Fee Value (US \$): **\$6.7M** Final Design Fee Value (US \$): **\$7.9M***
* Difference Due to Owner added scope

Percent of Total Project Design Work Performed by Company: **60% of Design**

Commencement Date: **Dec 2011** Original Design Completion Date As Defined by Owner: **Nov. 2013**

Actual Design Completion Date: **On-Going (owner directed extension)**

Construction Contract Value (US \$): **\$89M** Final Value (US \$): **\$102M***
* Difference Due to Owner added scope

Any disputes taken to arbitration or litigation? Yes No

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

FORM A-2 – LEAD DESIGN FIRM

PROJECT DESCRIPTION

Name of Proposer: Shirley Contracting Company, LLC

Name of Design Firm: Dewberry Consultants LLC	
Project Role: Lead Designer	
Designer: Dewberry Consultants LLC Other (Describe): _____	
Years of Experience: Roads/Streets: 58 Bridges/Structures: 58 Environmental: 58	
Project Name and Location: Intercounty Connector -Contract C, Montgomery & Prince George’s Counties, Maryland	
Project Key Staff (as applicable to project)	
Project Design Manager/Firm: David Mahoney, PE / Dewberry	
Hydrological/Hydraulics Engineer/Firm: James Filson, PE / Dewberry	
Geotechnical Design Engineer/Firm: Michael Johnson, PE / HCEA	
Landscape Architect/Firm: Tobi Kester, RLA, CA, AICP / Dewberry	
Highway Engineer/Firm: Kenneth Davis, PE, DBIA / Dewberry	
Traffic Engineer/Firm: David Urbanek, PE, PTOE / WBCM	
Structural Engineer/Firm: Frank Kaul, PE, DBIA / Dewberry	
Stream Restoration Specialist/Firm: N/A	
Description and Specific Nature of Work for which your Firm was responsible and relevance to this contract:	
<p>Dewberry was the Lead Designer and Shirley was the Lead Contractor of this \$528M design-build project. The 3.8 mile project is a new 6-lane roadway with a three-level interchange at Route 29, a new interchange with Briggs Chaney Road and a new three-level interchange with I-95. The contract includes 20 bridges, numerous retaining walls, 12 SWM ponds, ground improvement techniques; MOT on two of the State’s most heavily traveled roadways, extensive protective features to the environment, landscaping and aesthetic treatments to bridges, walls and noise barriers to compliment the surrounding area.</p> <p>Dewberry’s responsibilities on this contract include providing services for mapping, surveys, geotechnical investigations, and design for the roadway interchanges, bridges and structures, storm water management, floodplain studies, signing and marking, signals, ITS system, electronic toll collection (ETC), lighting, traffic analysis, environmental services, noise analysis, landscaping, and utility relocations. Dewberry is also providing construction administration and inspections during the construction phase. The Dewberry design team used innovative design solutions to completely redesign the I-95/MD 200 interchange along with ground improvements (wick drains and surcharge loading) in the East Wash Pond to eliminate bridges and significantly reduce the overall contract price. This required significant coordination with FHWA and the revisions to the IAPA.</p> <p>Additionally, Dewberry led/supported the public outreach program including community meetings at local schools and civic centers. Specifically, the Dewberry design team worked closely with the Cross Creek Community and Golf Club to revise the typical section for the section that runs along the Cross Creek Golf Club’s 14th hole. The team reduced the section, realigned the hiker/biker trail and noise wall and</p>	<p>RELEVANCE TO MD 210 D/B PROJECT</p> <ul style="list-style-type: none">✓ Design-Build✓ Extensive MOT on extremely high volume roadways (I-95)✓ Roadway Widening✓ New Interchange✓ Bridge and Retaining Walls✓ Noise Walls✓ Coordination with Adjacent Projects✓ Public Outreach✓ Environmental Permitting✓ Environmental Mitigation / Avoidance/Minimization to Wetland Impacts and WUS✓ On-site Reforestation✓ Partnering✓ Multiple Agency Plan Review / Coordination✓ Team Experience – Same Design and Construction Key Staff

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

made changes to the landscaping design to REDUCE cuts/fills and Project LOD eliminating impacts to the tee box, fairway and green.

Dewberry's design **reduced** wetland impacts by 19.06 ac, wetland buffers by 5.06 ac, stream impacts by 3,760 LF, open water impacts by 0.70 ac, forest impacts by 32.64 ac and ecologically sensitive area impacts by 3.7 ac.

ICC Contract C was finished on time and within budget.

Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and relevance to this contract:

Kenneth Davis, PE, DBIA – Highway Engineer: Responsible for all Highway, bicycle, and pedestrian facility design and construction support services (RFIs).

Rahul Kesarkar, PE, LEED AP – H/H Design Engineer: Responsible for all H/H design and SWM and ESC permitting for Area M (east of US 29 to west of I-95) and construction support services (RFIs).

Michael Johnson, PE – Lead Geotechnical Engineer: Responsible for all geotechnical and pavement design and construction support services (RFIs).

Tobi Kester, RLA, CA, AICP – Lead Landscape Architect: Responsible for all L/A design and reforestation and construction support services (RFIs).

Michael Rectanus, PE – Highway Engineer: Responsible for all Highway, bicycle, and pedestrian facility design for Area M (east of US 29 to west of I-95) and construction support services (RFIs).

Steven Shapiro, PE, PTOE – Traffic Engineer: Responsibilities included oversight of the design of all overhead sign structures, signal design, maintenance of traffic design, Transportation Management Plan (TMP) development, and ITS and ETC elements for Area E (I-95/MD 200 interchange) and Area M (MD 200 east of US 29 to west of I-95).

Frank Kaul, PE, DBIA – Lead Structural Engineer: Responsible for all structures design including bridge, retaining walls, culvert extensions and construction support services (RFIs).

Gregory Johannes – Design-Build Project Manager: Responsible for all design and construction activities on the project. Led weekly coordination meetings with the owner and monthly Partnering meetings.

Randall Plyler – General Superintendent: Responsible for the day-to-day coordination and scheduling of all construction work onsite including constructing the project in accordance with approved plans. Provided constructability reviews during design. Coordinated with designers regarding RFIs during construction.

Todd Kief – Project Utility Manager: Responsible for the oversight of the design and construction of all relocated facilities project-wide. Provided constructability reviews for relocation plans during design.

List any awards and/or commendations received for the project: **13 awards including:** Quarterly Environmental Compliance Incentive Awards- 9 from December 2008 through March 2011 | 2011 Top Roads, Roads & Bridges Magazine | 2012 "Globe Award" American Road & Transportation Builders Association | 2012 Best Transportation Project, Award of Merit ENR Mid-Atlantic | 2012 Excellence in Construction Awards - Heavy/Industrial/Transportation Construction, Associated Builders and Contractors of Metro Washington | 2012 National Design-Build Award in Transportation National Design-Build Awards Competition | 2014 Honor Award Project of the Year Engineering Society of Baltimore

Name of Client (Owner/Agency, Contractor, etc.): **Maryland State Highway Administration**

Address: **707 North Calvert Street, Baltimore, Maryland 21202**

Contact Name: **Mark Coblentz** Telephone: **(301) 586-9625**

Owner's Project or Contract No.: **AT3765C60** Fax No.: **(443) 844-9886**

Initial Design Fee Value (US \$): **\$36M** Final Design Fee Value (US \$): **\$40M**

Percent of Total Project Design Work Performed by Company: **50% of Design**

Commencement Date: **Sept 2008** Original Design Completion Date As Defined by Owner: **Nov 2011**

Actual Design Completion Date: **November 11, 2011**

Construction Contract Value (US \$): **\$513.M** Final Value (US \$): **\$528M***

* Difference Due to Owner added scope

Any disputes taken to arbitration or litigation? Yes No

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

FORM A-2 – LEAD DESIGN FIRM

PROJECT DESCRIPTION

Name of Proposer: Shirley Contracting Company, LLC

Name of Design Firm: Dewberry Consultants LLC	
Project Role: Lead Designer	
Designer: Dewberry Consultants LLC Other (Describe): _____	
Years of Experience: Roads/Streets: 58 Bridges/Structures: 58 Environmental: 58	
Project Name and Location: Route 28 Corridor Improvements Project, Fairfax and Loudon Counties, VA	
Project Key Staff (as applicable to project)	
Project Design Manager/Firm: David Mahoney, PE / Dewberry	
Hydrological/Hydraulics Engineer/Firm: Jim Filson, PE / Dewberry	
Geotechnical Design Engineer/Firm: Randy Wirt / MACTEC	
Landscape Architect/Firm: N/A	
Highway Engineer/Firm: Steven Kuntz, PE, DBIA / Dewberry	
Traffic Engineer/Firm: Jerry Mrykalo, PE, PTOE / Dewberry	
Structural Engineer/Firm: Jim Davidson, PE, DBIA / Dewberry	
Stream Restoration Specialist/Firm: N/A	
Description and Specific Nature of Work for which your Firm was responsible and relevance to this contract:	
<p>Dewberry, in the role of the lead designer for Route 28 Improvements LLC, Clark/Shirley design-build team, was awarded by VDOT the first Public-Private Transportation Act (PPTA) Project in Northern Virginia. This design-build project included design and construction of 10 grade-separated interchanges to replace at-grade signal-controlled intersections along heavily-traveled Route 28 between I-66 and Route 7. This project included 14 bridges included a 1,400 LF curved girder bridge at the Route 28/625 interchange. Dewberry was responsible for all preliminary and final roadway and interchange design, bridge design, stormwater management, mapping, surveys, geotechnical investigations, environmental investigations, permitting, lighting design, utility relocation designs, floodplain studies, maintenance-of-traffic design and construction inspection.</p> <p>The design-build team was responsible for all design, permitting, right-of-way acquisition (residential and commercial properties), utility relocations, construction, quality assurance and quality control. The connectivity of the interchanges to the communities was critical.</p> <p>The original contract, for six interchanges plus options for additional improvements, was awarded in September 2002. By May 2007, all six interchanges were completed and opened to traffic on schedule. The success and timely completion of the first six interchanges was a key element in the decision by the Route 28 Tax District landowners, Loudoun County, Fairfax County and VDOT to exercise the options to the original contract. The options included 4 additional interchanges, 5 secondary road projects, a road widening from two-lanes to four-lanes, a new four-lane road, a new four-lane section of a boulevard (including a new bridge over the W&OD Trail), and two</p>	<p>RELEVANCE TO MD 210 D/B PROJECT</p> <ul style="list-style-type: none">✓ Design-Build✓ Extensive MOT on extremely high volume roadways✓ Roadway Widening✓ New Interchanges✓ Bridges and Retaining Walls✓ Coordination with Adjacent Projects✓ Extensive Public Outreach✓ Environmental Permitting✓ Environmental Mitigation / Avoidance/Minimization to wetland impacts and WUS✓ Multiple Agency Plan Review / Coordination✓ Team Experience – Same Designer and Contractor

Contract Number: PG7005170**Project Description: MD 210 – Livingston Road/Kerby Hill Interchange**

additional sections of an existing boulevard.

The successful completion of the base contract with the agreed-upon aggressive schedule and budget allowed VDOT and the Route 28 Tax District to realize the construction of the proposed improvements sooner than officially planned. The team worked diligently from construction inception to identify project portions that could be accelerated during right-of-way acquisitions and utility relocations. Communication between construction and design staff aided in identifying critical packages that required early completion, including advance steel packages for bridges, advance detour and MOT packages and stand-alone utility packages. The integrated team's knowledge, infrastructure experience, and established working relationships enabled the team to assess the critical path and prioritize design and construction activities. Key factors included: environmental permitting; utility easements, utility relocations, and avoidance of utility impacts; right-of-way issues, in particular issues with land owned by federal agencies or parks; phased design development that coincided with construction activities; and proper construction execution and delivery. Dewberry coordinated all processes with VDOT, stakeholders including Fairfax and Loudoun Counties, adjacent developers, Metropolitan Washington Airports Authority, and affected property owners.

At the Route 28/Westfield Boulevard Interchange, the team worked together to establish unique profiles for our detour phase that worked to dramatically reduce the time necessary to switch from the detour phase to the final interchange operation. This significant switch-over phase, which initially was projected to take weeks to accomplish was planned instead to be completed over a three day period. The contractor completed the switch-over phase faster than planned, in just 24-hours, reducing impact to the public and possible only as a result of the extensive planning and coordination by the partnered design, construction, and VDOT team.

The team recognized that construction impacts to the heavily congested corridor could be crippling to adjacent businesses. The team analyzed the traffic, preliminary design and construction sequence, and identified ways to minimize traffic impacts.

Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and relevance to this contract:

N/A

List any awards and/or commendations received for the project: Tower of Dulles Award (awarded to the Route 28 Corridor Improvements Team)

Name of Client (Owner/Agency, Contractor, etc.): **Virginia Department of Transportation**

Address: **Northern Virginia District, 4975 Alliance Drive, Fairfax, VA 22030**

Contact Name: **Susan Shaw, Project Manager**

Telephone: **(703) 259-1995**

Owner's Project or Contract No.: **N/A**

Fax No.: **(703) 815-3129**

Initial Design Fee Value (US \$): **\$7.5M**

Final Design Fee Value (US \$): **\$31.4M**

Percent of Total Project Design Work Performed by Company: **100% of Design**

Commencement Date: **November 2002** Original Design Completion Date As Defined by Owner: **May 2007**

Actual Design Completion Date: **August 2013**

Construction Contract Value (US \$): **\$168M**

Final Value (US \$) **\$395M***

*Authorization of original scope items (final 4 interchanges and associated side roads)

Any disputes taken to arbitration or litigation? Yes No

ENVIRONMENTAL PAST PERFORMANCE

Dewberry's examples of specific techniques, products and practices that have been incorporated into past projects resulting in the reduction of impacts to environmental features are the design modifications/optimizations to the ICC Contract C RFP plans. **Dewberry developed majority of the design changes/optimizations during development of Alternate Technical Concept proposals (ATC's) submitted during the RFP process and refined/finalized them with the issuance of the IFC plans.** Throughout the design process, Dewberry worked with the Team's Environmental Management Team to assess design consideration to avoid and minimize impacts to natural, cultural, and social features within the project's limits.

MD 200 (ICC)/US 29 Interchange: Relocation of the movement from southbound US 29 to eastbound ICC SE ramp from a long curved direct ramp to a loop ramp in the southwest quadrant of the interchange. As a result of this shift, Dewberry eliminated the need to impact the pond constructed for the US 29/Briggs Chaney Road Interchange. The alignment shift produced an LOD reduction of 2.75 AC that includes an impact reduction of 1.73 AC to the conservation easement. The total forest impact reduction within this area was 1.84 AC. The alignment shift also provided for a reduction of 155 LF upon Waters of the US (WUS) 3QD and a direct impact reduction of 0.15 AC upon wetland 3QD and a 0.11 AC buffer impact reduction. Additional impacts upon WUS 3QD were minimized by designing headwall 3-1 to avoid side slope impacts of Ramp SW. The roadway design included an "F" shape barrier along Ramp SW to avoid additional impacts to adjacent properties. The shift also allowed for a reduction in proposed improvements to the retaining/noise wall developed for the Avonshire development. The resultant shift moved traffic further away from the Avonshire and the Tanglewood Communities reducing visual and noise impacts.

MD 200 (ICC) West of Briggs Chaney Road: Dewberry reduced impacts to the area north of the ICC mainline and west of Briggs Chaney Road that was originally proposed as a SWM facility. Direct impacts on WUS 3RB were reduced by 212.0 LF by designing and building headwall W7-3, elimination of a SWM facility and, setting the LOD to the E&S limits. This design modification resulted in a total LOD reduction of 1.52 AC that includes a forest impact reduction of 1.26 AC.

Cross Creek: The ICC Team, through extensive coordination with IC3, Dewberry, and the Cross Creek Golf Club and Community, **directed Dewberry** to eliminate the variable width landscaping area along Ramp B and ICC Mainline as well as switch the hiker biker trail location to noise barrier NB4. This modification allowed for the LOD to be adjusted from the common ROD/RFP reducing impact to the adjacent golf course by 1.05 AC. The LOD modification between East Bound ICC provided for a 0.16 AC reduction upon Forested Interior Dwelling Species (FIDS) buffer/forest habitat. Along Ramp A the LOD was modified which reduced forest impacts by 0.54 AC. The 0.54 AC reductions included .020 FIDS and 0.34 AC FIDS buffer.

ICC/I-95 Interchange: The proposed roadway IFC design for the interchange was modified significantly as compared to the interchange configuration shown in the RFP plans. The majority of the change came as a result of final design of the ATC's submitted during the RFP process.

In the southeast quadrant of the interchange, approval of ATC #4 allowed for the phased construction of the northbound I-95 braided ramp configuration. Included in the construction of the interchange, only the northbound exit ramp (and ultimate collector-distributor CD road) was constructed. Additionally, the RFP configuration of the ultimate braided ramps resulted in significant impacts to the Franklin Farm community. The modifications allowed for the braided ramps to be shifted to the north, eliminating impacts to the Franklin Farm community, and significantly reducing ROW and environmental impacts to the Indian Creek area and Konterra property. The shift of the braided ramps to the north, combined with construction of a retaining wall above the existing Indian Creek culvert beneath I-95, also eliminated all stream and wetland impacts in Indian Creek on the east side of I-95. Additionally, a stormwater management pond was eliminated adjacent to Ramp I-D, resulting in significant reduction to ROW impacts, and upon final drainage design, two (2) additional stormwater management ponds were eliminated immediately north and south of Indian Creek, further reducing impacts along Indian Creek.

The shift in the ICC alignment to the north significantly reduced impacts to environmental features and ROW in the southwest quadrant. Impacts associated with the alignment of Ramp I-G in the RFP plans were reduced through the removal of this ramp and replacement with a loop ramp in the southeast quadrant. The profile of ICC was lowered, eliminating the need to relocate overhead transmission lines, which also eliminated the need to access the existing transmission towers well to the south of the Project. Impacts to the existing wash pond dam were eliminated, and impacts to Indian Creek along southbound I-95 were minimized. Additionally, the stormwater management pond shown in the RFP plans along southbound I-95 immediately south of Indian Creek was eliminated, resulting in an 8.0 AC reduction of forest habitat adjacent to Old Gunpowder Community Park as well as reduced right-of-way acquisition. Direct impacts to wetland 8C were reduced 1.42 AC from a permitted impact of 1.56 AC to 0.14 AC.

Old Gunpowder/Briggs Chaney Road at I-95: At the Old Gunpowder intersection with Briggs Chaney, Dewberry developed a concept that shifted the roadway improvements to the south, and moved a proposed shared use path/bike trail to along the Westside of Briggs Chaney Road, eliminating impacts to park property along the north side of Old Gunpowder Road while still avoiding impacts to a historic property and house in the intersection's southwest quadrant.

Overall, Dewberry's design **reduced** wetland impacts by 19.12 AC, wetland buffers by 5.10 AC, stream impacts by 3,760 LF, open water impacts by 2.66 AC, forest impacts by 30.98 AC, floodplain impacts by 9.14 AC, and ecologically sensitive area impacts by 0.27 AC.

FORM A-1 – Lead Constructor Firm Experience

PROPOSED KEY STAFF INFORMATION

Name of Proposer: Shirley Contracting Company, LLC

Position	Name	Years of Experience¹	Education/ Registrations	Name of Employer
Design-Build Project Manager	Gregory Johannes	7 / 34	AAS	Shirley Contracting Company, LLC
Construction Manager	Randall Plyler	14 / 32	Green and Yellow Erosion and Sediment Control Certified	Shirley Contracting Company, LLC
Utilities Coordinator	Todd Kief	13 / 29	BS	Shirley Contracting Company, LLC

¹ Present Firm/Total

Gregory Johannes

Design-Build Project Manager

EDUCATION

AAS | Civil Engineering | 1997

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

None

SUMMARY OF EXPERIENCE

Mr. Johannes has over 34 years experience in the construction industry including the past 5 years as a Design-Build Project Manager on Shirley's Maryland Intercounty Connector Contracts C, D & E Projects valued at approximately \$600M. Mr. Johannes has extensive experience managing large scale highway Projects, which include the following elements; design, construction, safety, quality assurance and quality control, scheduling, environmental sensitivity, third party utility coordination, partnering, DBE participation and public outreach efforts. He also has experience managing Projects that have included new interstate roadways, ramps, bridge structures and ITS/ETC system expansion. His past experience uniquely qualifies him to be the Design-Build Project Manager for the Project.

RELEVANT EXPERIENCE

ICC Contract D/E Design-Build, SHA, Prince George's, MD. Design-Build Project Manager for the \$102M Project. Responsible for the contract administration and management of the overall design-build process including design, permitting, utility relocation, Quality Assurance and Quality Control environmental compliance, community and stakeholder relations, and construction. Main point of contact for communication and coordination with the Owner, permitting agencies, residents and businesses impacted by the Project as well as all other Project stakeholders. Project scope included 0.5 miles of new tolled highway, 1 partial interchange, 2.4 miles of collector-distributor roads and a new signalized intersection.

ICC Contract C Design-Build, SHA, Montgomery & Prince George's, MD. Design-Build Project Manager/Construction Manager responsible for constructability reviews, coordination of utility design and relocation work and oversight of construction. Verified Quality Control for environmental permitting and ensured plans were within permit/regulatory requirements for this \$528M design-build Project. He provided monthly Project status reports to the Administration, updated the Project's CPM schedule, conducts regular progress and jobsite safety meetings, prepared/obtained and reviews required materials. He coordinated with the Project's Quality Control Staff to ensure that all construction materials and activities were inspected as required. Project scope included 3.4 miles of 6-lane freeway facility, 22 bridges, 16 retaining walls, 14 SWM ponds and 5 noise barrier walls.

I-540 Construction Design-Build, Wake County, NC. Project Manager on this \$102M I-540 design-build Project. Responsible for constructing the Project in accordance with the approved plans and within permit and regulatory requirements. Developed and updated Project CPM schedule, coordinated subcontractor safe start meetings, conducted regular progress and jobsite safety meetings, and prepared/obtained and reviewed required materials documentation. Ensured compliance with the Projects QC requirements, managed the overall Project erosion and sediment control measures, traffic safety functions and other work disciplines throughout the course of the Project. Scheduled all of Lane's crews and subcontractors, material deliveries, rental equipment and trucks. The Project scope included 5 miles of 6-lane divided roadway on a new alignment including multiple interchanges.

Largo Station Blue Line Design-Build, Largo, MD. Project Manager on this \$217M design-build contract. Responsible for constructability reviews during the design process. Provided Quality Control oversight of construction in accordance with approved contract plans and within permit and regulatory requirements. Developed and updated the Project CPM schedule, coordinated subcontractor safe start meetings, conducted regular jobsite safety meetings, and prepared/obtained and reviewed required material documentation. Project scope included a 3-mile extension of the Blue Line including the Largo Station, a cut and cover tunnel and aerial bridge structures. Responsible for daily coordination of scheduling of work including Lane's crews and subcontractors, material deliveries, rental equipment, trucks, quality assurance and quality control staff and directed QC staff activities as needed.

Dulles Greenway Widening Design-Build, Loudoun County, VA. Project Manager on this \$10.8M design-build Project. Responsible for ensuring the Project was constructed in accordance with the approved plans and specifications. Provided Quality Control oversight of construction in accordance with the approved contract plans and within permit and regulatory requirements. Developed and updated the CPM schedule, coordinated subcontractor safe start meetings, and conducted regular jobsite safety meetings. Project scope included widening the Toll Road on lane in each direction for 5 miles, and 3 bridge widenings. Responsible for daily coordination and scheduling of work.

Randall Plyler

Construction Manager

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING SUMMARY OF EXPERIENCE

Green and Yellow Erosion and Sediment Control Certified

SUMMARY OF EXPERIENCE

Mr. Plyler has 32 years of construction experience with the last 5 years as the General Superintendent for the ICC Contracts C and D/E Design-Build Projects. He is responsible for managing the daily construction activities of the Shirley Team's self-perform construction forces and that of the Project's subcontractors. He ensures that the Project is constructed in accordance with the approved plans and all applicable specifications. He ensures that the Project schedule is being adhered to and is also responsible for ensuring that the Project's erosion and sedimentation control devices are properly installed and maintained. On the ICC Contract C Project, Randy was integral to the Team earning over \$4.7M in incentives for environmental compliance.

RELEVANT EXPERIENCE

ICC Contract D/E Design-Build, SHA, Prince George's County, MD. Design-Build General Superintendent for the \$102M design-build Project. Responsible for day-to-day coordination and scheduling of all work activities on site, management of self perform forces and subcontractors, and coordinating material deliveries. He is responsible for ensuring the Project is constructed in accordance with approved plans and that construction is being completed in accordance with the Project schedule. Manages overall Project E&S measures, maintenance of traffic operations and provides a strong emphasis on the safety of the employees and the public. He holds the Green and Yellow Erosion and Sediment Control certifications and is also the Project ESC Manager for environmental compliance.

ICC Contract C Design-Build, SHA, Montgomery & Prince George's Counties, MD. Design-Build General Superintendent for the Project Team and was responsible for day-to-day coordination and scheduling of all work onsite, self perform forces and subcontractors, and coordination of material deliveries. Responsible for ensuring the Project was constructed in accordance with approved plans. Managed the overall Project E&S measures, traffic control and overall safety of the employees and the public. The Project included incentives from the Owner for properly maintaining erosion and sediment control devices on the Project and the Shirley Team has earned over \$4.7 million in incentives.

I-66 Widening Improvements, Prince William County, VA. General Superintendent responsible for constructing the \$81M Project in accordance with approved plans. Managed all day to day roadway construction activities, maintenance of traffic crews, Shirley's self-perform crews and multiple subcontractors. Implemented the Project Safety Plan ensuring all workers received proper safety training. The Project included widening 2 miles of divided multi-lane interstate from 4 to 6-lanes, realignment of 8 ramps and construction of 5 bridges.

Telegraph Road Advance Utility Project Fairfax County, VA. General Superintendent for this \$25M Advanced Utility Relocation Project in advance of the Woodrow Wilson Bridge Project. Responsible for supervising daily construction activities including maintenance of traffic, installation of electrical and telephone duct banks, communication and CATV lines, gas line, water line and sanitary sewer line relocations, open trenching, storm drain pump station, cast in place box culverts, retaining walls, building demolition. He also managed multiple subcontractors performing micro tunneling and jack-and-bore work.

US Route 1 Interchange Ground Improvements, Fairfax County, VA. Project Superintendent for this \$33M Project to surcharge the site of the future I-95/Route 1 Interchange. Responsible for managing subcontractors installing wick drains and soil cement column ground improvements, managing multiple roadway construction crews performing utility relocations, jacking 60-inch pipe, extending concrete box culverts, construction of roadway embankment and surcharge, MSE walls, pipe protection and underground communication lines.

Springfield Interchange - Phase IV, Springfield, VA: Project Superintendent of the \$140M Phase IV Project. Responsible for managing roadway construction, maintenance of traffic crews and multiple subcontractors performing 500,000 cy of earthwork, 20,000 LF of storm pipe, extensive roadway construction, 4 bridges, retaining and sound barrier walls. Project was completed four months early, earning the Contractor an early completion incentive payment.

Todd Kief

Utilities Coordinator

EDUCATION

BS | Civil Engineering | 1984

CERTIFICATIONS, ACCREDITATIONS AND SPECIALIZED TRAINING

None

SUMMARY OF EXPERIENCE

Todd has 29 years experience in the construction industry. His experience includes utility design, construction and coordination with utilities in heavy civil Projects, including utility designation, coordination with utilities agencies, right-of-way requirements, and preparation of as built drawings. His current responsibilities on the design-build Route 28 Corridor Improvements Project include working with the Design and Construction Team and all the utility companies (public and private) for the coordination of the relocation of their facilities in conflict with construction. Whenever possible, Todd works with Dewberry to develop design solutions to mitigate impacts to existing utilities. Todd has been an integral part of saving millions of dollars in relocation costs and months of schedule impact on the Route 28 Corridor Improvements Project.

RELEVANT EXPERIENCE

ICC Contract D/E Design-Build, SHA, Prince George's, MD. Utility Oversight Manager responsible for coordinating with the design Team Project wide and with all impacted utility owners on the \$102M Project. Responsible for coordination of design reviews, constructability reviews, and developing utility avoidance plans for over \$8.9M in utilities impacted by the Project. Worked closely with multiple utility owners including PEPCO, Verizon, and WSSC to ensure their utilities were relocated in a timely manner and not delay the Project schedule.

ICC Contract C Design-Build, SHA, Montgomery & Prince George's Counties, MD. Project Utility Manager responsible for coordinating with the design-build Team on this \$528M Design-Build Project. Worked with the roadway design engineers and all major utilities impacted by the Project to develop a plan to mitigate utility relocations. Oversaw the design, coordination and relocation of utilities owned by Baltimore Gas & Electric (BG&E), Washington Gas, PEPCO, Verizon, AT&T Long Distance, WSSC Water and Sewer, Fiberlight, MCI (Verizon Business) and Comcast.

Route 50 Widening Design-Build Project, Fairfax & Loudoun Counties, VA. Project Utility Manager responsible for coordinating with the Shirley/Dewberry Design-Build Team for this \$69M Project. Coordinated with public and private utility companies and the Design Team through design phase to complete constructability reviews and utility conflict analysis. Analyzed utility designations and test pits to determine conflicts, developed utility avoidance strategies, and assisted the planning of utility relocation designs for unavoidable conflicts. Managed the relocation of over 2.5 miles of overhead utilities. Relocated extensive underground communication lines. Responsible for managing the relocation of water and gas lines on the Project including 6,000 LF of 30" Loudoun Water waterline, 980 LF of 30" Fairfax Water waterline, and over 2,500 LF of 12" and 6" Washington Gas lines.

Route 28 Corridor Improvements Design-Build Project, Loudoun & Fairfax Counties, VA. Utility Manager responsible for working with the design-build Team and public and private utility companies to coordinate the relocation of their facilities in conflict with construction of this \$395M Project. Developed solutions to mitigate construction impacts to existing utilities. Several solutions saved millions in relocation costs and many months of schedule impacts. Coordinated over \$20M in utility relocations by over 20 different utility owners. Responsibilities include holding Utility Field Investigation (UFI) meetings, researching utility easements, preparing UT-9s and determining prorated cost share, coordinating utility relocation designs with the design-build plans, preparing utility easement instruments, approving utility estimates, managing the utility relocation construction in the field, and coordinating with roadway and bridge Construction Managers to ensure integration of the utility relocation schedule with other field operations.

Pacific Boulevard Design-Build Project, Loudoun County, VA. Utility Relocation Manager responsible for coordinating with the Northern Virginia Regional Park Authority (NVRPA) and Dominion Power to relocate utilities along the W&OD Trail within an easement on NVRPA property. Worked with adjacent property owners to coordinate the location of utilities necessary for future development. Performed constructability reviews of the during the design phase to identify potential utility conflicts and to coordinate the design-build construction documents with the utility owners relocation plans. Managed the construction of the utility relocations and collected field data for utility as-built drawings. Managed the relocation of 300 LF of Virginia Power 34.5 overhead power line to underground, 300 LF of 24" DIP waterline for the City of Fairfax, and as a betterment to Loudoun Water, 6,000 LF of 24" DIP waterline.

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

FORM A-2 LEAD CONSTRUCTION FIRM

PROJECT DESCRIPTION

Name of Proposer: Shirley Contracting Company, LLC

Name of Construction Firm: Shirley Contracting Company, LLC	
Project Role: Design-Builder/Lead Contractor	
Contractor: Shirley Contracting Company, LLC Other (Describe): _	
Years of Experience: Roads/Streets: 40 Bridges/Structures: 40 Environmental: 40	
Project Name and Location: Intercounty Connector Contracts D/E Design-Build, Prince George’s County, Maryland	
Project Key Staff (as applicable to Project)	
Design-Build Project Manager/Firm: Gregory Johannes / Shirley Contracting Company, LLC	
Construction Manager/Firm: John Majane / Shirley Contracting Company, LLC	
Utilities Coordinator/Firm: Todd Kief / Shirley Contracting Company, LLC	
Description and Specific Nature of Work for which your Firm was responsible and relevance to this contract:	
<p>ICC Constructors, A Joint Venture, with Shirley Contracting Company as the Lead Contractor, and Dewberry Consultants LLC as the Lead Designer, was awarded the \$102M ICC Contract D/E. The Project includes construction of approximately 4.0 miles of new CD roads along I-95. one mile of a new 6-lane tolled roadway, 3,500 LF of roadway reconstruction and widening including construction of a new half diamond interchange with Virginia Manor Road, 3,00 LF of roadway reconstruction and widening including a new Continuous Flow Interchange (CFI) with US Route 1. The project included 4 phases of MOT along both I-95 (244,000 ADT) and US 1 (40,000 ADT). The Project also includes 1.8 miles of new bicycle facilities, one new bridge, 4 retaining walls (21,000 SF), 1, noise barrier (16,000 SF), 3 stormwater management ponds and several different types of ESD/LID practices including 13 bio retention facilities, 1 submerged gravel wetland, over 5,000 LF of bio-swales, approximately 600 LF of grass swales, 636,000 CY of excavation, 16,500 LF of storm drain pipe, 197,678 TONS of asphalt paving, and 4,200 LF of waterline (30” and 42”) and 31,000 LF of fiber optic relocations.</p> <p>Shirley was responsible for pre and post construction surveys. They also coordinated right-of access with CSX to construct the overhead sign structures in SHA right-of-way. Shirley coordinated with WSSC to gain approval on a new alternative to the required split sleeve casing extension for the 60” PCCP waterline under I-95. Shirley and Dewberry design and constructed a concrete cradle and steel plate arch system.</p> <p>Shirley led weekly project progress meetings and monthly Partnering meetings with the ICC. Shirley prepared displays for and participated in the public meetings including presentations and Q&A with the West Laurel Civil Association. Shirley was also responsible for developing the project outreach database, quarterly newsletters, and coordinating with ICC for outreach updates including delivering work progress/notification door hangers as part of the program.</p> <p>Shirley met and slightly exceeded the 30% minority participation requirement for the contract. They also conducted weekly safety training for all project before they were</p>	<p>RELEVANCE TO MD 210 D/B PROJECT</p> <ul style="list-style-type: none">✓ Design-Build✓ Extensive MOT on extremely high volume roadways (I-95)✓ Roadway Widening✓ New Interchange✓ Bridge and Retaining Walls✓ Noise Walls✓ Coordination with Adjacent Projects✓ Public Outreach✓ Environmental Permitting✓ Environmental Mitigation / Avoidance/Minimization to Wetland Impacts and WUS✓ On-site Reforestation✓ Partnering✓ Multiple Agency Plan Review / Coordination✓ Team Experience – Same Design and Construction Key Staff

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

allowed access to the site. They trained over 772 personnel including designers, contractors, subcontractors, ICC representatives, and inspectors. These trainings were also conducted in Spanish as needed.

Shirley was responsible for design, construction, and schedule/phasing/opening issue coordination including the detailed ESC stabilization and switch over of SWM controls (MDE and Prince George's County DPIE) with the two adjacent projects including the Contee Road design-build project and the Virginia Manor Road extension project. To minimize community impacts, a major effort was made to ensure work schedules, noise, dust, haul routes, maintenance of vehicular and pedestrian traffic, staging areas, retaining walls and employee parking is developed to minimize impacts and not disrupt the quality of life of the local communities. Shirley worked with ICC to incorporate numerous owner requested change orders. Included in this was the sink hole repair under live traffic on I-95.

Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on Project and relevance to this contract:

Gregory Johannes - DBPM responsible for contract administration and management of the overall design-build process including design, permitting, utility relocations, QA/QC, environmental compliance and community relations.

Randall Plyler - General Superintendent responsible for all daily coordination and scheduling of all onsite work including self perform forces and subcontractors. Responsible for constructing the Project according to approved plans. Managed overall Project Erosion and sediment control measures and ensured the Team earned all available incentives.

Todd Kief – Utilities: Supported the utility coordination and relocation project-wide. Provided constructability reviews or relocation plans during design.

Kenneth Davis, PE, DBIA - Design Manager. Responsible for all design activities, design related public involvement and construction support services.

Rahul Kesarkar, PE, LEED AP – Lead H/H Design Engineer: Responsible for all H/H design, SWM and ESC permitting and construction support services (RFIs).

Michael Johnson, PE – Lead Geotechnical Engineer: Responsible for all geotechnical, pavement design and construction support services (RFIs).

Tobi Kester, RLA, CA, AICP – Lead Landscape Architect: Responsible for all L/A design, reforestation and construction support services (RFIs).

Michael Rectanus, PE – Lead Highway Engineer: Responsible for all Highway, bicycle, and pedestrian facility design and construction support services (RFIs).

Steven Shapiro, PE, PTOE – Traffic Engineer: Responsibilities included oversight of the design of for 26 overhead sign structures, signal design, maintenance of traffic design for seven stages of construction, Transportation Management Plan (TMP) development, and ITS and ETC elements along I-95, MD 200, and Virginia Manor Road.

Frank Kaul, PE, DBIA – Lead Structural Engineer: Responsible for all structures design including bridge, retaining walls, culvert extensions and construction support services (RFIs).

List any awards and/or commendations received for the Project: **N/A**

Name of Client (Owner/Agency, Contractor, etc.): **SHA**

Address: **707 North Calvert Street, Baltimore, MD 21202**

Contact Name: **Mark Coblentz** Telephone: **(301) 586-9267**

Owner's Project or Contract No.: **AT3765D60** Fax No.: **(410) 787-0986**

Contract Value (US \$): **\$89 M** Final Value (US \$): **\$102 M***

*Difference Due to Owner added scope

Percent of Total Work Performed by Company: **35%**

Commencement Date: **December 2011** Original Completion Date As Defined in IFB: **June 2014**

Actual Completion Date: **November 2014** *Difference Due to Owner added scope

Any disputes taken to arbitration or litigation? Yes No

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

FORM A-2 LEAD CONSTRUCTION FIRM

PROJECT DESCRIPTION

Name of Proposer: Shirley Contracting Company, LLC

Name of Construction Firm: Shirley Contracting Company, LLC
Project Role: <u>Design-Builder/Lead Contractor</u>
Contractor: <u>Shirley Contracting Company, LLC</u> Other (Describe): <u> </u>
Years of Experience: Roads/Streets: <u> 40 </u> Bridges/Structures: <u> 40 </u> Environmental: <u> 40 </u>
Project Name and Location: Intercounty Connector -Contract C, Montgomery & Prince George’s Counties, Maryland
Project Key Staff (as applicable to Project)
Design-Build Project Manager/Firm: Gregory Johannes / Shirley Contracting Company, LLC
Construction Manager/Firm: John Majane / Shirley Contracting Company, LLC
Utilities Coordinator/Firm: Todd Kief / Shirley Contracting Company, LLC
Description and Specific Nature of Work for which your Firm was responsible and relevance to this contract: <p>In December 2008, ICC Constructors, A Joint Venture, with Shirley Contracting Company (Shirley) as the Lead Contractor, and Dewberry Consultants LLC (Dewberry) as the Lead Designer, was awarded the \$513 M Contract C of the Intercounty Connector. The new 18 mile long toll road is located in Montgomery and Prince Georges Counties, Maryland. Contract C included nearly four miles of new toll road, over 24 lane miles of new alignment for the 6-lane toll facility plus more than five miles of improvements to existing State and County roads and I-95. Contract C also included three new interchanges along the new alignment at Route US 29, at Briggs Chaney Road, and at I-95 on the eastern end of the Project. Two of these interchanges, I-95 & US 29 required three levels of traffic movements requiring critical scheduling and sequencing to construct them without impacting the large volume of traffic traveling though the Project limits. The new interchange at Briggs Chaney Road is a half diamond configuration. A total of 20 bridge structures were constructed on the Project of which three were directional fly-overs of one and 2-lane configurations. The lengths of these fly-over bridges varied from 1,300 feet to over 1,500 feet and were the third level traffic movements in the new interchanges.</p> <p>Shirley in the role as the sponsor of the Joint Venture, lead the design-build efforts, managed the design and engineering, planed and coordinated the utility relocations, oversaw the permit process, managed the quality control efforts, and was the Lead Contractor performing the majority of the road and bridge construction. Shirley was the primary point of contact with the Owner, created and monitored the Project schedule, supported public outreach efforts, and had primary responsibility for environmental compliance. The Project was completed on a fast-track basis that required all work to be completed in less than 4 years. This fixed completion date was critical to the Administration to open the entire toll road for revenue service and to meet commitments to the public. One of the major priorities of the Project was to minimize impacts to local businesses, residents and the surrounding communities. The Shirley Team developed a comprehensive approach to meet this objective by sequencing the work to occur out of traffic and during off-peak hours, adjusting profiles to balance earthwork activities and constructing temporary bridges crossing waterways to avoid "on road" trucking, and establishing a Site Access Management Plan to designate specific access points, haul roads, staging areas, material and equipment storage areas and restricted areas.</p> <p>A unique element of the Contract 'C' Project was the incentive program for</p>
RELEVANCE TO MD 210 D/B PROJECT <ul style="list-style-type: none">✓ Design-Build✓ Multiple Grade-Separated Interchanges (3)✓ Bridge Construction (20)✓ Roadway Widening✓ Extensive MOT Operations✓ Environmental Permitting with Incentives✓ Utility Relocations✓ Quality Control✓ Public Outreach✓ Third Party Stakeholder Coordination✓ Team Experience Working Together✓ Fast-Track Schedule

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

environmental compliance. On a weekly basis, representatives from the Owner and Contractor inspected and scored the entire Project for environmental compliance. These scores were compiled into a quarterly score and, if an 85 or higher was achieved, an incentive was awarded. The Shirley Team earned over \$4.7M through this incentive program.	
Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on Project and relevance to this contract:	
<p>Gregory Johannes - Design-Build Project Manager. Responsible for constructability reviews during the design process, coordination of utility design and relocation work and oversight of construction in accordance with the approved contract plans.</p> <p>Randy Plyler - General Superintendent. Responsible for all day-to-day coordination and scheduling of all onsite work including self perform forces and subcontractors. Responsible for constructing the Project in accordance with the approved plans. Managed the overall Project Erosion and sediment control measures and ensured the Team earned all available incentives.</p> <p>Todd Kief - Project Utility Manager. Responsible for coordinating with the design-build Team for utility relocation in conflict with construction. Managed design and construction numerous, privately owned utilities.</p> <p>Kenneth Davis, PE, DBIA – Highway Engineer: Responsible for all Highway, bicycle, and pedestrian facility design and construction support services (RFIs).</p> <p>Rahul Kesarkar, PE, LEED AP – H/H Design Engineer: Responsible for all H/H design and SWM and ESC permitting for Area M (east of US 29 to west of I-95) and construction support services (RFIs).</p> <p>Michael Johnson, PE – Lead Geotechnical Engineer: Responsible for all geotechnical and pavement design and construction support services (RFIs).</p> <p>Tobi Kester, RLA, CA, AICP – Lead Landscape Architect: Responsible for all L/A design and reforestation and construction support services (RFIs).</p> <p>Michael Rectanus, PE – Highway Engineer: Responsible for all Highway, bicycle, and pedestrian facility design for Area M (east of US 29 to west of I-95) and construction support services (RFIs).</p> <p>Steven Shapiro, PE, PTOE – Traffic Engineer: Responsibilities included oversight of the design of all overhead sign structures, signal design, maintenance of traffic design, Transportation Management Plan (TMP) development, and ITS and ETC elements for Area E (I-95/MD 200 interchange) and Area M (MD 200 east of US 29 to west of I-95).</p> <p>Frank Kaul, PE, DBIA – Lead Structural Engineer: Responsible for all structures design including bridge, retaining walls, culvert extensions and construction support services (RFIs).</p>	
List any awards and/or commendations received for the Project: 13 awards including: Quarterly Environmental Compliance Incentive Awards- 9 from December 2008 through March 2011 2011 Top Roads, Roads & Bridges Magazine 2012 "Globe Award" American Road & Transportation Builders Association 2012 Best Transportation Project, Award of Merit ENR Mid-Atlantic 2012 Excellence in Construction Awards - Heavy/Industrial/Transportation Construction, Associated Builders and Contractors of Metro Washington 2012 National Design-Build Award in Transportation National Design-Build Awards Competition 2014 Honor Award Project of the Year Engineering Society of Baltimore	
Name of Client (Owner/Agency, Contractor, etc.): Maryland Department of Transportation - State Highway Administration	
Address: 707 North Calvert Street, Baltimore, MD 21202	
Contact Name: Mark Coblentz	Telephone: (301) 586-9267
Owner's Project or Contract No.: AT3765C60	Fax No.: (410) 787-0986
Contract Value (US \$): \$513M	Final Value (US \$): \$528M* *Difference Due to Owner added scope
Percent of Total Work Performed by Company: 35%	
Commencement Date: September 2007 Original Completion Date As Defined in IFB: November 2011	
Actual Completion Date: November 2011	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

FORM A-2 LEAD CONSTRUCTION FIRM

PROJECT DESCRIPTION

Name of Proposer: Shirley Contracting Company, LLC

Name of Construction Firm: Shirley Contracting Company, LLC	
Project Role: Design-Builder/Lead Contractor	
Contractor: Shirley Contracting Company, LLC Other (Describe): _	
Years of Experience: Roads/Streets: 40 Bridges/Structures: 40 Environmental: 40	
Project Name and Location: Route 28 Corridor Improvements Project, Fairfax and Loudon Counties, VA	
Project Key Staff (as applicable to Project)	
Design-Build Project Manager/Firm: Jeffrey Austin, PE / Shirley Contracting Company, LLC	
Construction Manager/Firm: Mike Amos / Shirley Contracting Company, LLC	
Utilities Coordinator/Firm: Todd Kief / Shirley Contracting Company, LLC	
Description and Specific Nature of Work for which your Firm was responsible and relevance to this contract:	
<p>The design-build Team led by Shirley Contracting Company, LLC, serving as the Lead Contractor, and Dewberry Consultants, LLC serving as the Lead Designer, and Shirley's parent company The Clark Construction Group, was awarded in 2002 the first Public-Private Transportation Act (PPTA) Project to be implemented in the Northern Virginia area by VDOT. The initially funded scope included the design-build construction of 6 grade separated interchanges along Route 28 at Waxpool/Church Roads, Sterling Boulevard, Route 606, McLearen Road, Air & Space Parkway, and Westfields Bouelvard that replaced existing signalized intersections. All work was completed on or ahead of schedule. Due in large part to the success of these initial interchanges, the Route 28 Tax District, VDOT, Fairfax County, and Loudoun County authorized funding for the completion of the remaining 4 grade separated interchanges at Nokes Boulevard, CIT, Frying Pan Road, and Willard Road. Also authorized were improvements to numerous secondary roads including Davis Road, multiple sections of Pacific Boulevard, Atlantic Boulevard, Shaw Road, Loudoun County Parkway, and Centreville Road. All additional work was completed on or ahead of schedule. The Shirley/Dewberry Team is currently completing additional improvements to widen portions of Route 28 to 8-lanes, complete the road network at Belfort Park, and extend Pacific Boulevard north of Nokes Boulevard.</p> <p>In addition to overall management of the design/build PPTA Contract, Shirley is leading all disciplines under a design/build method of delivery including design and engineering, construction, utility relocations, right-of-way acquisitions of over 300 properties, permitting and environmental compliance, public relations, and quality assurance and control program. All work has been completed on a lump-sum basis and with a fixed completion date. To date, all work has been completed on or ahead of schedule and without any claims. Shirley is responsible for leading several elements that have been critical to the Project's overall success including:</p> <ul style="list-style-type: none">▪ Maintenance of Traffic: The Contract required that all existing traffic be maintained without any loss in capacity. With daily traffic volumes on Route 28 exceeding 100,000 vehicles, Shirley successfully developed MOT plans and sequences of	<p>RELEVANCE TO MD 210 D/B PROJECT</p> <ul style="list-style-type: none">✓ Design-Build✓ Multiple grade separated interchanges✓ Bridge Construction (20)✓ Roadway Widening✓ Complex MOT Operations including maintaining access during construction✓ Stakeholder and Public Outreach Program✓ Numerous MSE Retaining Walls✓ Phased construction✓ Utility relocations✓ Environmental Permitting✓ Team Experience Working Together✓ Fast-Track Schedule

Contract Number: PG7005170

Project Description: MD 210 – Livingston Road/Kerby Hill Interchange

<p>work to meet this requirement.</p> <ul style="list-style-type: none">▪ Public Outreach: Shirley led these efforts, in coordination with VDOT, by creating and maintaining a Project website; presenting to numerous groups including businesses, HOA's, trade groups, and associations; publishing articles with local media to alert the public; preparing and distributing flyers; planning and holding Groundbreaking and Ribbon-cutting ceremonies; and installing extensive signage.▪ Third-Party Coordination: Shirley plays a key role by keeping various third-parties informed including the Route 28 Tax District Commission (funds 25% of Project cost), the Route 28 Landowner's Advisory Board, Loudoun County, Fairfax County, Metropolitan Washington Airports Authority (MWAA), Northern Virginia Regional Park Authority (NVRPA), Fairfax County Park Authority (FCPA), and the Northern Virginia Transportation Authority (NVTA).▪ Utility Relocations: Responsibility for determining conflicts, coordinating with design, obtaining relocation plans and estimates, holding UFI's, determining prior rights, obtaining easements, and constructing the relocations.▪ Right-of-Way Acquisitions: Managed by in-house resources, Shirley has successfully acquired over 300 properties in a timeframe to meet the Contract completion dates. <p>Environmental Permitting: Obtained all permits necessary to complete the work, including risk of purchasing of mitigation credits as part of our fixed price for a majority of the segments.</p>
<p>Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on Project and relevance to this contract:</p>
<p>Todd Kief - Utility Manager responsible for working with the design-build Team and public and private utility companies for the coordination and relocation of facilities in conflict with construction. Relocations to date have included 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.</p>
<p>List any awards and/or commendations received for the Project: Tower of Dulles Award (awarded to the Route 28 Corridor Improvements Team)</p>
<p>Name of Client (Owner/Agency, Contractor, etc.): Virginia Department of Transportation (Northern Virginia District Office)</p>
<p>Address: 1401 East Broad Street, Richmond, VA 23219</p>
<p>Contact Name: Susan Shaw Telephone: (703) 259-1995</p>
<p>Owner's Project or Contract No.: Fax No.: (703) 815-3129</p>
<p>Contract Value (US \$): \$168 M Final Value (US \$): \$394 M * *Difference Due to Owner added scope</p>
<p>Percent of Total Work Performed by Company: 54%</p>
<p>Commencement Date: September 2004 Original Completion Date As Defined in IFB: Ongoing</p>
<p>Actual Completion Date: N/A</p>
<p>Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>

ENVIRONMENTAL PAST PERFORMANCE

The Shirley Team recognizes the importance of Environmental Stewardship, and will incorporate measures into the design and construction processes to ensure that natural resources are protected to the greatest extent possible. Several internal processes that have proven successful in the past involve training and communication. It is important that every person on a Project understands the importance of protecting natural resources. During initial training the location and type of natural resources within the Project area is discussed. Special attention is given to resources that are of a high concern for the Administration and permitting agencies. Attendance is taken for the training and each person receives a hard hat sticker; individuals not displaying the sticker are asked to attend the training before returning to work. While the initial training is important, this knowledge must be continuously communicated throughout construction. Daily and weekly 'tool-box' meetings are held to review the activity at hand and to remind everyone of the presence of any sensitive areas, and any restrictions that are required. Attendance and minutes are taken at these meetings to document important issues and action items to be completed.

PROJECT SPECIFIC INNOVATIVE TECHNIQUES, PRODUCTS

The Shirley Team will take steps to reduce the overall waste materials of all kinds from the Project with the ultimate goal of creating a "zero waste" Project. All members of the Team have practices in place, both in the design (office) and construction (office, trailer, and field) sides to minimize impacts on the environment. Together our Team has already incorporated the following practices into our daily business:

Techniques, Products & Practices	<ul style="list-style-type: none"> • Offices have recycling programs for paper, cardboard, glass, metal, and plastic. • The backsides of plan sheets are reused for rough sketches • Printer ink cartridges are recycled.
Energy Efficiency Practices	<ul style="list-style-type: none"> • Procure Energy Star rated equipment and appliances. • All computers Energy Star rated.
Environmentally Preferred	<ul style="list-style-type: none"> • Reuse on-site office furniture from Project to Project, and purchase used furniture when needed. • Purchase refurbished office furniture when any of our offices relocate or refurbish.

Air Quality / Emissions	<ul style="list-style-type: none"> • Video Conference Equipment used for meetings and training to reduce energy consumption related to travel. • A Minimum of 10% of the equipment should have Tier 3 engines. • Reduced idling of equipment.
Other Environmentally Friendly Practices	<ul style="list-style-type: none"> • Double-sided printing is the default setting on Network Printers to reduce paper use. • Agendas, handouts, and presentations are distributed via paperless technology
On Site Recycling Practices	<ul style="list-style-type: none"> • Reuse Oil. • Excavated and/or milled pavement taken to recycling centers. • Use of recycled stone for traps, and stabilized construction entrances. • Electronic Submittals where possible. • Paper and aluminum recycling in trailers and offices.

The Shirley Team is fully up to speed on implementing environmental stewardship programs that work to enhance the existing conditions and facilitate the correct implementation of environmental controls for new Projects. These innovative techniques, products and practices incorporated into past transportation Projects include:

- Use of low sulfur and ultra low sulfur fuels in construction equipment to lessen emissions from the equipment.
- Use of Cat II or higher engine emission standards - having a fleet of equipment that is recently new and has the newest factory-installed emission equipment brings low emission performance to our Projects and clients.
- Setting up regular maintenance schedules for all equipment assures the performance meets the design expectations of the new equipment. It also provides the highest levels of up-time performance eliminating disruptive down-time for the equipment and brings the assurance that our equipment is meeting the safety standards set by the manufacture and industry regulatory agencies
- Use of recycled products:
 - For field use, we have utilized recycled concrete material for things like temporary construction entrances, temporary erosion and sediment controls, and temporary road surfaces (not for public use). This material is a great use of the recycled concrete and poses no long-term impacts to the environment.
 - Offices on our Projects are required to have a recycling program in place and these programs are part of the employee training done on every Project.

- Low impact development/green infrastructure designs
- Designing trenchless technology
- Reusing treated contaminated soil on-site
- Chipping clean wood/land-clearing debris on-site for landscaping and erosion control
- Specifying measures to reduce noise and vibration during construction
- Use of solar powered monitoring equipment, overhead lighting, VMA, and Arrow Boards
- Stakeless construction grade controls

CIRCUMSTANCES AND ACTIONS TAKEN IN PAST PERFORMANCE OF WORK

As part of the Intercounty Connector Contract C, the Administration offered a number of incentives to the Shirley Team to minimize the environmental impacts of the Project. The first incentive was during the design phase for avoidance and minimization to environmental features, and the Shirley Team was able to reduce impacts to wetlands and perennial/intermittent channels, forest, parkland, and additional reforestation.

The second incentive was during construction of the erosion sediment control (ESC). Compliance was monitored and surveyed during construction by the Administration to ensure compliance with the approved ESC plan. The Administration performed surveys once per week and assigned a rating score from 60 to 100. The Shirley Team could earn incentive payments for exceptional ESC performance that was defined as when the average weekly scores for a quarter were equal to or greater than 85 for the entire calendar quarter. The Shirley Team would not be eligible for the incentive for an average score below 85 or if the Shirley Team received an "F" rating, which was a score below a 60 during the quarter. The maximum quarterly ESC incentive earned was \$250,000.00 and a final incentive fee of \$500,000.00 was earned when the average quarterly rating for the entire Project duration was 85 or greater. On Contract C, the Shirley Team received 12 quarterly incentives and the final incentive for exceptional ESC performance.

While the Shirley Team did earn 12 incentives, the Team did experience some learning curve issues with regard to the incentives early in the Project and received "F" ratings for two separate incidents. In the first situation, the Team learned to keep the limits of disturbance clearly delineated with orange construction fence, as it acts as a physical boundary marker clearly identifying the limits of our work. It also served to ensure that subcontractors and the

entire Project Team understand the importance of staying within the limits of disturbance. The limit of disturbance was staked in the field but the odd shape of the disturbed area combined with a buried stake contributed to exceeding the limit of disturbance. A second incident was related to phasing of approved plans and accessing the clearing limits. One of the Team's subcontractors cleared an additional area for access that was inside the Project's limits, but MDE had not given the required clearance to clear the additional area. The lesson learned by the Team was to include access as part of MDE clearing limits, communicate with our subcontractors, and walk the limits of disturbance with subcontractors so the limits are clearly understood.

The key to understanding the impacts to the environmental features was recognizing, teaching, and training Project staff and subcontractors how to be complaint and reduce impacts. Also, having the field work clearly identified by survey and then protected with the orange construction fencing to clearly delineate the construction boundaries will eliminate potential future issues.

TEAM ORGANIZATION

TEAM'S APPROACH TO DESIGN-BUILD CONTRACTING

Design-Build Team as an Integrated Entity: The key to successfully completing a Project as complex as MD210 Project under a Design-Build delivery method is full integration of all disciplines throughout all phases of the work. To achieve this goal, the Design-Builder must have extensive experience operating under this approach, an extended history working together as a Team, a partnering approach, and well-proven processes and procedures in place. The Shirley Team well exceeds each of these criteria. Together, Shirley and Dewberry have completed over 25 Design-Build transportation Projects valued at over \$2 billion in the Washington metropolitan region over the last 12 years. Each of these Projects has been successfully completed on-time and on-budget.

Shirley's proposed Key Staff for the MD 210 design-build project is a longstanding, fully integrated Team having continuously worked together since 2008 on both the ICC C and ICC D/E Projects and will continue to partner with the Administration to successfully deliver this Project.

Our approach starts with a structured environment that facilitates collaboration, communication, and integration. The primary method of accomplishing this is through a series of Team meetings at various stages of Project development that include:

1. Design Coordination Meetings: The successful execution of the Design-Build method of Project delivery demands constant, clear and concise communication between the contractor, engineer and other stakeholders. In addition, since large civil infrastructure Projects typically require numerous subcontractors and specialty subconsultants, maintaining effective communication between all parties is especially important for this Project. The most useful tool to accomplish this is by holding weekly Design Coordination Meetings to promote a coordinated design effort; share lessons learned with all Team members; and streamline the decision making process. Mr. Greg Johannes, the DBPM, will lead the meetings and include all key staff, discipline leads, design sub-consultants, as well as key members of the Shirley construction Team. These meetings are used to discuss all issues such as: 1) status of key design elements, design packages, and sub-consultant deliverables; 2) current construction issues requiring designer input; 3) status of plan reviews and approvals; permit acquisition; and utility coordination; 4) designation of "ownership" of issue resolution and target dates for resolution; 5) issues requiring meetings, third party input or other action; and 6) to integrate constructability review by construction personnel into the design process. These meetings are held in the RFP stage as our concept is developed, begin in earnest during the design phase, and continue through the construction phase until Project completion.

We have learned first-hand the importance of involving the construction Team in the design process. Doing so creates "buy-in" to the design, facilitates development of the schedule, greatly improves the constructability of the work, simplifies the design process itself, and enhances our "Team" approach. The Administration can be assured that when plans are submitted, they represent our entire Team's collaborative approach to the work.

Once construction is underway, we continue to hold these meetings as a way to expedite solutions to any design or construction-related issues or changing conditions that may arise.

2. Owner Coordination Meetings: The Shirley Team believes in the value of collaborating with the Administration throughout the design and construction process. At a mutually agreeable time and frequency, the Team will plan and hold Owner Coordination Meetings with the Administration and other stakeholders as appropriate. These meetings will focus on communication of Project-related issues and concerns, scheduling of submittals and the work, and any other topics requiring resolution. This is also an opportunity to provide the Administration with "Over-the-Shoulder" (OTS) reviews of our Team's approach to the work prior to making the formal submission. The advantage of using OTS is to confirm decisions previously agreed upon during development; identify any major comments that can be addressed before formal submissions are made. We will discuss both short- (2-week look ahead) and long-term schedule updates and Project completion milestones. We will provide the Administration with our schedule for design submittals to aid in managing the Administration's Project resources. Other key topics include upcoming MOT changes, matters involving third parties, items such as right-of-way that are managed by the Administration, and any contractual issues or concerns.

3. Construction Progress Meetings: As the Project transitions to the construction phase, the Construction Manager will lead a weekly Construction Progress Meeting onsite. In attendance are key construction and design personnel, subcontractors, various third parties, quality assurance and control personnel, and the Administration. The purpose of these critical meetings is to review the schedule and upcoming work activities, discuss upcoming maintenance of traffic plans, inform QA/QC personnel of the schedule, review environmental activities, and to discuss with all parties any issues or areas of concern that need to be addressed. Both 2-week and 6-week "look-ahead" schedules will be reviewed and updated with all parties. Longer term, the overall Project schedule will be reviewed to ensure critical milestones are communicated, that work is on-track, and to update the work progress.

Document Management: As a means to improve communication among the Team members, we intend to utilize several collaborative file-sharing software systems. As successfully used on ICC Contract C and D/E, we will implement Bentley's *ProjectWise* for all design file management to ensure all Team members have access to the latest design files, as well as for formal submission of design packages to the Administration. We will also utilize *Constructware* for electronic transfer of construction documents for internal document reviews, and for tracking of design decisions and

solutions. This software is also very useful for the creation, response, and tracking of RFI's and as-built drawings.









Construction Staff Role during Design: In the Design-Build process, Shirley staff's involvement in the design preparation allows them to provide constructability comments, availability of materials, economics of installation and phasing as the Project is being designed. It is critical that the construction staff be a proactive part of the Team during the design process developing the construction methods and sequence; thereby fewer issues occur during construction, avoiding schedule delays. Integration of the construction staff with the design Team began during preparation of this proposal.

Design Staff Role during Construction: Once the design has been completed and construction is fully underway, the design Team's work is not done. The designers are still an integral and important member of the construction support staff and are involved in many construction related activities. The design Team will remain intact to address issues in a timely fashion. This way, the Project schedule, quality, safety and budget can be managed effectively. Some of the design activities during construction include responding quickly and clearly to any RFI's (either formal or informal); reviewing shop drawings; preparing of working drawings; evaluating and adjusting MOT plans and set ups (to meet actual field and traffic conditions); revising designs to meet actual field conditions as changed conditions are encountered, methods or means dictate or material availability changes; and preparation of complete and accurate as-builts. Additionally, during construction the designers make regular site visits to review what is being built and based on field conditions may even revise designs to provide the best solution and a successful Project.

Design-Build Team Management: Shirley will serve as the Design-Builder, and will ultimately be responsible for delivery of this Project. As shown in our Team's Organizational Chart, Mr. Gregory Johannes will lead the Design-Build Management Team and will serve as the Design-Build Project Manager (DBPM). Supporting him will be Mr. Randall Plyler, Construction Manager, and Mr. Ken Davis, PE Project Design Manager.

Mr. Johannes will also serve as our single point of contact with the Administration. In this role, he will be responsible for overall Contract management, integration of all Project disciplines, leading our partnering efforts, and coordination with third-party stakeholders. He will coordinate all communication within Shirley, as well as with the Administration, and will work closely with the Public Relations Manager to ensure the message to the public is both accurate and timely.

Reporting directly to Mr. Johannes will be the discipline leaders including the Design Manager, Utilities Coordinator, Safety Manager, Environmental Compliance Manager, and Public Relations Coordinator. Each of these Key positions are shown on the Organization Chart that follows this Section. In addition, the following chart highlights the firms committed to the Shirley Team, and their roles on the Project:

Company		Role
Shirley Contracting Company, LLC		Prime Contractor
Dewberry Consultants, LLC		Lead Design Firm
Daniels Consultants, Inc.*		Traffic Engineering
Hillis-Carnes Engineering Associates		Geotechnical Design Engineer
Straughan Environmental, Inc.*		Environmental Permitting
NMP Engineering Consultants, Inc.*		Landscaping, SWM As-built Certifications
AB Consultants, Inc.*		Survey, General Civil, Design Quality Control
Rosborough Communication, Inc.*		Public Outreach
ESD Associates (Daniel O'Leary, PE)	ESD Associates	Certified MDE Reviewer

* MDOT Certified MBE Firm

TEAM'S APPROACH TO MD 210

Partnering: The entire Shirley Team strongly endorses the concept of Partnering. We are committed to actively working with the Administration to expeditiously resolve Project issues as they develop, based on a level of trust that is fostered through the partnering process. Immediately upon Award, we intend to initiate the formal partnering process with the Administration, which includes identifying the MD 210 Partnering Team. We propose to conduct a kick-off workshop to develop the Project Partnering Charter and Issue Resolution process, and to hold regular meetings on a monthly basis.

The goal of the Team is that key individuals working directly with the Administration and other Project stakeholders are empowered and trained to resolve issues, making use of the partnering issues resolution process established during the partnering process. The proposed resolution process will encourage issues to be resolved at the lowest possible level. The intent is to define timelines for issues to be held at the lowest level before being elevated to the next higher level. Shirley has found on past Projects that this process keeps decisions with those who have the most knowledge of it, resulting in timely resolution. Procedures and schedules will be regularly reviewed and refined for efficiency and improved coordination and cooperation amongst Shirley professionals, the Administration, and all stakeholders.

Project Schedule: Another critical element in a fully integrated DB Team is the development and maintenance of the Project schedule. Shirley understands that one of the major benefits of completing MD 210 as Design-Build is the ability to advance the overall Project schedule, from design completion to ground breaking, to opening day. Prior to Notice-to-Proceed, we will develop a schedule that ties all elements of the Project into a single integrated schedule from design through construction. Our schedule will clearly identify key elements with milestone completion dates by physical location; design deliverables, and construction phases of civil and structural work. As part of this overall schedule, Dewberry will provide a schedule of deliverables to Shirley and the Administration to ensure that reviews of the design packages can be communicated to all in order to provide the appropriate lead time to meet construction deadlines. We will review and update this schedule as needed, with a goal of providing as much time as possible. Emphasis is placed on the long lead items such as obtaining MDE permits; WSSC relocation approvals; coordination with 3rd party utilities for relocations by others; and early steel package for the bridges.

Progress Schedule – “Staying on Track”: Shirley will aggressively control the Project schedule through the creation, weekly review, and continual updating of several schedules. From the overall schedule, a milestone schedule will be developed to provide interim goals. The milestone schedules will then be used to develop two to six week look-ahead schedules for the work crews in planning their daily work activities. Finally, detailed subcontractor schedules will be developed to provide a customized picture for the subcontractors. Subcontractor performance will be tied directly to the subcontractor milestone schedule. In addition, the cost feedback reporting system will also provide real time data as to progress of each of the major work items. This reporting system, coupled with the other schedules, will allow the Team to detect and identify the necessary adjustments to the work at a very early stage and therefore ensure the timely completion of the Project.

Project Cost Control: The management and control of the overall Project’s costs starts day one. Our Team will work to provide a constructible, practical design that meets the Administration’s criteria while providing the greatest value for the owner. The management and control of the cost of the Project will continue during the finalization of the design by continuing the involvement of the construction and design personnel side by side.

In addition, the Shirley Team will continue to control the cost of the Project through a multiple input format for the procurement of all required materials and subcontractors for the Project. This process involves both the estimating department and the Project field staff independently scoping and acquiring prices for the materials and subcontractors necessary. Upon compilation of the information, the two groups sit down, review and analyze the information and propose a best value.

And finally, during construction, a customized Project cost control system will be implemented. The Project cost control system is accomplished by the use of a proprietary accounting system that tracks production costs on a daily basis. Our field personnel will track and report daily productions for major work items. A Project Cost

Engineer will then produce and distribute to the Project Team, a daily cost feedback report. This daily cost feedback then allows for immediate adjustments in either the means and/or methods of that activity or resources being used to accomplish that activity. In addition, this feedback will provide very early warning signs of activities that may ultimately exceed the budget.

Subcontracting: A major component of a fully integrated DB Team is the inclusion of the design subconsultants and the specialty subcontractors in all phases of the Project. They will be involved in the design of the Project based on their expertise to deliver the best product possible. With respect to minority subcontracting, Shirley and Dewberry have always met or exceeded our contract goals and will aggressively seek out minority firms to reach or exceed the 27% goal for this Project.

Design QA and QC: Crucial to producing quality design documents and meeting the Project schedule is the dedication of an independent Design QA/QC program. These personnel, lead by **Mr. Kirk McClelland, PE**, are comprised of designers that have no involvement in the production of the design itself. Mr. McClelland, former Director of the Administration’s Office of Highway Development for twelve years, has managed a full range of transportation related Projects during his 30-year career. Mr. McClelland, along with Mr. Davis, will implement a Design Quality Control Plan (DQCP) that includes documentation of design criteria, design manuals, discipline-specific checklists, Project schedules (including milestones), inspections, and independent reviews. We will perform QC reviews on intermediate and final deliverables, and confirm document all comments and corrections have been addressed. The QC process involves a detailed system of internal reviews (including constructability reviews and environmental compliance reviews) and formal reviews (the Administration and 3rd Party) and clear process for addressing and closing all comments for each milestone before being finalized and issue for construction.

Safety: Safety is a Core Value for the Shirley Team and we will implement a Project specific Safety Plan to ensure that we provide a safe environment for the Administration, the construction staff and the traveling public at all times. Our Project safety program will be lead by Mr. Charlie Wilson who 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 specific Safety Plan.

Organizational Structure & Chart: Shirley assembled our Team and illustrates its structure on the Organizational Chart on the next page. The following table identifies the assembled firms and their proposed roles. All members of the Team have worked together on past Shirley Projects, as well as served as Team members on Shirley-Dewberry Design-Build Projects.

Team Organization Chart
 MD 210 – Livingston Road / Kirby Hill Road Interchange
 Project No. PG7005170

