



CONSTRUCTION
MANAGEMENT AT RISK (CMAR)
FOR



BROOKEVILLE BYPASS
SOUTH OF BROOKEVILLE TO
NORTH OF BROOKEVILLE
MONTGOMERY COUNTY, MARYLAND



CONTRACT NO. M07465171 | TECHNICAL PROPOSAL | JUNE 3, 2015

CONCRETE
GENERAL, INC.

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Project Management Team/
Capability of the Proposer

PROJECT MANAGEMENT TEAM/CAPABILITY OF THE PROPOSER

**B.1 Project Management Team**

Concrete General, Inc.'s project management team will include, but not be limited to, the following personnel;

1. President – Daniel Miller, who will provide corporate management oversight and thought processes to our management team.

2. Project Manager – Raymond “Butch” Lundgren, who will bring his extensive Design-Build and Design-Bid-Build experience to the team. As our Design-Build Manager, he has become very adept at working with the SHA, design partner and our in-house project management personnel to create a team that provides a cost effective, environmentally friendly, high quality project to a successful on-time, on-budget conclusion. He has a history of providing innovative solutions to complex problems.

3. Construction Manager – Oliver Roelkey has had considerable experience on Design-Build and Design-Bid-Build projects including working near and around historical sites. He will review all drawings during the pre-construction phase and comment on constructability and environmental issues. During the construction phase he will schedule and coordinate all construction activities to insure that the project is built on-time and on-budget.

4. Cost Estimator – Mark Miller will work with all team members in order to provide accurate pricing in conformance with the estimating model and defined scope of work. He will provide frequent updates on cost and time impacts of any and all suggested changes, using information provide by CGI's pre-construction staff, SHA, and the design team. He has the knowledge and knows the availability of material, labor, and subcontractors in the area. He will also work with the SHA to help determine, develop and document a contracting plan to meet DBE contract goals on all construction phases including compliance with COMAR 21.05.10.05.

5. General Superintendent – Chris L. Kirsch will work with Oliver Roelkey during the construction phase to insure that the needed men and equipment are available when scheduled in order to insure an on-time project.

6. Stream Restoration Specialist – Joshua Miller was approved for this position on Contract No. AX3765F60. His experience with in-stream restoration work and working with Maryland-National Capital Park and Planning Commission will be a valuable asset during the pre-construction and construction phases.

7. Shop Superintendent – Paul Musser will work with our team to make sure that all equipment used on site meets current environmental regulations and will provide equipment options during the design phase to insure that we have the right equipment for the job. He is also trained for spill emergencies.

8. Structures Superintendent – Larry Smith will provide significant insight during the pre-construction phase to make sure we are building the most economical structures that will meet the desired aesthetically pleasing and context-sensitive solutions. During the construction phase, he will work with our Construction Manager to make sure he is provided with the needed crews and equipment.

9. Utility Coordinator – Stephen Beckley will work with all team members to do all that is possible to get third party utilities (Pepco, Verizon, Comcast, and WSSC) relocated on time.

10. Scheduler – Andrew Kitchen will work with the team from the start to develop and update a schedule that provides a useful tool during the pre-construction and construction phases with alternatives.

11. Safety Director – Fred Collins will work with the team and enforce our worker and public safety plan to make sure that safety is a top priority during design and construction

12. Materials Quality Control – De'Alonzo Lubika will work with the team to insure that all materials used on this project will meet all SHA requirements. He will work with Fred Collins to develop a quality control plan, a material sourcing plan, and a worker and public safety plan.

13. Public Relations – Jennifer Johnson will co-ordinate all required meetings with local stakeholder groups, adjacent property owners and the public. She will participate with SHA, the designer, and key staff in the stakeholder outreach program. This will include meetings with environmental agencies, local stakeholder

groups, adjacent property owners, utility companies, and the public.

14. Erosion & Sediment Control Manager – Larry Ward will review design drawings for constructability issues during the construction phase. He will work with Oliver Roelkey to make sure that the project maintains an “A” rating.

15. Traffic Control Manager – Armando Cruz will review design drawings for constructability issues. During the construction phase, he will work with Oliver Roelkey to make sure the project maintains the highest possible ratings.

Raymond ‘Butch’ Lundgren, Mark Miller, and Oliver Roelkey will attend the project scoping/partnering workshop, project team meetings, milestone meetings, long-lead time procurement (LLTP) GMP and construction GMP reconciliation meetings with the project team as necessary.

They will collaborate with the project team to develop a risk management plan, perform risk assessments, and prepare a risk register, provide input on accelerated construction techniques. They will also review all as-builts, conceptual design, and site conditions. In addition to the key staff, Joshua Miller will assist to formulate and evaluate alternative stream restoration/relocation designs, systems, and materials. Also, Larry Smith will assist in providing constructability input for the bridges and retaining walls.

Mark Miller will provide cost estimates of the alternatives to be evaluated that shall include industry standard operating and maintenance costs when appropriate to evaluate life-cycle costs of the alternatives. CGI will develop the OPCC on the design prepared by the designer at the completion of any agreed upon milestone.

The key staff and Andrew Kitchen and Chris L. Kirsch will evaluate the alternatives on the basis of costs, construction schedules, availability of labor, equipment, and materials, and construction feasibility in the form of constructability reports. They will prepare written procurement reviews for materials that could be procured by the Administration or CGI ahead of any construction phase, prepare written reports at the end of any design milestone summarizing the value analysis activities accomplished and any recommendations developed within each phase.

If the OPCCs and/or prices received for the work contained in any work package cause the anticipated cost of the work to exceed the then-current OPCC, any LLTP GMP, or any construction GMP, CGI will at no additional cost to the Administration, unless caused by an increase in CGI’s work requested by the Administration, provide additional value analysis services in conjunction with any and all appropriate items in the OPCC, any LLTP GMP, or any construction GMP for the work.

The key staff will lead value analysis workshop(s) at agreed upon milestones to coordinate estimating tasks, bring multi-discipline cost/construction experts to evaluate alternative designs, systems, and materials. This work includes the submittal and ongoing evaluation of a value analysis proposal. They will collaborate with the project team to develop an innovative tracking and performance report and coordinate with SHA and the designer throughout the pre-construction phase through a combination of on-site meetings, design meetings, conference calls, and workshops.

This professional team, headed by Raymond “Butch” Lundgren, Oliver Roelkey and Mark Miller, will use its expertise and experience as it works with all stakeholders during the pre-construction and construction phases and will work collaboratively with both the SHA and the designer in a partnership that does all things possible to achieve the stated project goals in the project development and during the construction phase.

Our key staff members will work with the SHA and the designer to develop plans for a two-lane roadway that accommodates motor vehicles and bicycles. We will provide input during the design phase in order to provide a package that has minimal impacts to the physical environment and is aesthetically pleasing and context sensitive. We will provide our experience as a contractor to insure that the designed project is constructible and can be built on-time and on-budget. We will work with the partnership to insure that the designed work will minimize inconvenience and impacts to the travelling public and adjacent property owners.

FORM A-1 – Key Staff Information

Name of Proposer: Concrete General, Inc.

Position	Name	Years of Experience ¹	Education/ Registrations	Name of Employer
Project Manager	Raymond “Butch” Lundgren	25/51	BS/1968/Civil Engineering	Concrete General, Inc.
Construction Manager	Oliver Roelkey	19/26	High School	Concrete General, Inc.
Cost Estimator	Mark Miller	22/22	College coursework in Construction	Concrete General, Inc.

¹ Present Firm/Total

**Raymond C. “Butch” Lundgren**

Project Manager – Concrete General, Inc.

Project Assignment: Project Manager**Years Experience:** With Firm: 25 With Other Firms: 26**Education: Degree(s)/Year/Specialization:** BS/1968/Civil Engineering**Active Registration: Year First Registered/Discipline:** N/A**Professional Experience:**

Mr. Lundgren has experience as a Project Manager and Design-Build Manager for the construction of airports, roads, highways, bridges, water mains and sewer mains in the states of Maryland, Kentucky, Massachusetts, and Pennsylvania. His project management experience includes many projects including MD 32 at Linden Church Rd. Design-Build, US 50 HOV Lanes from I-495 to MD 197, US 29 at MD 198 Design-Build, MD 124 Design-Build, MD 355 at Montrose Rd./Randolph Rd. Design-Build, and the Ramp 6 Widening from EB I-495 to SB MD 97 Design-Build. Recent relevant experience includes:

“Award Winning” MD 355 at Montrose Road/Randolph Road from “Old” Old Georgetown Road to Maple/Chapman Avenue Design-Build, SHA, Montgomery Co., MD, MO8305171 – Design-Build Manager. This \$25 million project included design and construction of an interchange at MD 355 and Montrose/Randolph Rd. Mr. Lundgren’s experience includes management of the environmental impacts during construction. Minimizing the permitted acreage was very important to maintain the design and construction schedule. Site access during construction was coordinated with the MOT phasing starting with the construction of the MD 355 detour roadway and temporary pavement widening for Randolph Rd. Construction phasing was utilized to minimize traffic impacts and provide safety for the construction workers and traveling public. He was responsible for designing and construction of this project while meeting the needs of other parties including, WSSC, SHA Public Affairs representative, Maryland DNR, SHA Landscape Operations, SHA Environmental Program Division, SHA Highway Hydraulics, MC DPW&T, PEPCO, Verizon, Comcast, Washington Gas, and WMATA, and working with local businesses, neighbors, and religious institutions.

“Award Winning” Montrose Parkway, MC DPW&T, Montgomery Co., MD, No. 500311 – Project Manager. This \$30 million project included the widening and reconstruction of approximately 4,750 LF of Montrose Rd. and the construction of approximately 5,100 LF of the new Montrose Parkway. Work included: multi-phase traffic control; storm drainage, stream restoration, temporary ESC, and SWM ponds and structures including two new roadway bridges, one new pedestrian bridge, one temporary bridge, two new cantilever top-down retaining walls, 45,000 SF of noise walls, underground concrete sand filters, and underground detention facilities. Mr. Lundgren was responsible for oversight, quality control, and partnering of this project and coordinated successful partnering efforts with the owner, utilities, and CGI key staff employees to ensure a quality project on-time and within budget. He was also involved in the implementation of ESC procedures based on new SHA and MDE guidelines that were an important factor in protecting an environmentally sensitive project and its surroundings. The project involved more than \$2 million of SWM construction.

ES Upper Paint Branch Stream Restoration, SHA, Montgomery Co., MD, AX3765F60 – Project Manager. This \$2.5 million project is for stream restoration, stormwater retrofits of existing stormwater facilities, stream channel reconstruction, riparian buffer, bio trenches, dewatering, and streambank stabilization.

Perform Drainage Repairs and Remediations on SWM Facilities Statewide, SHA, Montgomery Co., MD, AX1585A74 – Project Manager. This \$2 million project is for the preventive maintenance and remediation activities for highway drainage and stormwater assets. Mr. Lundgren is responsible for oversight, quality control, and partnering of this project and coordinating partnering efforts with the owner, utilities, and CGI key staff employees to ensure a quality project on-time and within budget.

**Oliver C. Roelkey**

Construction Manager – Concrete General, Inc.

Project Assignment: Construction Manager

Years Experience: With Firm: 20 With Other Firms: 7

Education: Degree(s)/Year/Specialization: High School

Active Registration: Year First Registered/Discipline: OSHA 30 hour training (2014), Erosion & Sediment Control Certification (2015), Traffic Manager(2014), Flagger (2014), CPR (2015)

Professional Experience:

Mr. Roelkey has extensive experience in all aspects of highway construction including projects as Construction Manager for “Award Winning” MD 355 at Montrose Rd. Design-Build, and “Award Winning” Montrose Parkway. He has experience as a Construction Manager for the construction of roads, highways, bridges, erosion and sediment control, drainage, thermal reduction, SWM, stream stabilization, water/sewer mains, noise control, historical locations, wetlands (environmentally sensitive areas), and early completion (fast track) projects. Mr. Roelkey will be involved with constructability review and construct the project in accordance with the design, budget, and schedule, and will ultimately be responsible for project quality control and safety in all phases. Recent relevant experience includes:

MD 175 West of MD 713 (Rockenback Rd) to East of Disney Rd./26th St, Fort Meade, MD, SHA AA58058370 – Construction Manager. This \$8.8 million dollar BRAC project involves coordination with Fort Meade regarding design, construction, utility relocation, traffic impacts, and activities on and near Fort Meade. Also included is obtaining FGGM required permits, coordination and notification with FGGM’s DPW and Environmental Division on UXO recognition and procedures to follow. He also worked on the safe access entryway at the Fort Meade Base and also constructed a new Fort Meade Security Fence and Gate at 26th St. while working closely with MDE concerning ESC activities and SWM.

“Award Winning” MD 355 at Montrose Road/Randolph Road Design-Build, Montgomery Co., MD, SHA MO8305171 – Construction Manager. This \$25 million dollar project included design and construction of a grade separation interchange for MD 355 and Montrose/Randolph Rd., construction of relocated Randolph Rd. on new alignment, new bridge and retaining walls, construction of three interchange ramps on new alignment, significant maintenance of traffic phasing with temporary detours, and drainage, utility relocations, ESC, stream construction, SWM facilities and signalization. Mr. Roelkey was responsible for meeting the needs of M-NCPPC, MDE, USACE, US Fish & Wildlife, US EPA, and was very successful working closely with the SHA team to be on-time and within budget.

“Award Winning” Montrose Parkway, Montgomery County Government, Montgomery County, MD, IFB No. 5504530021 - Construction Manager. This \$30 million project includes widening the reconstruction of 4,750 LF of Montrose Road and the construction of 5,100 LF of the new Montrose Parkway. This project involved more than \$2 million of SWM construction which consisted of large concrete separator sand filters, underground detention facilities, Baysaver separation systems, bioretention and SWM facilities. Work also consisted of stream stabilization and relocation of 1,200 LF of Booze Creek. Mr. Roelkey was responsible to supervise and coordinate trades and all subcontractors to ensure contractor compliance. The project received the National 2009 Top Stormwater Project Award.

MD 88 at MD 833 Roundabout Intersection Reconstruction, Carroll County, MD, SHA CL8555176 – Construction Manager. This \$1 million project consisted of a roundabout at an existing four-way stop controlled intersection. Work involved base widening in order to accommodate flaring at the south and east approaches, maintenance of traffic, erosion and sediment control, removal of existing pavement, curb, gutter, drainage, lighting, landscaping, HMA paving including wedge/level, and stamped and colored concrete at the roundabout.

**Mark W. Miller**

Cost Estimator – Concrete General, Inc.

Project Assignment: Cost Estimator

Years Experience: With Firm: 22 With Other Firms: 0

Education: Degree(s)/Year/Specialization: College Coursework in Construction

Active Registration: Year First Registered/Discipline: NUCA Competent Person, ARTBA Transportation Builder Institute's Management Crucible Academy, AutoCAD Civil

Professional Experience:

Mr. Miller has experience as a Cost Estimator for the construction of roads, highways, and bridges. His project cost estimator experience includes all of CGI projects including MD 32 at Linden Church Rd. Design-Build, TMDL-Legacy Pavement Improvements, Drainage and System Preservation at Various Locations Statewide, I-70 Beaver Creek Thermal Impact Reduction project, Drainage Repairs and Remediations on SWM Facilities Statewide, and the ES Upper Paint Branch Stream Restoration. He has 22 years of experience in supervising the engineering and management of projects involving design, construction, inspection, and repairs of highway and bridge construction. He has bid and won 215 SHA projects since 1993.

He has the skills, knowledge, and experience to estimate the quantities of materials, labor, equipment, and has an understanding of the availability, costs, and capacities of material, labor, and equipment needed for construction.

Some tools used (other than knowing how to manually take-off and cost estimate everything), includes using many computer software programs for take-offs for accuracy, and uses both Microsoft Excel and HCSS construction estimating software for cost estimating. Sage/Timberline is used for tracking cost, and reviewing historical costs. Oracle Primavera is used for reviewing the schedule weekly.

On the I-70 over Conococheague Creek Bridge Widening and Deck Replacement project, he was instrumental in developing and implementing a revised construction sequence for the construction of the pier extensions in Conococheague Creek. After the award, CGI teamed up with Whitman Reardon & Associates, LLP and determined that constructing the pier extensions in a reverse order while using concrete block diversion structures to support the required temporary construction bridge crossing Conococheague Creek, the physical impacts could be reduced while the time required within the creek could be reduced significantly. This re-sequencing and innovative design approach resulted in significantly less temporary construction impacts since the temporary construction bridge crossing needed for pier construction was in the waterway for a much shorter duration and their physical impacts were minimized.

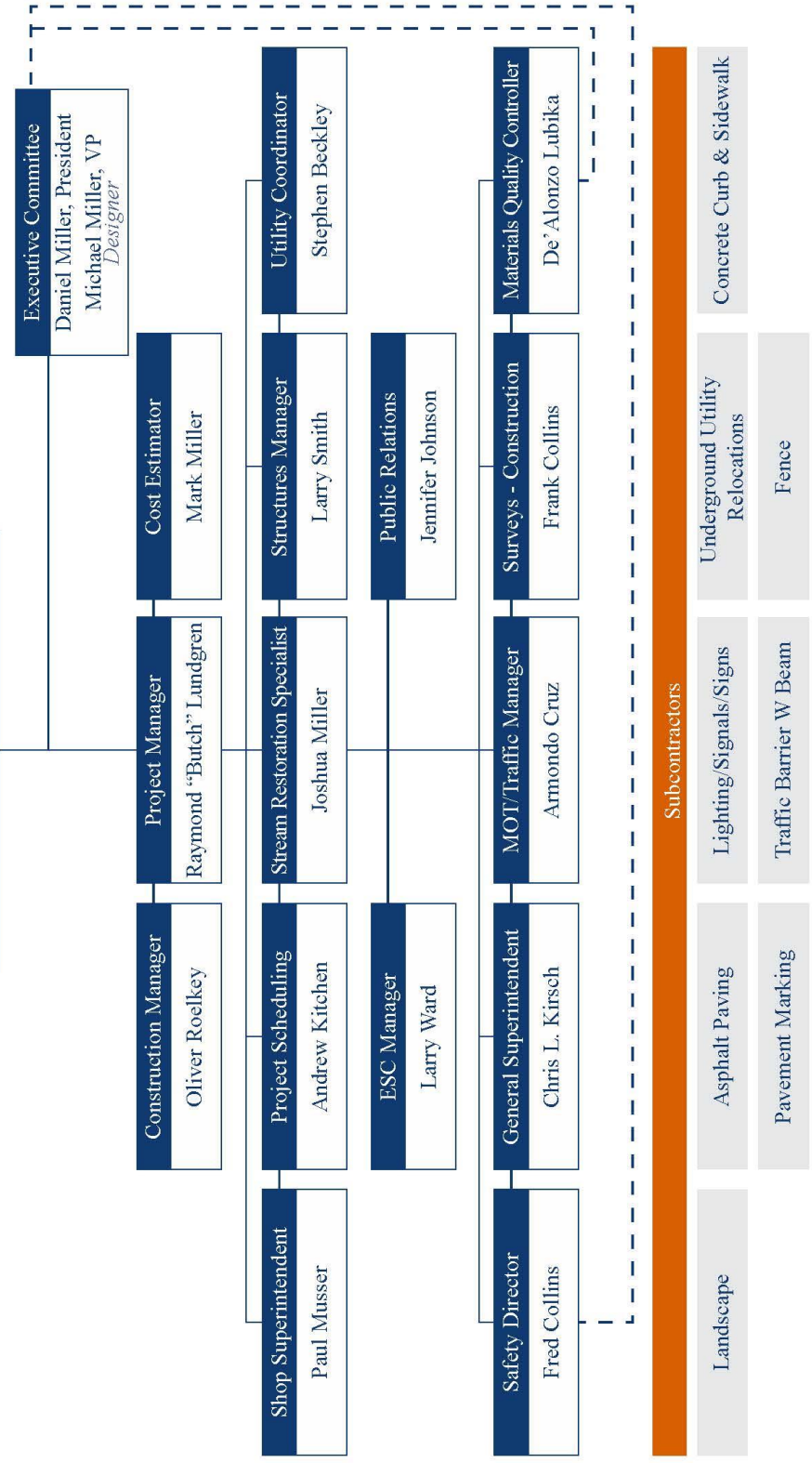
Mr. Miller understands the management of financial resources to determine how money will be spent to get the work done, and accounting for these expenditures. He has experience in identifying complex problems and reviewing related information to develop and evaluate options and implement solutions. Other experience includes managing material resources by obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work. He can identify measures or indicators of system performance, relative to the goals of the owner. He has the knowledge to analyze the needs and product requirements to create a design, and consider the relative costs and benefits of potential actions to choose the most appropriate one, giving full attention to what other people are saying. Most importantly is bringing others together and trying to reconcile differences. Mr. Miller has experience and will work with CGI's pre-construction staff, SHA, Designer, and other Stakeholders in developing the cost estimates and providing updates as changes are made.

He is responsible for supervision of all detailed engineering, procurement, and construction of ALL projects constructed by CGI including conceptual estimating and supports the business development and project operations functions as necessary. He has an extensive database of MBE and non-MBE subcontractors and suppliers and knowledge to identify subcontract opportunities and utilizing many local MBE firms.

**MD 97 SOUTH OF BROOKEVILLE TO NORTH OF BROOKEVILLE,
MONTGOMERY COUNTY (CMAR)**

CONTRACT NO. M07465171

Organizational Chart





FORM A-2 LEAD CONSTRUCTION FIRM
PROJECT DESCRIPTION

Name of Proposer: **Concrete General, Inc.**

Name of Construction Firm: Concrete General, Inc.
Project Role: <u>Lead Construction Firm</u>
Contractor: <input checked="" type="checkbox"/> Other (Describe): _____
Years of Experience: Roads/Streets: <u>42</u> Bridges/Structures: <u>42</u> Environmental: <u>42</u>
Project Name and Location: Montrose Parkway from 1,300 East of I-270 to “Old” Old Georgetown Road, Montgomery County, Maryland
Project Key Staff (as applicable to project)
Project Manager/Firm: Raymond Lundgren/CGI
Construction Manager/Firm: Oliver Roelkey/CGI
Cost Estimator/Firm: Mark Miller/CGI
Description and Specific Nature of Work for which your Firm was responsible and how it is relevance to this contract: This \$30 million project involved the reconstruction and widening of Montrose Rd. and the construction of the first leg of the new Montrose Parkway, which has been controversial for years. In the design stage, the project was met by vocal opposition by local coalitions stating this project was “the wrong solution!” Our team understood the commitments Montgomery County Government has made to the local communities that the facility would be low profile, and would not conflict with the natural surroundings. Project milestones included relocating existing utilities along the current Montrose Rd., completing the new parkway from Montrose Rd. through East Jefferson and clearing the roadbed along the new parkway between East Jefferson St. and “Old” Old Georgetown Rd. CGI was responsible for the widening and reconstruction of 4,750 LF of Montrose Rd. from Tower Oaks Blvd. to Tildenwood Dr. and for the construction of approximately 5,100 LF of the new Montrose Parkway from Tildenwood Dr. to “Old” Old Georgetown Rd. with new at-grade intersections at Montrose Rd., E. Jefferson Street and “Old” Old Georgetown Rd. Work included multi-phase traffic control, twin 76”x 48” HERCP with associated end walls, new storm drainage system (15,000 LF of pipe and 200 structures), 14,000 LF of bike path and sidewalk, lighting, signing, signalization and pavement markings, water and sewer line relocation, steel casing for sewer line, stream restoration, temporary ESC, and SWM ponds and structures including two new roadway bridges to enhance wildlife passage, one new pedestrian bridge, one temporary bridge, two new cantilever top-down retaining walls with precast panels, 45,000 SF of noise walls. This project involves more than \$2 million of SWM construction which consisted of large concrete separator sand filters, underground detention facilities, Baysaver separation systems, bioretention facilities, and SWM facilities. Major maintenance of stream flow was performed consisting of maintaining and diverting stream flow for the purpose of isolating work areas when construction activities take place within the stream channel in accordance with the stream restoration work, or as directed by Montgomery County. CGI also had experience constructing a precast concrete arch culvert as part of the stream restoration and relocation work. The restoration of the stream at the precast concrete arch culvert consisted of blended stone material that was environmentally compatible to aquatic life and approved by MDE. We also constructed 1,200 LF of Booze Creek stream stabilization including gravel tailings, log vanes, plunge pools, riffle material, rock bank stabilization, rock grade control, root pack, herbaceous seeding, planting, and imbricated riprap boulders within the channel to provide habitat for wildlife. CGI experience also



included furnishing and salvaging riffle material from the project site where realignment of the channel was also required.

One of the project requirements was to install four cast in place concrete separator sand filters approx. 14 LF high x 14 LF wide x 70 LF long x 20 LF deep in the ground along Montrose Rd. This work would have taken months to construct, including sheeting & shoring, and traffic disruptions due to lane closures. We were able to change this to a precast design and receive approval from the Montgomery County Dept. of Permitting Services. The sand filters were pieced together in the ground with water tight seals similar to a box culvert with end closure pieces. Shoring boxes were used to support the way while each sand filter was constructed within 48 hours. This change in design saved construction time and had minimal disruption to the traveling public.

CGI had a designated ESC Manager who implemented ESC procedures based on new SHA and MDE guidelines that have been an important factor in protecting an environmentally sensitive project and its surroundings.

Construction phasing was utilized to minimize traffic impacts and provide traffic safety for the construction workers and traveling public. CGI was responsible for constructing this project while meeting the needs of other parties including WSSC, M-NCPPC, SHA, MDE, MD DNR, USACE, Montgomery County Dept. of Permitting Services, City of Rockville, and affected communities.

Utilities were a major hurdle. Delays to the overhead Verizon relocation had the potential to greatly impact the project. However, the project was re-sequenced and constructed out of phase to avoid delays. The project finished on time despite the Verizon relocation finishing nearly a year behind schedule. Once Montrose Parkway opened on schedule, Mr. Edgar Gonzales, the deputy director of transportation policy for the DPW&T commented that “things have stabilized” and now that Montrose Parkway has opened, complaints about the project have waned.

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

Raymond “Butch” Lundgren was responsible for oversight, quality control, and partnering of this project and coordinated successful partnering efforts with the owner, utilities, and CGI key staff employees to ensure a quality project on-time and within budget.

Oliver Roelkey was responsible for supervising and coordinating all trades and all subcontractors to ensure contract compliance. He also was involved with implementing ESC procedures based on the new SHA and MDE guidelines that have been an important factor in protecting an environmentally sensitive project and its surroundings.

Mark Miller was responsible for evaluating bid specifications and drawings, ensuring that we know everything required to successfully provide the low bid and win the project. He aggressively follows up with subcontractors and suppliers to ensure that bids are received in time. He also works with the project management team to provide management support, cost estimates with each design change or decisions, follows up on bids from subcontractors and suppliers of material to contract, reviews budgets and tracks them throughout construction, and provides management oversight of CGI team’s final design, and review budgets and tracks throughout design and construction.

List any awards and/or commendations received for the project: **National 2009 Top Storm Water Project Award.**

Name of Client (Owner/Agency, Contractor, etc.): Montgomery County Dept. of Transportation

Address: 100 Edison Park Drive, 4th Floor, Gaithersburg, MD 20878

Contact Name: Mr. Mark Aebig Telephone: (240) 777-7215

Owner’s Project or Contract No.: MCDPW&T Project# 500311 Fax No.: (240) 777-7277

Contract Value (US \$): \$29.7 million Final Value (US \$): \$29.6 million

Percent of Total Work Performed by Company: 100%

Commencement Date: Sep. 2005 Original Completion Date As Defined in IFB: May 2008

Actual Completion Date: May 2008

Any disputes taken to arbitration or litigation? Yes No



FORM A-2 LEAD CONSTRUCTION FIRM
PROJECT DESCRIPTION

Name of Proposer: Concrete General, Inc.

Name of Construction Firm: Concrete General, Inc.
Project Role: <u>Lead Construction Firm</u>
Contractor: <input checked="" type="checkbox"/> Other (Describe): _____
Years of Experience: Roads/Streets: <u>42</u> Bridges/Structures: <u>42</u> Environmental: <u>42</u>
Project Name and Location: ES Upper Paint Branch Stream Restoration/SPA BMP at sites PB-33, PB-109, PB-119, and PB-145, Montgomery County, Maryland
Project Key Staff (as applicable to project)
Project Manager/Firm: Raymond Lundgren/CGI
Construction Manager/Firm: Joshua Miller/CGI
Cost Estimator/Firm: Mark Miller/CGI
<p>Description and Specific Nature of Work for which your Firm was responsible and how it is relevance to this contract: This project consisted of many types of projects within the limits of Use III waters. PB-109 and PB-119 are proposed stream restoration projects, PB-33 is a stormwater retrofit and outfall channel stabilization, and PB-145 is a proposed SWM project included as environmental stewardship and compensatory mitigation sites for the SHA ICC project. The sites are located in eastern Montgomery County within the Good Hope subwatershed of the Upper Paint Branch watershed, inside Paint Branch Park (M-NCPPC), and south of the Windmill Lane neighborhood. Each of these projects will be beneficial to the urban cold water fishery protection effort in the watershed. The fishery supports a wild brown trout population that contributed to the Upper Paint Branch watershed being designated as the Paint Branch Special Protection Area by the Montgomery County Council in 1995 (Eyes of Paint Branch, 1999).</p> <p>Site PB-33 consists of retrofitting an existing pond and stabilization of an outfall channel that drains to the tributary. Site PB-109 consists of a single 2,500 LF of channel perennial stream in the subwatershed. It is a spring-fed stream with seasonal flow variation due to storm runoff and has been significantly impacted by development. Site PB-119 stream restoration efforts are to stabilize the area of bank erosion and sedimentation, enhance riparian buffer with vegetative plantings and ultimately enhance habitat conditions for fish and benthic communities. Site PB-145 consisted of stabilizing slope failure adjacent to Good Hope Road, and provides easily maintainable facilities for Montgomery County maintenance. Storm flows from this area have seen increased volume due to the impervious area created by Good Hope Road, and poor flow patterns are causing erosion issues along the roadway fill and feeder roadside swales.</p> <p>CGI is the local contractor that understands the local waterways and has the experience with many types of stream restoration and construction methods. The following types of work activities on this project are clean water diversion, SWM as-built certification, clay channel block, imbricated riprap/boulder structures, coir wrapped floodplain bench, construction debris jam, fiberglass curb, filter bag, streambed material, knickpoint stabilization, log cross vane, log drop structures, log J-hook vane, natural channel backfill, recharge facilities, reinforced grass shoulder and underdrain, riffle bench, riffle grade control, root wad and live tree revetment, sand/woodchip filter media,</p>



sandbag diversion, soil fabric lift, stabilized access road, stone toe protection, vegetated rock pack, HW modification, stormwater filtration facilities, metal traffic barrier, live post plantings, live stakes, seeding, topsoil, subsoil, nonnative invasive species control, temporary fish diversion and relocation, root protection matting, turfgrass establishment, tree and perennial installation and establishment

Each of these project components has been identified for restoration or treatment in the project with the goal of addressing downstream impairments to water quality. These projects have been developed in consideration of this sensitive habitat and the components are targeted to protect habitat during construction and to work long-term improvement of the habitat through reductions in-stream bank erosion and fine sediment supply to the spawning grounds.

We have designated stream restoration specialists employed who have been trained as required by SHA. Due to the dynamic nature of the stream systems within the project sites, we expect existing site conditions to deviate within reason from those depicted on the plans. The designated stream restoration specialists then provide suggestions on how to accommodate changed site conditions as the work progresses. Joshua Miller was a designated stream specialist who has expertise in stream restoration and is thoroughly familiar with the proposed design. He interfaces with the Construction Manager during all instream work, channel grading, and installation of the various stabilization techniques whenever such involvement is requested.

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

Raymond “Butch” Lundgren was responsible for oversight, quality control, and coordination with CGI key staff employees to ensure a quality project on-time and within budget. He performed major reviews, analysis, and dialogue consisting of planned operations, contractor and public access issues, and schedule implementation.

Joshua Miller was responsible for managing day to day construction activities and crew assignments, monitored the schedule, identified construction problems and directed them to the appropriate design or construction staff, attended partnering meetings, and prepared and maintained an issues resolution list.

Mark Miller was responsible for evaluating bid specifications and drawings, ensuring that we know everything required to successfully provide the low bid and win the project. He also works with the project management team to provide management support, cost estimates, follows up on bids from subcontractors and suppliers to contract, and provides management oversight, and review budgets and tracks throughout design and construction.

List any awards and/or commendations received for the project:	
Name of Client (Owner/Agency, Contractor, etc.): Office of the Intercounty Connector	
Address: 14017 Notley Rd., Silver Spring, MD 20904	
Contact Name: Ms. Patrick DiNicola, ESCM Construction Manager Telephone: (443) 615-0225	
Owner’s Project or Contract No.: AX3765F60	Fax No.: Not Available
Contract Value (US \$): \$2.5 million	Final Value (US \$): \$2.5 million
Percent of Total Work Performed by Company: 100%	
Commencement Date: May 2013 Original Completion Date As Defined in IFB: Nov. 2014	
Actual Completion Date: Nov. 2014	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	



FORM A-2 LEAD CONSTRUCTION FIRM
PROJECT DESCRIPTION

Name of Proposer: Concrete General, Inc.

Name of Construction Firm: Concrete General, Inc.
Project Role: <u>Lead Construction Firm</u>
Contractor: <input checked="" type="checkbox"/> Other (Describe): _____
Years of Experience: Roads/Streets: <u>42</u> Bridges/Structures: <u>42</u> Environmental: <u>42</u>
Project Name and Location: Design-Build MD 32 at Linden Church Road Interchange Design-Build, Howard County, Maryland (Design Partner-Rummel, Klepper and Kahl, LLP)
Project Key Staff (as applicable to project)
Design-Build Project Manager/Firm: Raymond Lundgren/CGI
Construction Manager/Firm: Shannon Brown/CGI
Cost Estimator/Firm: Mark Miller/CGI
<p>Description and Specific Nature of Work for which your Firm was responsible and how it is relevance to this contract: This project involved the design and construction of a full diamond interchange at MD 32 and Linden Church Rd. which replaced two existing intersections to improve safety and alleviate traffic, construction of a roundabout at the proposed intersection of Linden Church Rd. and the northbound ramp termini on the east side of the interchange, a new bridge over MD 32 which provides for improved access to the local roadway network, realignment of Linden Church Rd. west of MD 32 to form a new T-intersection with Ten Oaks Rd., and a 700 foot section of Ten Oaks Rd. was reconstructed to improve the sight distance at the intersection. The additional improvements include resurfacing of the existing MD 32, realignment of the local road and driveways, installing new closed drainage systems, new SWM facilities, ESC, perennial and intermittent stream channel work within the Middle Patuxent watershed, landscaping, signing, marking and utility relocation and construction.</p> <p>The CGI Design-Build team has the experienced personnel qualified in the development of plans, specifications, and estimates for highway design, hydrologic/hydraulic engineering including (SWM, ESC), structural engineering, geotechnical/pavement engineering, arboriculture and landscape architecture, roadside planting, SWM planting, reforestation, traffic engineering including (signing, marking, lighting, and traffic control). CGI has the knowledge in coordinating utility designs, utility connections and working with the stakeholders.</p> <p>A major objective was implementing an effective ESC plan including interim ESC measures required during construction phasing, maintenance of controls while in place and frequency of inspecting ESC and significant SWM facilities within limited ROW. CGI has knowledge of experienced construction inspection, quality assurance inspectors, and our independent environmental monitor experience with SHA.</p> <p>Partnering meetings were held and were a key element in providing clear and willing communications among all project stakeholders. Every participant benefitted from the partnering process so that unified relationships with all parties were built and therefore resolve project issues in a cooperative and expedient manner. One of the keys to this successful design-build project was the integration of contractor and designer skill sets during the design process and construction. We brainstormed this project together early to identify some of the more challenging issues and the most efficient approach. The CG Design-Build team prepared contract plans with ample design/construction consideration so that issues that typically arise during the construction were minimized to the greatest extent.</p> <p>CGI was successful in working with SHA and MDE in coordinating with environmental</p>



agencies, inspection ESC, SWM, and wetlands and proactively monitoring the maintenance of these devices during the construction phase. We had many quality control procedures in place. The first of these was quality control review by senior personnel for each submission. Each discipline of the design was reviewed by experts in their appropriate field. In-house design procedures and checklists were used to assure that all designs met SHA, MDE, MUTCD and AASHTO standards. The second quality control procedure was constructability review by CGI. CGI provided input on the design in order to minimize potential field problems. The third procedure used was bi-weekly team meetings to keep communication lines open between design and construction personnel. We reviewed the project progress in accordance with the CPM schedule, set action items for each team member to accomplish and discussed methods to keep the project on schedule for unforeseen circumstances. Minutes of each meeting were prepared and distributed with the action items of each team member listed.

Uninterrupted service for utilities and traffic flow was done for the community. Dust control, noise abatement, traffic control and safety, awareness of construction schedules, and accommodating traffic without causing delays or compromising the safety of motorists, all rank among the community needs. Several quality control procedures were in place with weekly team meetings. Monthly partnering/progress meetings were held. These meetings ultimately helped streamline the design/review process.

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

Raymond “Butch” Lundgren was responsible for the overall project management, including the design and construction of the project while meeting the needs of the stakeholders. He performed major review, analysis, and dialogue consisted of planned contractor operations, schedule and coordination issues on this highly environmental sensitive project. He was involved in the joint development of the schedule to identify all design and construction activities and define how design submissions and construction work was scheduled to avoid delays or conflicts due to weather, MOT, religious services and school areas.

Shannon Brown was responsible for supervising and coordinating all trades with multiple crews and all subcontractors to ensure contractor compliance. He was responsible for the implementation of major ESC and SWM procedures to meet the SHA and MDE guidelines that were an important factor in protecting an environmentally sensitive project and its surroundings

Mark Miller was responsible for evaluating bid specifications and drawings, insuring that we know everything required to successfully provide the low bid to win the project. During the bidding stage he worked daily with the project design and management team to review and make the final decisions on design and risk management for the low bid. He also works with the project management team to provide management support, cost estimates with each design change or decisions, follows up on bids from subcontractors and suppliers for materials to contract, reviews budgets and tracks them throughout construction, and provides management oversight of CGI team’s final design, and review budgets and tracks throughout design and construction.

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

Name of Client (Owner/Agency, Contractor, etc.): Maryland State Highway Administration District 7

Address: 5111 Buckeystown Pike, Frederick, MD 21704

Contact Name: Mr. Brian Pickens, Project Engineer Telephone: (301) 674-4531

Owner’s Project or Contract No.: HO3915170 Fax No.: (443) 917-2366

Contract Value (US \$): \$10.4 million Final Value (US \$): \$10.4 million

Percent of Total Work Performed by Company: 100%

Commencement Date: Jan. 2011 Original Completion Date As Defined in IFB: Aug. 2014

Actual Completion Date: Aug. 2014

Any disputes taken to arbitration or litigation? Yes No



B.4 Environmental Past Performance

CGI understands the importance of adhering to standard practices and for continual monitoring and improvement in our processes and practices for protecting the environment. Environmental stewardship requires constant effort and a serious commitment. Environmental stewardship is an important facet of CGI's corporate culture – embedded in all aspects of our operations; the responsibility is shared by every employee. Our corporate president works closely with employees to infuse environmental awareness in all areas and levels of the company. Currently, we have 49 employees who are certified as ESC Managers to supplement their knowledge, even though they might not be ESC Managers. We are proactive with our employee education to not only meet the goals, but exceed them.

As a general practice, we always investigate ways to reduce impacts, whether permanent or temporary, to environmental features and resources. One of the innovative approaches to accomplish this, implemented on previous contracts, is to conduct pre-activity meetings prior to work in sensitive areas. In many cases, minor field changes have reduced impacts to environmental resources. Changes in equipment, access, and adjustments to LOD have all been identified in past projects, and have resulted in beneficial stewardship opportunities. Other innovative methods that we have implemented to reduce the impacts to resources, or prevent pollution, have included: utilizing vegetable-based motor oil for equipment used in sensitive environments, and working with trucking companies to stress the importance of proper clean out, installing wooden mats and PSI restrictions on equipment to protect wetlands and critical root zones of significant trees within project area, and reducing noise pollution during construction by implementing special methodologies or work hours for demolition or installing temporary noise reducing curtains.

CGI strives to keep all on-site material on site and has recycling capabilities. We will recycle all available materials such as hot mix asphalt, concrete, stone and steel. Reinforcing steel will also be recycled by a certified recycler.

Past Project Examples – Project specific examples of techniques, products, and practices CGI has employed on our past project include the following:

I-70 over Conococheague Creek Bridge Widening, Washington County, MD – CGI teamed with Whitman Requardt & Associates, LLP (WRA) after award of this Bid-Build procurement project to develop and implement a revised construction sequence for the construction of the pier extensions within Conococheague Creek. Working collaboratively, CGI and WRA determined that constructing the pier extensions in a reverse order while using concrete block diversion structures to support the required temporary construction bridge/platform crossing Conococheague Creek, the physical impacts could be reduced while the time required within the creek could be reduced significantly. CGI and WRA worked with SHA's OOS and EPD to obtain approval of the revised sequence and approval of a Joint Permit Modification, while not delaying the construction schedule. This re-sequencing and innovative design approach resulted in significantly less temporary construction impacts since the temporary construction bridge/platform crossing needed for pier construction was in the waterway for a much shorter duration and their physical impacts were minimized.

I-95/I-895 Interchange (I-95 Express Toll Lanes), Baltimore County, MD – CGI designed our own environmentally effective pumping system. As we were constructing large concrete pier foundations during the wet season, the pier footing excavations were constantly filling with water from rain events and a high water table. There were no provisions in the design or plans for pumping the water and temporary silt traps were not allowed. After discussions with MDE, we developed a pumping system within 24 hours to pump water out of the footing excavations. The system consisted of pumping water into five portable sediment tanks through a discharge hose, through dewatering bags, down slopes, and through geotextile. This complex and economical design clarified the water sufficiently to allow it to be discharged and kept the project on schedule.

Route 107 over Dry Seneca Creek Bridge No. 15014 Replacement, Montgomery County, MD – As part of this project, CGI restored and protected the existing stream banks through SHA's first use of root wads and live



fascines, a design provided by SHA. The successful implementation of these newly developed methods of stream bank stabilization has provided a more natural means of protection despite the construction disturbances. CGI received an award of excellence for erosion and sediment control on this project.

Runway 15R-33L Kitten Branch Diversion Project, Anne Arundel County, MD – As part of this project, CGI relocated 1,000 LF of stream, constructed 755 LF of box culvert construction and headwalls, and temporary stream diversion channels. The bottom of the box culvert was filled with 2 LF of blended stone material that was environmentally compatible to aquatic life and approved by MDE.

Seabrook Road to MD 193, Prince George's County, MD – As part of this project, CGI constructed major fills with recycled material without disturbing the existing marsh area. The project used over 300,000 SY of geosynthetic stabilized sub-grade and 114,000 CY of recycled crushed aggregate. We setup our crusher near the job site and crushed recycled concrete to meet SHA's requirements for crushed aggregate. A layer of geotextile was placed over the cleared marsh area with 12" of stabilized subgrade using crushed aggregate, then common borrow was placed up to 12" below sub-grade, and finally another layer of geotextile and 12" of stabilized crushed aggregate was placed.

Corrective Actions and Lessons Learned – Environmental stewardship within our daily business activities and on projects that we undertake is a cornerstone principle of CGI. Our aim on all projects is to practice environmental stewardship in our operations that exceeds regulatory standards. We strive to manage and mitigate the environmental impacts of our business activities by improving energy efficiency, reducing waste and emissions, increasing eco-friendly products, and protecting our natural resources. CGI fully understand that the MD 97 – South of Brookeville to North of Brookeville project must be constructed without environmental violations, stop work orders, or low ratings in order to be considered a success to SHA and ourselves. CGI is currently working on projects that have received 318 ratings with an average rating of an "A," and over the last 4 years, we have received 575 ratings with an average rating of an "A." We are, however, human and thus falter at times. However, we look at these events as opportunities to improve our business practices and the education of our work force. In the past six years, CGI has had the following three stop work orders or low ratings. In each case, we have amended our business practices to prevent their reoccurrence.

Redland Middle School Trail Project (Contract No. AX3775360) – On June 23, 2011, CGI received an "F" rating. At the beginning of the project, we installed all of the sediment control devices and started work before MDE inspected our controls. The ICC team considered this working out of sequence and issued us an "F" rating. We felt that the "F" grade was the result of miscommunication and a misunderstanding of the plan notes. Our controls were acceptable when MDE made their inspection. CGI now stresses the importance to all project personnel that they are aware of the sequence of construction.

Bridge Deck Overlay – MD 175 Bridges over US 29 (Contract No. HO4385180R) – On August 31, 2011, we received an "F" rating. During our nighttime operations, we noticed water leaving the site which we believed had sediment. We proceeded to be proactive and placed silt fence in the only location it could be installed to filter the water to protect the environment. An "F" rating was received because the silt fence was placed outside the LOD. CGI now stresses the importance to all project personnel that they need to communicate with the Inspector and MDE better.

MD 175 West of MD 713 to East of Disney Road/26th Street (Contract No. AA5805370) – On August 2, 2012 we received an "F" rating. The project had numerous interior LODs. At the end of June, we received permission to clear the entire site and temporary stabilize. We mistakenly took this for granted at the area between 26th street to McArthur Rd. where there was an area 0.52 acres not to be cleared inside SHA right-of-way. This area was cleared in error. Our Project Manager notified the SHA QA Inspector of the issue as soon as he realized his mistake. CGI was found in non-compliance and the job was shut down on paper and then immediately a new inspection was filled out with a "B" rating and back in compliance. CGI now stresses the importance of all project personnel that they need to review all of the phasing properly.

CONSTRUCTION
MANAGEMENT AT RISK (CMAR)
FOR



BROOKEVILLE BYPASS
SOUTH OF BROOKEVILLE TO
NORTH OF BROOKEVILLE
MONTGOMERY COUNTY, MARYLAND

CONTRACT NO. M07465171 | TECHNICAL PROPOSAL

| PROJECT APPROACH

Project Approach



C.1. Strategic Project Approach

A. Concrete General, Inc. (CGI) is a strong family-owned business established in 1972 and founded by Carl L. Miller. The company's President is Daniel L. Miller, Vice President is Michael J. Miller, and Chief Estimator is Mark W. Miller. CGI primarily serves the Baltimore-Washington, DC metro area, from its headquarters in Gaithersburg, MD. CGI has vast experience in the Design-Bid-Build, and Design-Build method of project delivery for SHA, including ES Upper Paint Branch Stream Restoration, TMDL-Legacy Pavement Improvements, Drainage and Preservation at Various Locations Statewide, Drainage and Remediation on SWM Facilities Statewide, "Award Winning" Montrose Parkway, "Award Winning" MD 355 at Montrose/Randolph Roads Design-Build, US 29 at MD 198 Interchange Design-Build, MAA Kitten Branch Stream Restoration, I-70 Beaver Creek Thermal Impact Reduction, MD 124 Design-Build, Widening of Ramp 6 Design-Build, MD 32 at Linden Church Road Interchange Design-Build, and "Award Winning" I-70 over Conococheague Creek Bridge Widening and Deck Replacement. For the last ten years, CGI has received a letter grade of "A" from SHA's annual contractor evaluation process.

CGI is very familiar with the Brookeville area and the traffic problems that exist today. Daily travels through the town make the need for this bypass obvious for reasons of public safety and to hopefully alleviate occasional flooding problems at the intersection of MD 97 and Brookeville Road. During the pre-construction phase, CGI's Design-Build experienced team will use their knowledge with roundabout construction projects and working in and around environmentally sensitive areas to provide significant constructability background and knowledge to the SHA and the designers. Having done a significant amount of work on Montgomery County's Upper Paint Branch has given us significant insight on how best to work in parklands, forests, streams and wetlands in order to minimize impacts. Working together with the SHA and the designers, we feel that we can help to develop a plan to insure that the proper equipment is specified and used in order to minimize disturbance and damage to sensitive areas that are a significant part of the project site. During the pre-construction and construction phases, CGI will work with SHA, designer, and all stakeholders to design and construct a quality on budget two-lane bypass that will relieve congestion while minimizing the impacts to the environment and traveling public and will be aesthetically pleasing and context sensitive to the people of Brookeville and the people who travel via motor vehicle or bicycle on the new two lane bypass. We will use our expertise, experience, and processes, to provide our following strengths:

- Partnering with SHA, designers, and stakeholders.
- Use our expertise and experience working on stream relocations, restorations, and pump arounds.
- Use our expertise and experience working in environmentally sensitive areas.
- Use our expertise and experience working in and around waterways that are subject to flooding.
- Knowledge of local soils, what to look for, and how to work with it.
- Estimating processes.
- Familiar with and working with local utilities and other stakeholders.
- Our experience with architectural concrete finishes will help in the design and construction of an aesthetically pleasing project.

Using the above listed processes and experiences we are certain that we will be a strong and efficient partner in this CMAR project.

B. During the pre-construction phase, CGI will use its knowledge from constructing more than 800 projects and the unanticipated problems that have occurred on these projects to provide significant contractor perspective to the SHA design team that will minimize errors and omissions and provide constructability. While working as a team, it will be possible to look at design options that will not impact the project goals in a negative way but will provide cost savings during construction. Processes that will be used to support the pre-construction development and decision making process will include the following:

1. Frequent plan and design review by CGI team members to look for any and all constructability and environmental issues and to see if there are any changes they would suggest to improve constructability and reduce environmental impacts.
2. Frequent meetings with all key staff members to discuss what design and plan changes can be made that will reduce costs without sacrificing goals.



3. Maintain open communication with all team members about projects risks and how they can be mitigated through risk sharing and/or design modifications.

These processes will help the SHA decide which suggestions to use. Our Cost Estimator and Scheduler will provide frequent updates on cost and time impacts of any and all suggested changes, using information provided by CGI's pre-construction staff, SHA, and the design team. If changes are made during the preconstruction phase that provide cost and/or time savings and it becomes apparent that the current OPCC is below the GMP (after risks are included) our team will work with the design and SHA teams to suggest what can be added to the project while still keeping total costs below the GMP without negative impacts on the project completion date.

Cost savings will be tracked through the use of OPCCs whenever it appears as though changes are providing cost savings. Each OPCC will provide tracking and documentation.

Risk mitigation will be a team effort. Various risks will have to be evaluated and potential costs determined by the Cost Estimators. Through the use of effective Partnering, the significance of each risk can be evaluated to determine if it can be mitigated and/or eliminated through design or not and if not who should be liable for the risks or if there is a benefit to sharing the risk. This will all be tracked and documented by Cost Estimators, Project Managers and an agreed upon record keeping system.

Value added proposals and concepts will initially be evaluated by the Cost Estimators to make sure that the GMP will not be exceeded. Then the Project Managers and Schedulers will look at these proposals to check for constructability, environmental issues, and time impacts. Cost estimates, constructability and environmental reviews, and updated schedules will provide tracking and documentation.

During the construction phase, the construction members of our team will take over from the pre-construction team. They will do this with considerable knowledge about this project that they have gained due to their input during the pre-construction phase. This will enable them to do their work efficiently which will provide a more cost effective project. Having been a part of the pre-construction phase will give them significant advantages when it comes to knowing the project schedule, needs and risks. When this is all taken into account, it will be a well-planned team that will succeed in providing an on-time, on-budget finished product.

Minimizing inconvenience and impacts to the vehicular traffic will be accomplished during the preconstruction phase by making every effort to minimize the amount of full-depth construction required on existing roadways and by helping to develop MOT phases that will allow for the shortest possible amount of time to perform the required construction work. During the construction phase, the work in areas where MOT is required will be scheduled during optimum weather months to insure that total time elapsed in these areas is minimized. During both phases, we will work with local civic organizations to make sure that they are aware of all potential design impacts and changes as well as have good knowledge of the construction schedule so that they know where and when our construction team will be working. This will all be accomplished thanks to a sound partnership between CGI, SHA and design team members as well as all other stakeholders that will help to provide a well-planned constructible project that will be built on-time and on-budget.

C Concrete General, Inc.'s approach to providing successful general contracting services is founded on the strength of its executive staff and the high quality of the managers and staff who work for them. Our work force is very stable which allows us to rely on their diverse talents to constantly provide quality on time projects. CGI has constructed several projects in the last 10 years that have included components that are a part of the SHA's objectives for this project. We have constructed roundabouts, bypasses, bridges and culverts, bike paths, wetlands and stream modifications. We have successfully worked in very difficult MOT and environmental conditions. Our team is confident that our experience on past and current Design-Bid-Build and Design-Build projects will enable us to be the partner that will enable the SHA to meet and/or exceed the project goals. Key elements which support CGI's successful general contracting services are as follows:

1. Collaboration, Coordination, and Communication
2. Deliver Consistent Quality
3. 'Best Value' Cost Estimates and Time Impacts



4. Safety
5. Deliver Projects On-time and On-Budget

1. **Collaboration, Coordination, and Communication:** Having clear, open and concise communication is critical to the success of any project and team relationship. CGI has established technology-based communication and information management systems which ensures accurate, real-time communication of all data to all members of a project team – owner, designer, subcontractors, and CGI personnel. CGI’s successful Design-Build approach is the integration of Partnering within the daily workflow of design and construction. Through our team’s collective experience of working on Design-Build projects, the CGI team understands the importance of fostering continuous communication throughout the design and construction phases of the project. This communication begins upon receipt of the RFP to the end of construction. This continual interaction fosters a deep understanding of each other’s approach toward design and construction such that decisions on project elements and issues are mutually developed while ensuring the project design meets all contract requirements and environmental commitments, and best fits construction means, methods, practices, and products. In addition, frequent interaction during construction ensures construction is being performed as intended by the design, project goals are being met, and unforeseen construction issues are quickly resolved.

Coordination and communication between SHA, CGI, designer, resource agencies, utility companies, and other project stakeholders are critical to the overall success of the project. Partnering as promoted by SHA will be utilized as the framework for ongoing coordination and communication. The CGI team is committed to working as an integrated team with the SHA, designer, and project stakeholders to successfully deliver an award-winning transportation project. All key staff and key support staff of the CGI pre-construction and construction teams will actively participate with SHA and project stakeholders in an initial Partnering workshop and frequent Partnering meetings.

The CGI team’s mission is to develop, initiate, and promote Partnering which offers opportunities to improve communication, provide structured issue resolution, and timely follow-up. Partnering is a process based on trust and open, honest communication in which all participants in the project recognize both common and individual objectives, and work to achieve those objectives through improved communication and cooperation. Partnering will create a multi-participant team in which all members are committed to a common purpose, goals, and work approach for which they hold themselves mutually accountable. Shared responsibility means fulfilling commitments to the team and ensuring the success of all members of the team. This approach will allow for the fact that team members share many common goals yet have differing authorities, interests, and objectives that must be accommodated.

There are several Partnering values and attributes of the way the CGI team conducts business. As a Partnering team member, our mission is to instill ***trust, teamwork, communication, motivation, empowerment, and issue resolution*** into the project, and to identify and overcome any barriers that interfere with successful completion of the project. Working together, we will have clear objectives of what we want to accomplish by using the Partnering process throughout the life of the project. Team members will play an important role in the Partnering process. They will help with issue resolution and decision-making, offer encouragement, attend meetings, provide input for meeting agendas, and work on completing assigned tasks on time.

CGI integrates the participation of the team’s construction and design entities and facilitates the concept of joint involvement by providing construction expertise during pre-construction. This integration starts with **Raymond “Butch” Lundgren (CGI), our Project Manager**, and is supported by **our Executive Committee, Daniel Miller, President (CGI) and Michael Miller, Vice President (CGI)** who will provide corporate management oversight and thought processes to our management team. Mr. Lundgren will be the prime point of contact with the SHA and designer for all project related matters. He will have full responsibility for compliance with all project requirements, as well as overall project management and contract administration. Mr. Lundgren will ensure the team is fully integrated to provide a cost effective, environmentally friendly, high quality project to a successful on time and within budget. He will regularly report project progress to SHA, designer, and our Executive Committee. He has a history of providing innovative solutions to complex problems.



On the pre-construction and construction side, Mr. Lundgren will be supported by **Oliver Roelkey (CGI), our Construction Manager**. Mr. Roelkey will report to Mr. Lundgren and Mark Miller, our Cost Estimator, and will be responsible for providing his expertise during pre-construction and onsite construction, including the project controls/DBE compliance, scheduling, on-site safety, subcontractors, and MOT/Traffic, Structures, Utilities, and Highway/ESC/SWM Managers. His focus is to assist in reviewing all drawings during the pre-construction phase and comment on constructability and environmental issues. During the construction phase, he will schedule and coordinate all construction activities in conformance with the approved plans and the RFP to insure that the project is built on-time and on-budget. Mr. Roelkey will ensure all critical construction coordination activities are on or ahead of schedule to avoid schedule slips. During pre-construction, Mr. Roelkey will ensure all design elements are reviewed for constructability and consistency with construction scheduling, sequencing, and means/methods. He will also regularly coordinate with the pre-construction team during construction on shop drawings reviews and to resolve field issues. **Chris L. Kirsch (CGI), our General Superintendent**, will work with Mr. Roelkey during the construction phase to insure that the needed men and equipment are available when scheduled in order to insure an on-time project.

On the pre-construction and construction side, Mr. Lundgren will be supported by **Mark Miller (CGI), our Cost Estimator**. Mr. Miller will report to Mr. Lundgren and Mr. Roelkey and will be responsible for working with all team members in order to provide accurate pricing in conformance with the estimating model and defined scope of work. In addition Mr. Miller, with information provided to him by all team members, will provide cost estimates of all proposed construction alternatives. He has the knowledge and knows the availability of material, labor, and subcontractors in the area. He will assign resources, oversee design, coordinate schedules, develop/implement corrective measures, if needed, and integrate environmental compliance/mitigation measures into the preconstruction review process. He will also work with the SHA to help determine, develop and document a contracting plan to meet DBE contract goals on all construction phases including compliance with COMAR 21.05.10.05.

Joshua Miller (CGI), our Stream Restoration Specialist, will work with **Larry Ward (CGI), our ESC Manager**, as an active participant in the design and development of all in-stream and wetland work for constructability and environmental issues during the preconstruction and construction phase and will work with Mr. Roelkey to make sure that the project maintains an “A” rating. Mr. Miller was approved as a Stream Restoration Specialist on SHA Contract No. AX3765F60. His experience with in-stream restoration work and working with Maryland-National Capital Park and Planning Commission will be a valuable asset during the pre-construction and construction phases. Mr. Miller and Mr. Ward will ensure compliance with all permit requirements during pre-construction and implementation of the design during construction. He will review design plans along with construction staff and will visit the construction site periodically and during critical phases to ensure permit conformance throughout. Particular attention will be paid during design to ensure impacts are minimized and construction access is considered in the design. Mr. Ward will ensure all ESC controls are properly placed in the field, all construction remains in permitted limits, and any field modifications are properly approved by SHA and MDE. Mr. Miller will work with the pre-construction and construction teams to ensure permits are being properly interpreted during design and construction.

Our Safety Director, Fred Collins (CGI), will implement and oversee our worker and public safety plan to make sure that safety is a top priority during design and construction. He will ensure all design elements are thoroughly checked, consistent with project commitments, and constructible.

To ensure full integration of our design and construction staff and leverage the collaboration afforded through the pre-construction process, CGI has assigned **Andrew Kitchen (CGI) as our Scheduler**. Mr. Kitchen will report directly to Mr. Lundgren and his primary responsibility will be to ensure schedule collaboration between SHA, design, and pre-construction staff. Mr. Kitchen will use the Oracle Primavera scheduling software to develop and update a schedule that will incorporate the initial design and track changes to the design in the pre-construction phase. An example of an initial CPM with reports is in the appendix. He will in conjunction with our Construction Manager provide timely schedule updates that will keep stakeholders



informed about construction progress. Any and all unanticipated conditions encountered during the construction phase will immediately be incorporated into the schedule to indicate if they result in any time impacts.

Typical critical elements on any project are utilities, environmental permitting/approvals/compliance, and MOT/traffic. To ensure coordination between design and construction on these critical items, we have assigned key personnel to manage and coordinate these elements. **Stephen Beckley (CGI), our Utilities Coordinator**, will work directly with utility owner representatives (Pepco, Verizon, Comcast, WSSC), SHA, designer, and construction staff to ensure all utilities are identified, impacts minimized, and necessary relocations coordinated and effectively scheduled/sequenced.

Larry Smith (CGI), our Structure Superintendent, will provide significant insight during the pre-construction phase to make sure we are building the most economical structures that will meet the desired aesthetically pleasing and context sensitive solutions. During the construction phase, he will work with Mr. Roelkey to make sure he is provided with the needed crews and equipment.

Armando Cruz (CGI), our Traffic Control Manager, will review plans for constructability and environmental issues and ensure all MOT/traffic elements are coordinated and sequenced with construction activities and will ensure the proper implementation of traffic control devices in the field. He will review the performance during construction and work with design staff to make modifications that may be necessary due to driver, pedestrian, or bicyclist behaviors.

Paul Musser (CGI), our Shop Superintendent, will work with our team to make sure that all equipment used on-site meets current environmental regulations and will provide equipment options during the design phase to insure that we have the right equipment for the job. He has the knowledge and experience in the use of low ground pressure equipment for working in wetland and stream areas. He is also trained for spill emergencies.

Jennifer Johnson (CGI), our Public Relations Coordinator, will coordinate all required meetings with local stakeholder groups, adjacent property owners and the public. She will participate with SHA, the designer, and key staff in the stakeholder outreach program. This will include meetings with environmental agencies, local stakeholder groups, adjacent property owners, and utility companies.

The success of any project relies on close collaboration, coordination, and communication between all team members to ensure that the project moves forward efficiently. Our management team has a proven track record of successfully completing quality projects safely, on-time, and within budget. This starts with our construction and design team members working closely and interactively during the development of construction phase through involvement in design decisions and cost estimate input.

Our team will carefully evaluate the constructability of initial design and subsequent modifications. Special attention will be given to the work required in environmentally sensitive areas. Initial field investigations will be completed together in order to assess issues such as construction access, potential environmental constraints, and impacts to adjacent property owners or other stakeholders such as utilities. In the pre-construction phase, CGI is heavily involved in design and constructability decisions in preparation of design submittals. We will work with SHA and the designer in developing construction solutions and provide design modifications to address unforeseen field conditions.

During a constructability review, the construction of MD 108 at MD 97 in Olney, MD between Olney Mill Road and Dr. Bird Road, it was determined that a significant portion of the soils at subgrade were lightweight and micaceous. CGI in conjunction with the SHA determined that the subgrade soils could be treated with a subgrade soil stabilization to provide a suitable foundation for the paving section. This method of construction, in lieu of undercut and refill, saved money and allowed the project to stay on schedule.

Also, in the local area, we constructed the MD 124 Design-Build project in Gaithersburg, MD from South of Airpark Road to Rosewood Manor Lane. On this project, it was also determined that a significant portion of the soils at subgrade were lightweight and micaceous. CGI Design-Build team developed a subgrade design which used a combination of subgrade soil stabilization and biaxial geogrid to provide a suitable foundation for the paving section. This method of construction, in lieu of undercut and refill, saved money and allowed the project to stay on schedule.



CGI has proven experience working in waterways, tidal and large waterways, fast moving waterways, and massive drainage areas. On the I-70 over Conococheague Creek Bridge No. 21106 Widening and Deck Replacement project, Washington County, MD, CGI teamed with WRA after award of this Bid-Build procurement project to develop and implement a revised construction sequence for the construction of the pier extensions within Conococheague Creek. Working collaboratively, CGI and WRA determined that constructing the pier extensions in a reverse order while using concrete block diversion structures to support the required temporary construction bridge/platform crossing Conococheague Creek, the physical impacts could be reduced while the time required within the creek could be reduced significantly. CGI and WRA worked with SHA's OOS and EPD to obtain approval of the revised sequence and approval of a Joint Permit Modification, while not delaying the construction schedule. This re-sequencing and innovative design approach resulted in significantly less temporary construction impacts since the temporary construction bridge/platform crossing needed for pier construction was in the waterway for a much shorter duration and their physical impacts were minimized. This minimized potential environmental impacts on the stream.

On this same I-70 over Conococheague Creek Bridge project, CGI encountered unforeseen site conditions of in-stream work. In the fall of 2012, the Office of Structures was faced with an emergency field problem that required the resources of numerous individuals within and outside SHA. It was during the widening of the existing dual bridges on I-70 over Conococheague Creek that two of the six existing pier footings were found to have extensive cracks with one of the footings appearing to have completely failed. Considering the critical nature of the situation, and the fact that I-70 acts as a primary artery through Maryland carrying more than 50,000 vehicles per day, many of them being trucks, it was crucial to act in an expeditious manner to address the situation and ensure the safety of the traveling public.

Immediately, meetings were held with representatives from the Office of Structures, District 6 Construction, a bridge design consultant and CGI. It was through these initial meetings, and the positive can-do attitude that everyone brought to the table, that we were able to develop a proactive solution to the situation that not only involved reinforcing the existing piers on a temporary basis but also to develop and implement a long-term permanent solution.

Throughout the winter, CGI and SHA persevered to move the construction forward to underpin and reinforce the pier footings. Not only did CGI work long days, nights, and weekends, they endured the rigors of working through the winter within the waters of Conococheague Creek. These waters would often rise as the result of rainfall upstream and require the work platforms and diversion to be removed from the creek until the water levels went down. CGI adapted to the difficult changes and was able to accomplish and still complete the project on time with \$2 million of emergency work added by SHA.

A Certificate of Appreciation was awarded to CGI for this I-70 over Conococheague Bridge project in 2013 by Earle S. Freedman, Director Office of Structures for SHA. Mr. Freedman said "his office has experienced many emergency situations and reacted accordingly, however, we have never had an equal or better participation, cooperation and complete commitment to a project as exhibited by all those involved. This was a perfect example of how issues such as this should be and can be handled."

CGI key staff and support key staff utilize the following reports to report progress, track cost, track scheduling, review, etc. (CGI Progress Report, Time Sheet & Foreman's Report, Daily Erosion & Sediment Control Report, Daily Traffic Managers Report, Superintendent's Daily Report, CGI Subcontractors Report). Copies of the reports are attached to the appendix. The forms are filled in triplicate with a copy to the project management and the owner.

To ensure efficient and effective collaboration during the design phase, our team will participate in all design/construction workgroup meetings with SHA and the designer to discuss progress, discuss construction scheduling/sequencing and means/methods, identify and resolve issues, and ensure proper coordination of the work. Additionally, quality review meetings will be held frequently to review conformance with technical and project criteria/commitments. As the project moves from design into primarily construction, bi-weekly meetings between construction and design staff will continue. In addition, pre-construction staff will be continuously involved via regular field visits, continuous communication with construction staff, and regular Partnering



meetings. CGI team will be responsible for expedited design revisions, primarily as a result of changes in field conditions. CGI has reacted quickly to such revisions in the past which have resulted from the discovery of unsuitable materials, changes in material availability or, in the case of erosion and sediment control, design solutions to deal with extreme weather events. In addition, our team will be responsible for continuous as-built inspection and certification during construction.

2. **Deliver Consistent Quality:** Consistent quality through self-performance, pre-planning, and pre-construction services, we can economically address the quality needs of our clients. During the pre-construction phase, CGI's key staff and support staff will review all stages of design and development for constructability, material availability, and environmental sensitivity. During the construction phase, our **Quality Control Manager, De'Alonzo Lubika (CGI)**, will coordinate with Mr. Roelkey, manage and coordinate construction QC activities for compliance to project requirements and bring any non-compliance issues to Mr. Roelkey, Mr. Lundgren and the Executive Committee's attention. He will work with the team to insure that all materials used on this project meet all SHA requirements. He will work with Fred Collins, our Safety Director, to develop a quality control plan, a material sourcing plan, and a worker and public safety plan. He will ensure that all work and materials are supplied in conformance with the contract requirements, and the "approved for construction" plan and specifications.

3. **'Best Value' Cost Estimates and Time Impacts:** In the GMP and the Design-Build methods, we provide an experienced pre-construction value engineering services guaranteeing "Best Value." The entire team will work to provide a constructible, practical design that exceeds the criteria while providing the greatest value to the stakeholders. Management and control of the cost of the project will continue during the finalization of the design by continuing the involvement of construction and design personnel side by side.

CGI will continue to control the cost of the project through a multiple input format for the procurement of all the required materials, services and subcontractors for the project. This process involves both estimating and project field staff independently scoping and acquiring prices for the materials, services and subcontractors necessary. Upon compilation of this information, the two groups sit down, review and analyze the information and propose a best value candidate recommendation for award.

Mark Miller will provide cost estimates of the alternatives to be evaluated that shall include industry standard operating and maintenance costs when appropriate to evaluate life-cycle costs of the alternatives. CGI will develop the OPCC on the design prepared by the designer at the completion of any agreed upon milestone. Cost estimates using HCSS construction estimating software will be utilized for all estimates. Example screenshot and reports are in the appendix. CGI has provided significant cost savings and reduced time impacts on many projects. Some experience of value analysis studies and cost savings are listed below.

On the Baltimore-Washington Parkway at MD 197 project, the as-planned sequence of construction allowed CGI to place temporary embankments that were used to support the concrete arch superstructures. The method of construction eliminated the need for extensive false work and allowed us to make up a significant portion of the time that was lost due to significant design problems. CGI also changed the design of four temporary bridges from a steel girder design to an ACROW (Bailey Bridge) design to save time which gave FHWA a savings of \$184,000. On SHA Contract No. M401-510-372, I-270 at MD 121, we eliminated concrete retaining walls and substituted them with mechanically stabilized earth slopes at a savings to SHA of \$ 47,000. On SHA Contract No. HO8255170, MD 28 – Riffle Ford Road to Great Seneca, CGI eliminated some temporary paving at a savings to SHA of \$77,908. On SHA Contract No. HO8255170, US 29 from MD 99 to MD 100, CGI submitted a Maintenance of Traffic Savings proposal to eliminate the need for pavement marking removal. This change resulted in savings to SHA of \$ 109,733.

4. **Safety:** CGI employs a Safety Director and Safety Assistant which allows us the flexibility to effectively address details applicable to individual clients, projects, geography, specific regulatory agencies, and our own needs. Safety is a paramount concern in all of the Concrete General, Inc. operations. Performance of employee services in work places free of unnecessary hazards is a hallmark of our operating methods. Safety continues to be an important and integral aspect of the success of Concrete General, Inc.



Our commitment to employee safety is continuously growing on a daily basis. We understand that the success of our company relies on the completion of our contractual obligations without interruption and/or delay. Safety plays a major role in accomplishing our goal of continued success with employee safety being key.

The Concrete General, Inc. Safety Director visits our project sites to establish and maintain a highly visible presence within the company. It is the Safety Director's responsibility to visit each major project site to verify that the safety program is properly addressing the hazards that are generated during the course of construction. Projects under construction are audited for properly planned safety procedures during particularly hazardous stages of the project such as excavations or steel erection. Examples of safety reports are included in the appendix.

Safety ultimately begins with the training and knowledge of proper workplace practices and expectations of all of our employees. Every individual is trained to work safely. Our written Safety Program provides immediate guidance and direction for all employees and is provided in both English and Spanish. As a condition of employment, each employee must consistently work in a safe manner.

5. Deliver Projects on Time and On Budget: Time is Money – CGI repeatedly demonstrates our ability to deliver projects not only on time, but often before the scheduled completion date. We accomplish this by partnering with all stakeholders to identify critical paths with input from key subcontractors, and by self-performing many major components of the work, allowing better control of project scheduling and overall progress. Some of the work CGI will self-perform consists of maintenance of traffic, stakeout, excavation and grading, storm drainage and structures, culvert extension, environmental protection, patching, temporary and permanent stabilization, subgrade preparation, bridges, retaining walls, noise walls, and miscellaneous structures that will be required on this project. We have experienced personnel and the needed equipment to perform these activities and have done so on a significant number of SHA contracts. Recent completed examples include Contract Nos. MO8685170, MO6325171, BA4625168, AA5805370, MO5625176, HO3915170, WA3255180, BA7725187, PG6325187R, AA8125181, AA7855180, and AX3765F60. The activities that maybe subcontracted include erosion and sediment control devices, clearing and grubbing, concrete curbs and sidewalks, landscaping, utility relocations, pavement markings, traffic barrier W beam, Hot Mix Asphalt paving, electrical, and permanent signs.

CGI will solicit subcontractors during the OPCC and GMP process using its in house data based resources and the solicitation notices required by COMAR 21.05.10.05. During the OPCC, we will primarily be notifying subcontractors of upcoming opportunities for early work and for possible input during pre-construction if it is felt that their expertise will be beneficial to providing the best design and finished product possible.

The team understands the importance of meeting the contract Disadvantaged Business Enterprise (DBE) participation goals and will work to achieve all DBE goals for subcontracting and work force development and have a successful history of meeting and exceeding project goals. We recognize that the true purpose of the DBE program is not to meet goals, but importantly to increase and cultivate business opportunities for the DBE contracting community.

Specific process and programs that we have effectively utilized on other projects which will be applied on the MD 97 project to ensure appropriate DBE involvement include:

1. Advertising to solicit DBE participation and raise awareness
2. Establish DBE business plan room
3. Pre-identify DBE bid packages
4. Provide for economically feasible DBE bid packages
5. Payment alternatives

CGI will utilize the services and resources of public and private entities in order to solicit interested DBE firms, including:

1. Maryland Minority Business Enterprises Program
2. MDOT MBE/DBE Directory
3. Montgomery County Government MFD Program



4. Existing company source lists

Also, Concrete General, Inc. maintains a website - www.concretegeneral.com where prospective subcontractors can log on and determine what projects CGI is bidding on. Currently, 240 firms have applied for passwords, of which 100 firms are DBEs.

CGI will search the Maryland DOT DBE listing for firms that can perform applicable to this project. We will send faxes to all appropriate firms with mail follow-up for faxes that do not go through. The bid request faxed to the DBE firms asks them to fax the form back to us indicating whether or not they are interested in bidding on the project, and gives them the company phone number as well as directing them to www.concretegeneral.com. For those firms who cannot download the appropriate information we prepare copies and mail it to them. If any firm needs assistance we either provide guidance over the phone or meet with them in person.

Mr. Mark Miller is responsible for seeking out DBEs, assisting them in the bidding process, and selecting them for inclusion in our bid. After the award of the bid, Mr. Miller prepares a subcontractor and supplier list by work item for use by the Construction Manager in order to assure that the work contained in the Affirmative Action Plan is performed by the listed DBE firm.

The company EEO Officer is Milagro Zambrano, who has been performing in that capacity for several years. Ms. Zambrano is responsible for monitoring the progress of the Affirmative Action Plan and ensuring compliance with the plan. Ms. Zambrano monitors the monthly billings by the DBE firms and seeks out new firms if a DBE does not perform or if changes in the work cause a reduction in a DBE subcontract. Ms. Zambrano will develop and implement policies to enable minority business and women to be considered fairly and equally in respect to consultation, personal services or supply services that CGI is in need of. CGI consistently finishes projects with higher DBE participation than is listed on the Affirmative Action Plan.

CGI has been involved with many minority outreach events with associations in the local area to seek services of minority firms to solidify relationships with and work along with them on contracting opportunities. CGI will achieve or exceed the DBE goal on this project.

D. During the pre-construction phase, CGI will work with the SHA and the designers to make sure that impacts, both during construction and long term, are minimized by making certain that points and methods of access require the least possible disturbance and that proper materials and equipment are used so that wetlands and floodplains that are disturbed can recover to their preconstruction conditions as soon as possible. We will work with the Maryland National Capital Park and Planning Commission to make sure that temporary and permanent impacts are minimized to their satisfaction. We will work with Town of Brookeville and the Newlim/Downs Mill Complex during the design phase to make sure that all team members know the limits of their concern and how their concern can be best incorporated into the design. The knowledge gained during the design phase will allow the construction team members to have advanced knowledge of environmental and historic impacts so that they can make sure that construction activities are performed in accordance with the design and to the satisfaction of the stakeholders.

E. Concrete General, Inc.'s approach to construction activities that can be done in the pre-construction phase consists of the following. The first phase will include early procurement and second phase will include early construction. The benefits of early procurement are two fold as they will minimize and/or eliminate the cost of possible material price escalations and will insure that the long lead items are available when needed. Any possible material impacts can be minimized and/or eliminated thru the early procurement process. CGI does not anticipate any problems. An early construction package will be requested if all team members agree that this work will have a positive impact on the construction schedule. This package will most likely involve work that can and should be performed to facilitate third party utility relocations. Anything that can be done to expedite these relocations will benefit the construction schedule and will minimize the risk of delays.

CGI's approach to the construction phase starts by breaking down the project into three distinct areas that optimizes value to the project from both a budget and schedule perspective.

Area 1. From the South end of the project to the first Reddy Branch Bridge

Area 2. Between the two Reddy Branch Bridges



Area 3. From the second Reddy Branch Bridge to Northern end of the project.

CGI's approach is the following work needs to be completed in each area prior to March 1, 2017 stream restriction.

Area 1. From the South end of the project to the first Reddy Branch Bridge: Area 1 is controlled by the work required to relocate Meadow Branch. The stream relocation and dealing with the wetland areas must be performed early on in the construction phase. No other major work can be performed in this area until the stream relocation and wetland areas have been addressed. If this work is not completed prior to the stream restriction date of March 1, there could be significant schedule impacts.

Area 2. Between the two Reddy Branch Bridges: The Southern Reddy Branch Bridge will be constructed as a part of Area 2. The south abutment will be constructed using a temporary bridge over Reddy Branch. The south abutment of the northern Reddy Branch Bridge will be constructed as part of Area 2. All Area 2 substructure bridge work needs to be completed by the March 1 stream restriction date.

Area 3. From the second Reddy Branch Bridge to Northern end of the project: Work in the wetlands north of the second Reddy Branch Bridge needs to be done early as our access to the north abutment is through the wetland area.

Accomplishing the above activities prior to March 1, 2017 and the superstructure on the two bridges by the earliest possible date will allow us to haul the excess excavation from Area 2 to Areas 1 and 3 with minimal impacts on the existing traffic pattern and the Town of Brookeville.

Factors that could affect the budget and schedule are third party utility relocations, which is discussed above, unusual weather delays due to severe winters, and the unknown impacts of discovering historical artifacts in unanticipated areas. These artifacts could have major cost and time impacts. Hopefully, work during the pre-construction phase will provide defined limits of where these artifacts are located but there is no absolute guarantee of this as a fact. CGI does not anticipate any issues with labor or equipment availability and is prepared to complete the project on schedule based on normal weather conditions

F. CGI has team members who are very active in MdQI and continuously stress the value and importance of quality to all of our employees. We are very active in ACI and ACPA programs and can bring this insight to the team as we work together to determine the most cost effective and environmentally sensitive design package. Our experience with the Design-Build program has provided us with an opportunity to perform numerous constructability reviews and to look at all possible design alternatives that will provide economical design to the Design-Build team yet provide the owner with the quality product they have specified and are expecting. This experience will be very valuable to the SHA and designers in this CMAR contract. Being a local contractor will give us tremendous amounts of flexibility in providing the personnel and equipment when needed with minimal mobilization costs.

CGI has considerable experience building bridges in the local area in and over water from small streams to large rivers that are subject to high flows and flooding. CGI has two in-house SHA-approved Stream Restoration Specialists. Joshua Miller, and Bob Stoneburner, each of whom has extensive experience working in and around streams, wetland work, and environmentally sensitive areas. Their experience with in-stream restoration work also includes working with Maryland National Capital Park and Planning Commission.

CGI has extensive knowledge of Reddy Branch flooding and are certain that we can provide positive comments on environmental design and flood control.

CGI has performed many projects within the local area and has knowledge of the local history in the Town of Brookeville.

CGI has extensive experience and knowledge of the lightweight and micaceous soils in the area. On several projects, our experience included stabilizing the subgrades with treatments of soil stabilization and geotextiles or biaxial geogrid to provide a suitable foundation for the paving section.

Finally, we were the first Maryland contractor to participate in the Partnering process (on a FHWA project) and as a firm believer in the process and its benefits, we are confident the stakeholders involved during the pre-construction phase will be able to work collaboratively to provide an economical quality design package that will satisfy the needs and desires of all stakeholders.



C. Concrete General, Inc. has the following ideas that could increase the likelihood of success and help balance the project goals:

1. The stream relocation between Sta 41+00 to 52+00 is a major issue. Early meetings with SHA, MDE, and USACE will be required to work on developing an acceptable design that provides for cost effective construction to relocate the stream. CGI will provide its experience with previous stream mitigation projects. Some projects consist of the Montgomery Co. Montrose Parkway project which consisted of a precast concrete arch to relocate the stream, and Maryland Aviation Administration project to relocate 1,000 LF of stream and construct 755 LF of box culvert construction. The bottom of the box culvert was filled with 2 LF of blended stone material that was environmentally compatible to aquatic life and approved by MDE.

2. Historically, soils in this area have not provided a good subgrade. The team should consider the need for soil stabilization which will save time and improve quality and probably deducts cost as there should be a reduction in the paving section. This technical concept will have positive time and cost impacts.

3. Adjust grades, where possible, in order to minimize waste excavation or borrow excavation. If this can be done there will be a cost reduction.

4. Good soil samples from wetland areas that require fill should be obtained to analyze and study soils during the pre-construction phase. These results will determine how to stabilize wetlands and other environmentally sensitive fill areas. Geotextiles and/or geogrids may be an option to save cost.

5. Early utility involvement and communication in pre-construction to increase knowledge and early identification of potential utility issues will be necessary. An early construction package that expedites utility construction would mitigate risks.

6. Studying the impacts of heavy rainfall during the pre-construction phase to determine design options that will reduce flood impacts.

7. Early pre-construction survey involvement will be required for the historic area. If the historic area coverage is larger than original thought, early planning to handle potential issues will save time.

8. Early pre-construction planning to analyze alternate types of retaining walls may eliminate support of excavation and minimize the environmental footprint.

9. Explore the use of pervious pavements wherever possible. These pavements may increase cost but a potential reduction in impervious areas will provide a positive impact on the environment.

10. Modify the shape of the indicated traditional roundabouts to improve truck traffic movements and provide cost savings to long term users. This has been done previously on Montgomery County contracts and was successful.

11. Perform fish and aquatic organism relocations prior to initializing any in stream construction. This operation will add cost but the positive impacts to the environment will far outweigh the cost impacts.

12. Protect wetlands and other environmentally sensitive areas through the use of hardwood mat and mulch access roads and the use of low ground pressure equipment. These environmentally positive steps will help the project achieve its goals with minimal impacts on cost and no time impacts.

C.2. Risk and Innovation Management

Raymond ‘Butch’ Lundgren, Mark Miller, and Oliver Roelkey will attend the project scoping/Partnering workshop, project team meetings, milestone meetings, long-lead time procurement (LLTP) GMP and construction GMP reconciliation meetings with the project team as necessary. They will collaborate with the project team to develop a risk management plan, perform risk assessments, and prepare a risk register, provide input on accelerated construction techniques, and innovative cost savings. In addition to the key staff, Joshua Miller, our Stream Specialist, and Larry Smith, our Structures Superintendent will assist to formulate and evaluate alternative designs, systems, and materials.

Through this method of contract delivery, construction quality and completeness of the design should improve and impact to the schedule and budget should be minimized. CGI will use its experience and work side by side with SHA and designer to analyze costs and review plans for constructability and environmental issues and share the information. Through review of the plans and constructability our team members will be able to provide Mr. Mark Miller with information needed to determine and report risk mitigation. Mr. Miller will also



track the cost impacts of each design review. CGI will also share its assumptions that the contractor would normally make if they were contracted to do the work at the pre-construction phase. In addition, arrangements can be made regarding risk sharing and profit sharing if there are over-runs or under-runs in the GMP. The advantage SHA gains are the benefit of having the opportunity to incorporate a contractor's perspective and input to planning and design decisions. Also, we will have the ability to "fast-track" early components of construction prior to full completion of design.

The same model is used to track and report innovative savings. CGI will work alongside SHA and designer to collaborate on innovative ideas to save money and time on this critical project. The innovative solutions with the most impact on the project will be to find alternative ways to construct portions of the project, using alternative materials, and reviewing alternative phasing options to save time which leads to saving money. The CMAR collaborative project delivery method will lead to outstanding team innovations, saving the project money and time and adding value to the project.

CGI has proven experience with SHA of providing favorable cost from its team through communication, coordination, and collaboration. More than 80 percent of work performed each year by CGI is contracted with SHA. We have performed many Design-Build projects with SHA, but many of the projects are won with SHA's Low Bid Design-Bid-Build experience. CGI is the local contractor who day after day gives SHA the low bid and best quality with its experienced workforce. CGI headquarters in Gaithersburg, MD is 8 miles from this project.

Mark Miller will provide cost estimates of the alternatives to be evaluated that shall include industry standard operating and maintenance costs when appropriate to evaluate life-cycle costs of the alternatives. CGI will develop the OPCC on the design prepared by the designer at the completion of any agreed upon milestone.

The key staff and Andrew Kitchen will evaluate the alternatives on the basis of costs, construction schedules, availability of labor, equipment, and materials, and construction feasibility in the form of constructability reports. They will prepare written procurement reviews for materials that could be procured by the Administration or CGI ahead of any construction phase, prepare written reports at the end of any design milestone summarizing the value analysis activities accomplished and any recommendations developed within each phase.

If the OPCCs and/or prices received for the work contained in any work package cause the anticipated cost of the work to exceed the then current OPCC, any LLTP GMP, or any construction GMP, CGI will at no additional cost to the Administration, unless caused by an increase in CGI's work requested by the administration, provide additional value analysis services in conjunction with any and all appropriate items in the OPCC, any LLTP GMP, or any construction GMP for the work.

The key staff will lead value analysis workshop(s) at agreed upon milestones to coordinate estimating tasks, bring multidiscipline cost/construction experts to evaluate alternative designs, systems, and materials. This work includes the submittal and ongoing evaluation of the value analysis proposal. They will collaborate with the project team to develop an innovative tracking and performance report and coordinate with SHA and the designer throughout the preconstruction phase through a combination of on-site meetings, design meetings, conference calls, and workshops.

This professional team, headed by Raymond "Butch" Lundgren, Oliver Roelkey and Mark Miller, will work together during the preconstruction and construction phases and will work collaboratively with both the SHA and the designer in a partnership that does all things possible to achieve the stated project goals in the project development and during the construction phase.

Our key staff members will work with the SHA and the designer to develop plans for a two-lane roadway that accommodates motor vehicles and bicycles. We will provide input during the design phase in order to provide a package that has minimal impacts to the physical environment and is aesthetically pleasing and context sensitive. We will provide our experience as a contractor to insure that the designed project is constructible and can be built on-time and on-budget. We will work with the partnership to insure that the designed work will minimize inconvenience and impacts to the travelling public and adjacent property owners and provide the Administration with the best cost estimate.

There are many ways to bring the project cost down to construct a two-lane roadway to move the traffic from the town and preserve the historic town of Brookeville. Minimizing the environmental impacts and footprint for streams, wetlands, forest, parkland, and archeological features etc. is the top priority. A reduction in the footprint can be performed by utilizing alternate retaining wall and bridge designs. This would result in less clearing and grubbing, temporary and permanent stabilization, grading and excavation, storm drainage, erosion and sediment control, dewatering, reforestation and planting, minimize and perhaps avoid temporary impacts to natural resources during construction, minimize and perhaps avoid increased impacts to parkland and forest, and utility relocations.

Additional savings can be achieved by communication with the subcontractors and suppliers early on in the pre-construction phase. The CMAR process allows separable construction and early procurement for materials prior to completion of the design. Early-on planning with subcontractors and suppliers would be beneficial because they would thoroughly understand the project, be better prepared, and overall give a competitive price and better schedule.

Earthwork grades can be adjusted, where possible, in order to minimize expensive waste excavation and borrow excavation. If the cut and fills can be balanced there will be a cost reduction.

In addition, CGI has performed work on many contracts within this area of the project. Historically, soils in the area have not provided a good subgrade. The team should consider the need for subgrade soil stabilization which will save time and improve quality and probably deduct costs as these should be a reduction in the paving section. Considering the possible poor subgrade proactively should also minimize schedule delays due to weather or excessive undercut and refill.

Risk or Innovation Description	Probable Cost Savings of Risk Mitigation or Innovation	Probability of Occurrence	Cost Savings to Project (Probable Cost Savings X Probability of Occurrence)	Schedule Impacts to Project (Days)	Summary of Mitigation/Elimination of Implementation plan
Stream relocation between Sta 41+00 to 52+00	None	1 each	None	(0)	Team will schedule early meetings during the pre-construction phase with SHA, MDE, and USACE to work on developing an acceptable design that provides for cost effective construction. CGI will provide its experience with previous stream mitigation projects to assist with the design. The risk could have an impact on the GMP.



Light weight and micaceous soils	\$200,000.00	90% probable	\$180,000.00	(45)	Team will obtain good soil samples from cuts and subgrades to analyze and study all soils during the pre-construction phase. The results will determine what type of subgrade stabilization to use for savings. The use of subgrade soil stabilization can reduce the paving section and add further cost savings.
Balance earthwork cut and fills	\$200,000.00	1 each	\$200,000.00	(30)	Pre-construction planning to study the profile of the roadway and balance the earthwork cut and fills to eliminate waste excavation or borrow excavation.
Fills in wetland areas	\$200,000.00	1 each	\$200,000.00	(30)	Team will obtain good soil samples from wetland areas that require fills to analyze and study the soils during the pre-construction phase. The results will determine how to stabilize wetlands and other environmentally sensitive fill areas. Geotextiles and/or geogrids may be an option to save cost.
Utility relocations	\$100,000.00	1 each	\$100,000.00	(60)	Early utility involvement and communication in pre-construction to increase knowledge, early identification of potential utility issues. An early construction package that expedites utility construction would mitigate the risks.
Flooding due to storm events	\$5,000.00	10 each depending on floods	\$50,000.00	(15)	Team will study the impacts of heavy rainfall during the pre-construction phase to determine an average flood event. During the pre-construction phase we can consider design options to reduce flood impacts.



Historic area may be a larger area	None	20% probable	None	(180)	Early pre-construction survey involvement and communication during pre-construction phase to handle potential issues.
Alternate retaining walls	\$300,000.00	1 each	\$300,000.00	(0)	Early pre-construction planning to analyze locations of retaining walls for the use of top down construction retaining walls to eliminate support of excavation and minimize the environmental footprint.
Pervious pavements	None	1 each	None	(0)	Pre-construction planning to explore the use of pervious pavements wherever possible. This reduction in impervious areas will provide a positive impact on the environment.
Modify the shape of the roundabouts	\$100,000.00	2 each	\$200,000.00	(30)	Early pre-construction planning to analyze phasing and environmental footprint of the roundabouts. Modifying the shape to improve truck movements through the roundabouts will provide a cost savings to the long term users and will benefit truck traffic.
Perform fish and aquatic organism relocations	\$1,000.00	30 each	\$30,000.00	(30)	Early pre-construction survey of fish and aquatic organism to determine what relocations should be done prior to initializing any in stream construction. This survey can be used to determine what is required, and how to minimize the quantity of relocations.
Protect wetlands and other environmentally sensitive area	None	1 each	None	(0)	Pre-construction planning to explore the use of hardwood mat and mulch access roads to protect wetlands and other environmentally sensitive areas.



CONCRETE
GENERAL, INC.