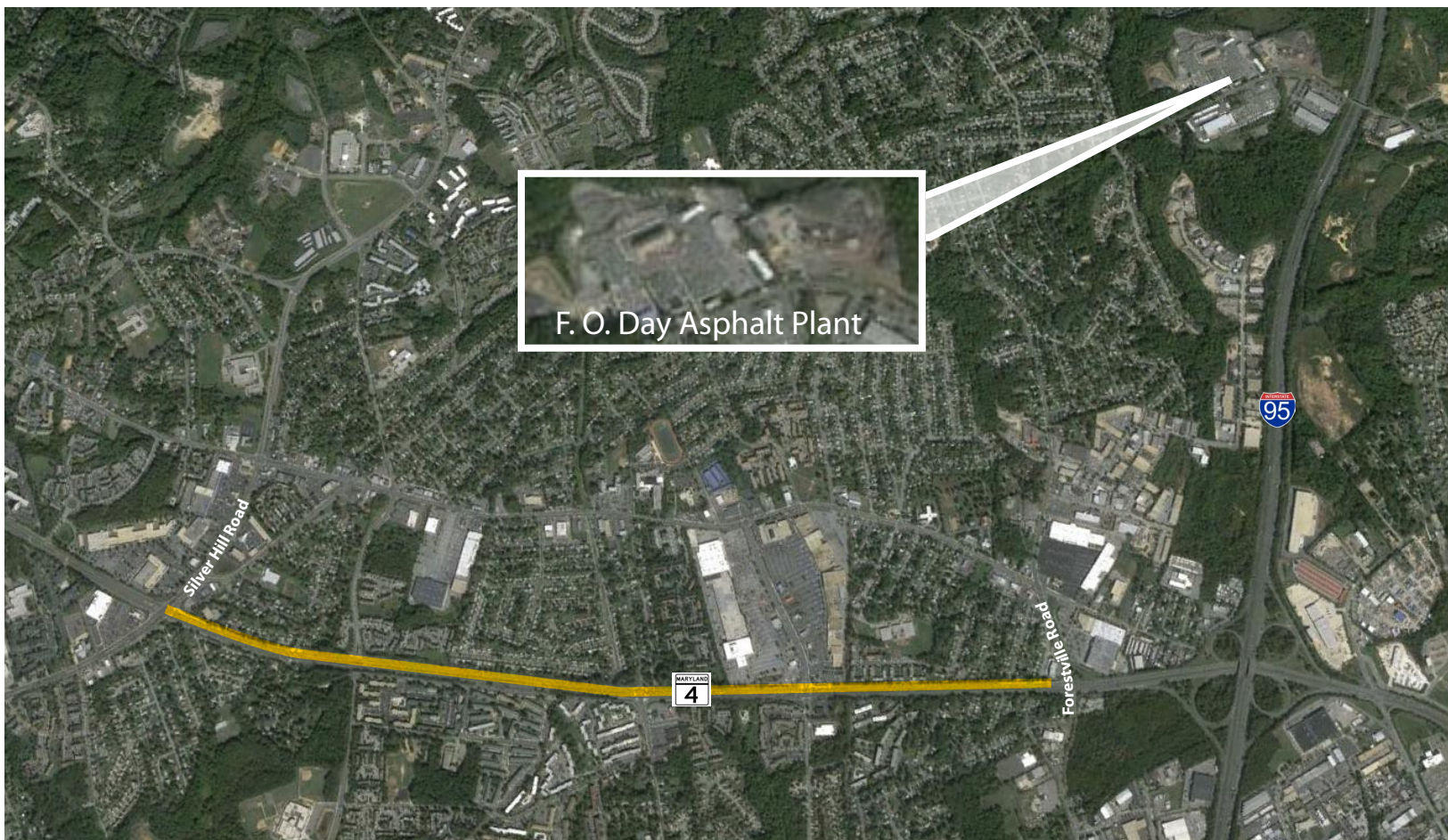


# Technical Proposal



Forestville Road to  
MD 458 (Silver Hill Road)  
Community Safety and  
Enhancements Project (Design-Build)  
Prince George's County

June 11, 2014

Contract No. PG7585184

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Project Understanding  
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# Project Understanding and Approach

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### A. APPROACH TO SUCCESSFULLY DELIVERING THE PROJECT

The DAY/JMT D-B Team's (DBT) approach to successfully delivering the project, while meeting and exceeding the established project goals includes providing a "One-Stop" Shop, focusing on the following key factors: the highest standards of job/public safety; quality design/construction; effective cost control/budget management with efficient jobsite control; expedited permitting/utility relocations; partnership with all project stakeholders, utility owners and permitting agencies in accordance with Maryland State Highway Administration (SHA) requirements. To ensure the timely flow of information to project partners, the DBT will use remotely accessible electronic file sharing; logical assignment of work packages to expedite design, permitting, and construction; and maximize the opportunities for MBE/DBE firms. Below is the DBT approach to the established project goals:

#### **Project Goal 1 - Public outreach and continuous education of the communities and roadway users.**

Public outreach and education is intended to keep the public informed of the major activities and decisions throughout the design and construction process of the project and to enhance public safety.

The DBT will establish a proactive program of public outreach for conducting effective education and establishing relationships with the communities and businesses that are in the proximity to the construction area, as well as with local groups including the MD 4 Community Task Force. Our program will create public trust and support, improve public awareness, enhance public safety and preempt complaints. We embrace the SHA's value of "no surprises" for the affected stakeholders. The best way to describe this process is a "Project Information Campaign." Our campaign must begin at Notice-to-Proceed (NTP) and extend through the life of the contract. Our campaign will focus on seeking input and information from the public during the design and disseminating information to the public during construction.

The DBT has appointed **Mr. Anthony Brown of Rosborough Communications, Inc. as our Public Relations Officer.** He will work with the SHA to develop and implement a public participation program that may include conducting both public information and individual one-one-one meetings, develop SHA project website information and prepare monthly mailers. In cooperation with the SHA, he will act on behalf of the SHA as a citizen's contact for project information and to provide answers to project related questions. Anthony has 20 years of public outreach experience and formerly was the MTA's Director of Communications.

The DBT will provide the SHA requisite information for their use in maintaining the SHA project website. This includes providing information related to project meeting agendas, meeting minutes, upcoming design activities such as design charettes and workshops, work progress updates and construction photos. Updates to the website will continue as the project transitions from the design phase to the construction phase and will continue until the completion of the project. The DBT can also develop and maintain a project web page as a supportive means to maintain communication with the public.

The DBT will participate in creating and printing an overall project brochure, supporting materials and community updates for distribution and educating the public on pedestrian access, work zone safety and future traffic switches. The DBT will coordinate with SHA, Prince George's County DPW&T, Prince George's County Police Department, and other local groups to implement pedestrian safety education efforts in the communities surrounding the project and will incorporate same into the website and brochures. We will establish a toll free telephone hotline to further enhance communication and provide alternative access to those who do not have internet capability. Our Public Relations Officer and staff will monitor the toll free project phone number and respond to all inquiries from citizens which will be logged per RFP

requirements. An emergency response telephone tree will be developed to quickly respond in the event an emergency may ever occur on the project.

Motorists driving through the project will obtain information from the regional Dynamic Message Signs, if warranted, fixed mounted signs and local variable message signs (VMS). Informational signs will be installed throughout the project that identify the SHA logo, the name of the project, a toll free telephone hotline number and project web address. VMS boards will alert motorists/pedestrians to future or pending traffic changes.

We will conduct “*Pardon our Dust*” meetings quarterly to provide an interactive means of actively communicating with the public. This open communication will facilitate maintaining a positive public perception of the project.

The DBT will implement an open door policy to communicate with local citizens from a central field office located on the job site. As part of this program, the DBT will establish and maintain continuing liaison with persons occupying property or doing business in the immediate area of the work for the purpose of minimizing inconvenience from construction. We will make every effort to address any concerns the public may have, and take under consideration any suggestion or wishes they express if those suggestions are reasonable in regard to cost, time and construction effort.

The public outreach and education efforts provides an opportunity for stakeholders to gain a further appreciation of the construction process and their role within it, and clearly highlights *the SHA’s mission to plan, deliver, operate and maintain a transportation system that is safe, enables easy movement of motorists and pedestrians, and enhances the community and everyone’s quality of life.*

**To thoroughly address the Project Goals 2-5** the DBT will develop and implement a Transportation Management Plan (TMP) in accordance with the requirements of the Maintenance of Traffic (MOT) performance specifications, standards and references, design and construction criteria, maintenance during construction and required reviews. The TMP shall include Traffic Control Plans (TCP) showing existing and future conditions, work zone impact assessments, MOT alternative analysis and incident management. Public information and outreach strategies will be communicated with the public and concerned stakeholders, before and during the project, through the development of a public outreach plan. The TCP will be developed based on the best temporary traffic control system that meets the performance requirements and construction activities for each major phase of the construction.

Work zone impacts, including impacts on the environment and surrounding communities, will be kept to a minimum, and will be considered when developing and implementing the TMP. The TMP Report will layout transportation management strategies and how they will be best be implemented to manage work zone impacts. Our TMP will address the established project goals 2-5 that include the following suggested strategies:

**Project Goals 2 and 3 - Provide a safe an accessible facility for pedestrians and bicyclists.** Our MOT design and implementation shall include provisions for the safe and efficient passage of pedestrians (including those with disabilities), bicycles, and vehicular traffic through and around the construction zones. There will be an increased emphasis on the use of pedestrian guide signage and channelization through work zones. Signage will also be used to alert motorists to the increased presence of pedestrians at high volume pedestrian crossings.



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The DBT will maintain all existing pedestrian and bicycle access safely along and across the existing facilities at all times during construction. Existing pedestrian signals and crosswalks will also be maintained at all times and additional temporary pedestrian signals and crosswalks will be provided if required. Recreational trails, including bicycle paths, shall be maintained and kept in good condition and will be coordinated with the appropriate governing agency. The DBT will schedule and sequence the work to provide continuous access throughout the project limits and duration of the project and will sequence the construction of new pedestrian and bicycle facilities as soon as possible. We are already familiar with pedestrian patterns in the corridor having performed numerous pedestrian counts and can utilize that knowledge in the development of our plans and our proactive safety approach.

The DBT will coordinate with SHA, Prince George's County DPW&T, and the Prince George's County Police Department to implement pedestrian education efforts in the communities surrounding the project.

The DBT will also coordinate with local schools, the Prince George's County Board of Education (BOE), and public transportation agencies for both city and local counties to maintain bus, private vehicle, and pedestrian access to educational facilities and public transportation services in the area. Access to bus stops will be maintained at all times.

**Project Goal 4 - Provide measures for increased traffic calming and driver awareness.** The DBT will provide measures of traffic calming and awareness by implementing advance warning signs, reduced lane widths, new 45 mph speed limit signs, portable variable message signs, work with the police to enforce the speed limits through the area, and utilize SHA speed trailers. MOT Plans will be developed and the work will be sequenced to minimize traffic shifts and move traffic to prolonged traffic lane locations. Work zones will be protected by temporary concrete barriers with minimum construction access openings. The DBT will develop and implement a process to monitor the TMP, including the TCP and an Incident Management Plan (IMP) to ensure the plan is developed and implemented efficiently and appropriately, and that the plan is kept up-to-date with necessary modifications during the course of the project.

We will perform traffic analysis of the proposed MOT using tools such as Synchro or Lane Closure Analysis Program (LCAP) to evaluate any temporary lane closures. Traffic data will be gathered or performed at impacted locations with the analysis considering the highest volume hour that the lane closure takes place.

Signage will also be used to alert motorists to the increased presence of pedestrians at high volume pedestrian crossings. The reduced visibility of on-coming traffic, especially at intersections, can create safety hazards for motorists, pedestrians and pedestrians with disabilities such as wheel chairs. To eliminate these concerns and the risks they pose to the public, we will complete intersection sight line analyses during the plan development to determine what limits barriers can safely be installed without adversely impacting sight distance.

Equally important is maintaining a clear work zone and deflection area behind the barrier. Elimination of clutter and obstructions will ensure the barrier deflection distances are maintained, and that sight lines are not reduced or blocked through placement of large construction equipment or material. To ensure proper sight lines are provided and maintained, information will be included on the plans where material and equipment storage will be precluded.

**Project Goal 5 - Provide a safe facility and maintain mobility for motorists.** The TMP will provide convenient and logical rerouting of traffic (by advance warning systems, direction and information signing,

lighting and striping) to provide “driver friendly” detours to maximize the safety of the traveling public. The DBT will provide a full time Traffic Manager on site whose sole responsibility will be to supervise and continuously monitor installation and maintenance of all traffic control devices ensuring vehicular, pedestrian and bicycle safety are maintained.

In addition, the DBT will assist SHA in providing advance information to the public regarding construction phasing, detour routes, and expected travel impacts. We will actively coordinate these activities through frequent meetings with our Public Relations Officer and our public outreach program. We will provide advance notification of any impending lane closure by utilizing the project website and will fully cooperate with SHA’s lane closure approval process. If warranted, we will utilize work zone intelligent transportation systems such as existing and future CHART and SHA variable message signs as part of the TMP. Access to property by owners, customers, businesses, deliveries, visitors and emergency vehicles will be provided and maintained at all times.

The DBT will monitor queues/delays during MOT operations. If thresholds established in the SHA’s “*Work Zone Lane Closure Analysis Guidelines*” are exceeded, the DBT will modify the MOT plans or incorporate other mitigation strategies to reduce the queues/delays below threshold levels. The DBT will cooperate fully in modifying/expanding the methods of traffic control and will modify the working hours specified if required.

The DBT will develop and maintain a contingency plan that specifies actions that will be taken to minimize traffic impacts should unexpected events occur in the work zone. An Incident Management Plan will also be developed and maintained for accidents occurring within the project limits, including crash prevention strategies, emergency procedures, reporting requirements, and mitigation strategies.

The DBT will cooperate with the Maryland State Police, local law enforcement, and other emergency response agencies in response to accidents, fires, spills, or other emergencies in any area affected by the project, including construction site and traffic lanes open to the public.

**Project Goal 6 - Provide a facility that is able to be adequately maintained.** The DBT will explore design/construction techniques that will provide a facility that is able to be adequately maintained. These methods will focus on providing environmentally friendly aspects to make Project changes that produce benefits and/or maintenance savings to the SHA without impairing the essential functions, characteristics, or quality of the Project, such as safety, traffic operations, ride-ability, long term durability, desired appearance, maintainability, environmental protection, drainage, and other permitted constraints.

The DBT will design Stormwater Management (SWM) facilities that best fit the site context, the adjacent communities and local ecology. We will develop BMP designs that require lower maintenance and consider the long term maintenance requirements, including access and materials. Our design will ensure each part of the BMP facility is accessible by the equipment needed to maintain or rehabilitate the facility. Should any underground facilities become necessary, they will be designed so each point within each separate chamber of a facility will be no further than 100 feet from an access point.

To ease maintenance requirements we will employ flatter slopes, less than or equal to 3:1, to the extent possible. Using flatter slopes will enable safer and easier access for SHA maintenance forces.



Landscape design will emphasize the use of plant material that will ensure long term growth, survivability and low maintenance.

To provide a facility that can be maintained requires that the constructed project be well documented. To meet this important project maintenance aspect, the DBT will provide complete as-built plans of the built condition. The as-built plans will meet the requirements of the SHA and be certified. For SWM facilities we will complete and submit a SWM Facility As-Built that includes a Certification Package for each stormwater filtration facility.

## B. SIGNIFICANT ISSUES AND RISKS

In preparation, the DBT has reviewed the contract documents, visited the project site and jointly evaluated the most significant risks facing the DBT and the SHA. We believe we have identified the issues that have the greatest potential to adversely impact the Project's overall success and public perception. The DBT considers a project successful when the critical risks are jointly identified and addressed with the Owner and managed during the course of the project to ensure the goals and expectations of the customer and stakeholders are met or exceeded. The significant risks jointly identified by the DBT were pedestrian safety, third party coordination and public outreach with the communities. These issues are interrelated and are critical to delivering the Project safely, on-time and within budget while minimizing the Project's impact on the local communities. The following narrative is a summation of why the DBT identified these significant issues:

**4 Pedestrian Safety** - Our number one critical risk and risk register item, is the significant pedestrian traffic using the shoulders along MD 4 and crossing at mid-block locations because of the lack of existing continuous pedestrian facilities throughout the corridor. This risk is even more critical when pedestrians with disabilities are involved. Pedestrian safety/accessibility must be immediately improved and maintained throughout the project limits, especially within the construction work zones. Given the high volume of pedestrian traffic and the history of pedestrian safety issues in the area, the DBT will provide an integrated TMP, Public Outreach Program and Safety Plan that will address SHA's and stakeholder concerns and expectations on this issue. The TMP will integrate motorists, pedestrian/bicycle safety and construction operations while calming traffic and providing increased driver awareness throughout the work zones. The plan will emphasize the use of pedestrian guide signage and channelization through the work zones in coordination with continuous education/public outreach of the communities and all roadway users.

The DBT is presently proactively studying the construction sequences of the project to provide improved pedestrian/bicycle safety as soon as possible. Several solutions being studied are using the existing shoulder pavement with the aid of temporary concrete barriers to provide immediate pedestrian access and safety. Another alternative being studied is early completion of the EB sidewalk through the project limits.

**4 Third Party Coordination** - Activities outside those controlled by the DBT are deemed to be under the control of third parties. These activities include water quality/SWM permits, design reviews by key stakeholders and other governmental approvals prior to commencement of construction and certain construction milestones; delays by utility companies in reviewing the designs and/or relocating their facilities; and delays in procuring the necessary right-of-way (ROW) in time frames consistent with the critical path for construction.

The DBT has assessed the potential impact of each component of these risks and determined action steps and activities to mitigate the risk associated with them. Our DBT has been assembled in such a way as to bring the correct individuals to the table, to successfully navigate through the processes of the various outside parties, and work proactively to resolve the issues in a timely manner. To mitigate these risks our DBT will place high emphasis on coordination with SHA's staff to ensure smooth preparation, submittal, and review of the higher risk items such as environmental permits for the project. We will fully utilize the expertise of JMT's environmental and water resources staff to ensure success of this task. We will allow ample review time for regulatory agencies and SHA's staff in the project schedule and proactively partner with permitting agencies to answer questions and facilitate their review where possible.

Delays associated with utility company designs and construction/relocations are often a critical factor on project schedules. To mitigate this concern the DBT will include utility designation/test pitting efforts as early items in the project schedule and develop designs to the extent necessary during the procurement process to identify which utilities are impacted. After award, we will develop mitigation strategies to minimize or eliminate relocations of utilities. The DBT will also include utility companies as partners in the design process, setting up biweekly task force meetings throughout the design in order to be in constant awareness of utility companies' schedules and additional information they made need to complete their designs and relocations expeditiously.

Delays associated with ROW acquisition could negatively affect the design and overall project schedule. To mitigate this concern, the DBT will perform initial H/H analysis immediately after NTP. This will include an analysis of the outfalls to ensure adequate outfall requirements are met. We will then identify and coordinate with SHA where easements or ROW are required to contain the construction activities, permanent features and surface waters.

By closely monitoring and managing the schedule, the DBT is able to quickly identify and mitigate adverse impacts to it. In cases where the critical path is delayed, we will complete a Time Impact Analysis, resequence work activities, and prepare a schedule recovery plan to reclaim lost time. We can then implement measures such as increasing work crews and resources, resequencing the schedule logic, revising the MOT patterns and/or modifying the design to recover the schedule. The DBT is committed to providing and maintaining a project schedule that will be proactive to change and unforeseen conditions, will adapt when required and will pursue all options, resources and mitigation strategies in order to advance the work as quickly as possible to ensure the project schedule deadlines are successfully met.

**4 Public Outreach with the Communities** – Projects of this nature have a tremendous ability to affect a large segment of the communities. Increasingly, the public has taken an active interest and are becoming more involved in projects that affect their commute, their communities and their daily lives. When not communicated with and managed effectively, those that are adversely impacted can cause delays to the work and increase costs/time consumption by both SHA's and the DBT's personnel. The DBT will provide an effective Outreach Plan that will reduce these risks by employing the following strategies: educate the public and provide community awareness of the project goals; provide a forum for the public to provide feedback to the DBT, which permits the DBT to effectively address any concerns that may arise; enhance public/pedestrian safety and reduce traffic congestion during construction; provide project resources as required to interact with the public and address stakeholder concerns; and create public trust and support.

The plan will include but will not be limited to appointing a Public Relations Officer for the project, developing and maintaining a project website and/or providing pertinent information to the SHA for their website, preparing project brochures, conducting regular “*Pardon our Dust*” public meetings with the communities, maintaining a telephone hotline to address local complaints, coordination with elected officials and MD 4 Community Task Force, coordination with local media, coordination with SHA and Prince Georges County websites and onsite informational signing during the course of the project.

The public outreach and education efforts provides an opportunity for stakeholders to gain a further appreciation of the construction process and their role within it, and clearly highlights SHA’s mission to plan, deliver, operate and maintain a transportation system that is safe, enables easy movement of motorists and pedestrians, and enhances the communities and everyone’s quality of life.

### C. UNDERSTANDING OF THE PROJECT’S SCOPE

The DBT has reviewed the plans, specifications and contract requirements and the following narrative best describes our understanding of the project’s scope of work.

The DBT will design and construct continuous pedestrian facilities for MD 4 from Silver Hill Road to Forestville Road including a southbound sidewalk and a northbound shared-use path. The project is located in Prince George’s County and is approximately 2.1 miles in length. Removal of existing pavement will be required to accommodate the construction of these proposed pedestrian facilities and SWM facilities. The proposed new typical section of MD 4 includes 11’ travel lanes, 2’ median shoulders and 8’ outside shoulders. Curb and gutter is proposed along the outside shoulders of MD 4.




The project includes design and construction of full depth pavement, joint repair, wedging and leveling, and resurfacing of the existing roadways and shoulders, construction of new drainage systems and SWM facilities, signing, pavement markings, traffic signal reconstruction, lighting, landscaping, reforestation, relocation of WSSC utilities and coordination with other utilities as needed.

Environmental stewardship, erosion and sediment control (ESC), safety, MOT for motorists, pedestrians and bicyclists, public outreach, third party coordination of impacted stakeholders and coordination of ROW and utility impacts will be required throughout the course of the project to mitigate risks and maintain the project schedule. The top priority and goal of the DBT is to perform these items proactively to the satisfaction of the local residents and stakeholders and to exceed SHA’s contract requirements and expectations.

The project will be completed on or before Wednesday, August 30, 2017. The DBT will complete the design and construct the project in accordance with the concept plans and project requirements. Those requirements are summarized as follows:

#### **Description of Work**

The required engineering/construction services to be provided by the DBT will include, but not be limited to:

-  4 Roadway Design and Construction.
-  4 Hydraulic Analysis, Design, Construction and Agency Approval for Specific Structures identified in the Contract Documents.
-  4 Temporary/Permanent Signing, Lighting, Traffic Signals and Pavement Marking Design and Construction.



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- 4 Roadside Landscaping Planting, SWM Landscape Planting, Reforestation Design and Construction.
- 4 Utility Coordination for utility modifications regardless of whether designed and/or constructed by the DBT.
- 4 Utility Design and Relocations.
- 4 Geotechnical Engineering and Pavement Design.
- 4 SWM Design, Approvals, Construction and As-Built Certification (including MDE approval).
- 4 ESC Design, Implementation and Approvals (including NPDES and MDE Approvals).
- 4 Engineering Studies/Reports required to meet the contract or permit requirements or to address any comments from the SHA or other agencies related to meeting/modifying the contract or permit requirements.
- 4 General Coordination with SHA (includes obtaining required approvals).
- 4 Additional Data Collection (includes surveying, geotechnical, test pits, etc.).
- 4 Produce Required Deliverables.
- 4 Environment Management and Permit Activities (including obtaining permits).
- 4 Community Relations as defined in the Public Outreach Performance Specification
- 4 Traffic Control Design and Implementation including preparation of a TMP.
- 4 Maintenance of project site including mowing, watering and dust control.
- 4 Obtaining all required permit modifications from the appropriate regulatory agencies for any additional impacts to roadside trees, SWM, ESC, or any other impacts not authorized by the original permits.
- 4 Implementation of any required mitigation or remediation for additional impacts not included in the permit or due to any non-compliance with the permit conditions.
- 4 Other items required to successfully complete the project.

#### **D. UNDERSTANDING OF THE ESTABLISHED PROJECT GOALS**

The following is our understanding of the project goals on a conceptual level. A more thorough understanding is detailed above:

- 4 Provide continuous education and outreach to the community and all stakeholders.
- 4 Provide a safe and accessible facility for pedestrians along and across MD 4.
- 4 Provide a safe and accessible facility for bicyclists along and across MD 4.
- 4 Provide measures for traffic calming and increased driver awareness.
- 4 Provide a safe facility and maintain mobility for motorist along MD 4.
- 4 Provide a facility that can be adequately maintained.
- 4 Provide a construction schedule that will be phased to avoid conflicts with utility relocation efforts and minimize delay in the overall project schedule.
- 4 Provide a construction schedule that will be phased to complete work within State right-of-way prior to right-of-way clear date and to minimize delay in the overall project schedule.
- 4 Maintain pedestrian safety and accessibility throughout the project limits, especially in work zones.
- 4 Provide an increased emphasis on the use of pedestrian guide signage and channelization thru work zones.
- 4 Provide signage to alert motorists to the presence of pedestrians at high volume pedestrian crossings.
- 4 Meet with the MD 4 Task Force on a periodic basis to seek feedback on construction details and progress.
- 4 Coordinate with SHA, Prince George's County DPW&T, and the Prince George's County Police Department to implement pedestrian education efforts in the community surrounding the project.



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# 2.09.03 - Project Management

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### A. Overall Project Management Plan

#### 1) Project Communication Plan

Communication within F.O. Day/JMT D-B Team (DBT) and between the team, externally with the Maryland State Highway Administration (SHA), and externally with the general public including roadway users, impacted stakeholders and community officials throughout all phases of design and construction process is crucial to the project success.

The DBT will develop and maintain a centralized collaborative software data base system using Microsoft SharePoint to establish timely and orderly communications for the project. SharePoint will be used to communicate internally within the DBT, subcontractors and suppliers and can be used to communicate with SHA. ProjectWise will be used to post plans, reports, calculations and comment/responses for SHA's review as specified in the contract. Protocols will be developed to manage correspondence by subject matter.

SharePoint can also be used as the primary software to communicate and share project information with community officials and impacted stakeholders such as the SHA, Prince George's Co. DPW&T, M-NCPPC, MD 4 Community Task Force, Police & Fire Departments, WSSC and other impacted utilities. This web based collaboration software is easy to use and allows secured access to plans and project documents.

SHA will manage all media communications and our D-B Public Relations lead will work with the SHA to develop and implement a public participation program that may include conducting both public information and individual on-one-one meetings, developing SHA project website information and preparing monthly mailers. Project website information prepared by the DBT for SHA may include project brochures, community updates, notifications of upcoming activities such as design work shops, posting of meeting minutes, work progress updates, traffic alerts of any future and pending traffic changes and construction photographs. Roadway users driving through the project may obtain project information from regional DMS signs, if appropriate, fixed mounted signs, local VMS signs and local radio & television media broadcasts.

Another very effective way we plan to communicate with and keep the public informed about the project schedule/scope is to meet with them at critical times. The DBT plans to hold "*Pardon Our Dust*" informational meetings with the local communities and officials prior to the start of work, and at other points when warranted. A toll free public phone hotline will also be provided to further enhance communications with the communities.

The DBT will maintain a consistent system of documenting all communications with business owners, residents, property owners, roadway users, community officials and other effected stakeholders. The DBT will meet with the MD 4 Community Task Force on a periodic basis to seek feedback on design, planning, construction details, schedules and progress. Agendas and meeting minutes will be provided if required.

The DBT will use the "Task Force" approach to openly communicate with SHA and the effected stakeholders on subjects such as design, planning and construction operations. Task Force meetings will be held biweekly in the design and planning stages and will be held monthly or as warranted after construction starts. Meeting agendas will be prepared prior to each meeting and minutes of the subjects discussed and the items resolved will be prepared prior to the next meeting. This open form of discussion, in the form of partnering, clearly defines project criteria and ensures that owner intentions are met before issues become time critical. Partnering is mandated by the contract and is a process we openly welcome with SHA.



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A CPM schedule will be created to manage the project in which submittals and approvals will be integrated. The schedule will identify critical submittals, hierarchy, notices, estimated time frames and required review time. To ease this process, the DBT will designate a representative to coordinate all submittals prepared by the DBT, subcontractors, suppliers and vendors with the appropriate SHA personnel or consultants.

Open and honest communication among all stakeholders must be accomplished from the initial partnering workshop throughout the life of the project for partnering to succeed. It is accomplished by enthusiasm and the incentive to prove that things can be done more economically, faster and better without compromising safety and quality. Decision making should occur at the lowest levels. Issues should be resolved as quickly as possible at the lowest appropriate level. Only when an issue cannot be resolved should it rise to the next level of management. The best way to resolve issues is to prevent them from happening. When Partnering is used, issues are identified and resolved before they become barriers.

#### 2) Coordination Management

Activities outside those controlled by the DBT are deemed to be under the control of third parties. These activities include water quality, SWM and ESC permits, design reviews by key stakeholders and other governmental approvals prior to commencement of construction and certain construction milestones; delays by utility companies in reviewing the designs and/or relocating their facilities; and delays in procuring the necessary right-of-way (ROW) in time frames consistent with the critical path for construction.

The DBT has assessed the potential impact of these activities and determined action steps to mitigate the risk associated with them. Our DBT has been assembled to bring the correct individuals to the table, to successfully navigate the processes of various outside parties, and work proactively to resolve issues in a timely manner.

To mitigate activities related to water quality/SWM permits our DBT will place high emphasis on coordination with SHA's staff to ensure smooth preparation, submittal, review and obtaining the MDE permit for the project. We will fully utilize the expertise of JMT's environmental/water resources staff to ensure success of this task. We will allow ample review time for regulatory agencies and SHA's environmental staff in the project schedule and proactively partner with permitting agencies to answer questions and facilitate their review where possible.

Delays associated with utility company designs and construction/relocations are often a critical factor on project schedules. To mitigate this concern, the DBT will include utility designation/test pitting efforts early in the project schedule and develop designs to the extent necessary during the procurement process to identify which utilities are impacted. After award, we will develop mitigation strategies to minimize or eliminate relocations of utilities. The DBT will also include utility companies as partners in the design process, setting up biweekly task force meetings throughout the design in order to be in constant awareness of utility companies' schedules and additional information they made need to complete their designs.

Delays associated with ROW acquisition could negatively affect the design and overall project schedule. To mitigate this concern, the DBT will perform initial H/H and SWM analysis immediately after NTP. This includes an analysis of the outfalls to ensure adequate outfall requirements are met. We will then identify and coordinate with SHA for easements or ROW as required to contain the construction activities, permanent features and surface waters.

The DBT will pay close attention to the schedule and will identify and mitigate adverse schedule impacts promptly. For any critical path activity, we will complete a time impact analysis, resequence the work

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### Project Management



activities, and prepare a schedule recovery plan to reclaim lost time. We can then implement measures such as increasing work crews/resources, resequencing the schedule logic, revising the MOT patterns and/or modifying the design.

The DBT is committed to providing and maintaining a project schedule that will be proactive to change and unforeseen conditions, will adapt when required and will pursue options, resources and mitigation strategies in order to advance the work as quickly as possible to ensure the schedule deadlines are successfully met.

### 3) Risk Management

A successful D-B construction project depends on how well project participants manage and avoid project risks. Risks are managed through sound business and construction practices, experienced designers and contractors, and through careful preparation of the design and review of the project contract documents and requirements. A significant component of successful risk management begins with how well the experienced project participants identify risks at the contract design stage and initial construction planning stage.

The DBT will use the “Task Force” approach during the design and planning stages which we believe is key to realizing a successful project and managing and avoiding risks. This open forum of discussion, in the spirit of partnering, serves to clearly define project criteria, ensure the owner’s intentions are met, address corridor wide constructability issues and provide consistency in design before becoming schedule-critical. Potential risks such as ROW acquisition, utility relocation, third party coordination, MOT/pedestrian/ bicyclist safety, environmental issues, scope creep, budget constraints, schedule overruns, unforeseen conditions and public outreach can all be efficiently and economically addressed during this stage of the process.

Task Forces serve as a conduit for disseminating critical project information and identifying potential risks, known and unknown. The Task Force, with the D-B Project Manager at the head, is the central point of decision making and communication among all involved in the project. As part of this process, the Owner, Contractor and Designer are charged with reaching a consensus on project issues while identifying risk exposures and avoidance. This approach of equal representation by the Owner, Contractor and Designer is integral to the partnering process. The Task force will meet biweekly at first, then as required as the project progresses. The Task Force meeting agenda will address project risks, coordination, schedule review and implementation and the overall work plan. The Task Force meeting will be formal, with agenda and meeting minutes as required.

Risks will be identified and become apparent during this process and recorded on a project risk register. The DBT will access the key risk areas and measure the likelihood and impact. These risks will be ranked and the desired results will be established. The DBT, with the cooperation and help of SHA, will develop options and solutions to mitigate or avoid same. A strategy will be selected and implemented. The risk will be monitored, evaluated and adjusted accordingly to achieve the desired outcome and results.

As the construction process evolves, new and unforeseen risk may be identified and will be resolved using the risk management techniques discussed above and will be addressed to the satisfaction of SHA. Practicing integrated risk management, continuous learning/communication is a corporate culture that the DBT plans to bring to the project and SHA from the corporate level to the front line operations, people and processes.

### 4) Design and Construction Management including QC and Partnering with the SHA

**Design and Construction Management:** DAY and JMT’s focus on process, planning, and scheduling make them an excellent team for this project. Both organizations are well integrated into the D-B process. DBT has qualified personnel experienced in design and construction of highway widening projects in urban

## 2.09.03

### Project Management



environments that are committed to the project. DAY has extensive experience and knowledge on phased highway widening projects under difficult traffic conditions, including accommodating pedestrians and bicyclist through work zones. JMT has the required expertise and experience in highway, H/H, ESC, landscape architecture, traffic, utility and geotechnical engineering for this project. The DBT have established proven methods, procedures, processes and relationships that will ensure the team hits the ground running and meets or exceeds the project goals. DAY will be actively involved in the design process and JMT will be actively involved in the construction process. See Section C – Organization Structure for details regarding these important DBT processes. Proper execution of D-B processes essentially provides the DAY/JMT Team the ability to avoid many of the typical changes that can occur during the construction process by resolving issues during the design process. This is accomplished by our team of designers and contractors who are all actively reviewing and incorporating better, more economical ways of designing and constructing the project.

**Partnering:** Communications between the DBT and the SHA will follow the procedures outlined in our contract, as well as specified through Partnering guidelines. In addition to the kick-off partnering workshop, project team meetings will be conducted on-site on a monthly basis to review partnering effectiveness, schedule progress, design issues, QA/QC matters, unresolved construction problems, safety performance, SHA issues, and general project management matters. By using the partnering relationship as an integral part of the project, problems can be resolved in the initial stages, rather than escalating to become major impediments to job progress. As per the RFP, formal partnering with SHA is required. **The DBT is fully supportive of a formal partnering process, as it provides benefits mutually beneficial to all participants.** Key benefits include:

- MDOT/STATE 4 Partnering employs the strengths of each participant and the shared use of project organizational tools to identify and achieve mutual goals, resulting in buy-in from involved stakeholders.
- MDOT/STATE 4 Partnering promotes quality through routine communication of these mutual goals (including effective control of scope, budget and schedule) throughout the duration of the project.
- MDOT/STATE 4 Partnering clarifies the roles and responsibilities of each stakeholder and promotes accountability in the successful completion of the project through the establishment and use of a resolution ladder.
- MDOT/STATE 4 Commitment to the partnering process is formalized among its participants through the signing of a partnering agreement.
- MDOT/STATE 4 Partnering creates an atmosphere of trust, open communication/teamwork throughout the project duration.
- MDOT/STATE 4 Partnering encourages early involvement of its participants, and encourages early resolution to issues that could become major impediments to successful completion of the project.

The end result of an effective partnering program will be a higher quality product that successfully accomplishes project goals and meets the established budget, and schedule parameters of the project.

**Design Quality Control Plan (DQCP):** Immediately upon notice of award and before the notice to proceed, the DBT will develop and submit to SHA for review and approval of the DQCP. The DQCP will be in accordance with the requirements of RFP Section 3.05.06 Quality of Design and Construction. The DQCP will be followed from start to completion of the project. The DQCP will define the organization, including subconsultants, work processes, and systems necessary to provide confidence and objective evidence that the facilities, components, systems, and subsystems that make up the Project design meet the contract requirements and will ensure each step of the quality process is performed to the project standards.



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The DQCP will require that the plans, specifications, and other design submittals are prepared by experienced professionals in accordance with generally accepted design practices and in such a manner to ensure that they will be acceptable to SHA. The DQCP program will be organized by each type of engineering discipline, will clearly define the contract requirements including the scope of work and work plan, and will be the basis for all professional services on the project. The DQCP will specify actions to be taken by the DBT to ensure quality, including the identification of QA/QC personnel, their roles and responsibilities, the steps of the quality review process, checklists for each discipline and element review, the procedure for reviewing and resolving comments, and the process for obtaining and issuing “Approved for Construction” plans.

#### 5) Schedule Management

The first step towards managing the project schedule and mitigating project risks is to create a detailed CPM schedule that is realistic, properly identifies all of the activities, correctly sequences and prioritizes project activities, fully integrates all project elements into a cohesive format, and has been communicated with and received approval from each discipline. Once this CPM is developed, it is equally important that the CPM is regularly updated and maintained with timely and realistic information, and that the DBT has an established procedure for being proactive to schedule issues, such as slippages or changed conditions, in a manner that allows for proper mitigation without impacting the schedule.

The schedule development process begins early in the RFP stage with a preliminary CPM that is the basis for the project schedule. Once the contract is underway, the DBPM will lead the effort of obtaining detailed schedules from each discipline manager for every area of work. He will then hold a series of schedule development meetings where each discipline is integrated into the overall CPM. By creating this “buy-in” from each manager, the DBT now has a realistic schedule that can be communicated and used by all involved.

The schedule will be constantly reviewed and maintained to avoid slippages and impacts. Any deviations from the approved schedule will be discussed as part of the monthly partnering process. Mitigation and recovery solutions, should they be needed, will be identified and initiated during the appropriate meeting identified below. Systems to manage the design/construction sequencing will be clear, concise, and include:

- NOI/LAKE  
4 Biweekly design/construction scheduling and coordination meetings during the design phase;
- NOI/LAKE  
4 Biweekly construction scheduling meetings during the construction phase;
- NOI/LAKE  
4 Utility relocation tracking sheets during the design and construction phases;
- NOI/LAKE  
4 ROW progress tracking spreadsheets during the design and construction phases;
- NOI/LAKE  
4 Review and approval tracking sheets of design elements submittals;
- NOI/LAKE  
4 Shop drawing status tracking sheets;
- NOI/LAKE  
4 Material Submittals and delivery schedules;
- NOI/LAKE  
4 Non-conformance logs by SHA QC construction inspection;
- NOI/LAKE  
4 RFI logs;
- NOI/LAKE  
4 Monthly internal project review meetings by DAY’s Executive Review Committee; and
- NOI/LAKE  
4 Monthly progress meetings with major stakeholders (SHA, DAY, JMT, major subcontractors, vendors, local municipalities and businesses). Affected utilities will also be invited for the current stage of work.

At the internal meeting, issues and concerns will be identified utilizing the above tracking aids, and action items identified and assigned to the responsible party who can resolve it. Two-week, 30 day and 60 day “look ahead schedules” will be prepared and discussed to analyze schedule and quality impacts. Similar information will be discussed and action items assigned at the Monthly Progress/Partnering meetings with

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### Project Management



key stakeholders. Other stakeholders may be invited to the monthly meetings as required for anticipated issues.

By closely monitoring and managing the schedule, the DBT is able to quickly identify and mitigate adverse impacts to it. In cases where the critical path is delayed, we will complete a time impact analysis, resequence the work activities, and prepare a schedule recovery plan to reclaim lost time. We can then implement measures such as increasing work crews and resources, resequencing the schedule logic, revising the maintenance of traffic (MOT) patterns and/or modifying the design.

The following specific issues may affect the schedule and will be mitigated using the strategies below:

- 4 ROW Acquisition** - As shown on the preliminary plans provided with the RFP package, most of the roadway improvements can be constructed within existing ROW. Minimal easement and right of acquisition will, however, be required for utility relocations, construction easements, and SWM and drainage facilities. While these impacts will be minimal, acquisition of any property represents a critical element in a project, and one that can adversely impact the project schedule. Our DBT plans to mitigate the risks associated with ROW and easement acquisition and avoid delays by developing a construction sequence which does not require easements or ROW at the outset of construction and will expedite HH and SWM design to confirm adequate ROW. Upon approval of SHA and if the SHA ROW acquisition schedule becomes delayed, our DBT is prepared to work with SHA and adjacent landowners to obtain early right-of-entry agreements in advance of final acquisition of the required property. Resequencing the work activities/schedule logic in the affected area will also be implemented if required.
- 4 Utility Relocations** - Present a significant risk to both cost and schedule on any D-B project. Although procedures for utility relocations are defined, ultimately the utility owners are not under the control of the project team. It is critical that a partnering relationship be established between the DBT and the utility owners to effectively manage the utility relocations required for the project. The DBT's approach to minimize utility impacts consists of four key components: **1)** Design the work in a manner that reduces impacts to utilities; **2)** Develop a sequence of construction that decreases reliance on utility relocations to carry out the work; **3)** Resequence the work activities or schedule logic if required; and **4)** Where utility impacts cannot be avoided, maintain constant communications with the affected utilities for the life of the project to ensure responsiveness and timely relocation that are in conflict with construction.

The DBT is committed to providing and maintaining a schedule that will be proactive to change and unforeseen conditions, will adapt when required and will pursue all options, resources and mitigation strategies in order to advance the work as quickly as possible to ensure the project schedule deadlines are successfully met.

#### **6) Change Management**

Project scope must be strictly controlled to ensure that the project design, performance criteria and specifications are met and ensure the project is completed on time and within the allotted cost budget of the Design-Builder and the Owner. During the course of the project, changes in scope may become necessary to address unanticipated work, such as differing field conditions or unforeseen requests by various stakeholders during the design and partnering process. These changes can be within the scope of work or outside the scope of work of the D-B Contract. For this reason, our DBT will employ and enforce a change control system to identify, address and mitigate these changes should they occur. Changes (for example, discovery of unknown conditions) will be reported to the SHA in accordance with the contract and as soon as they are discovered. Depending upon the impact of the changed condition on the schedule or budget, and the

## 2.09.03

### Project Management



complexity of the mitigation and/or remediation, we will add discussion of the change to the agenda of the next Task Force meeting, or contact SHA to set up a special meeting as soon as possible to resolve more immediate issues.

All DBT members will be instructed that proposed changes in project scope must be immediately referred to the Design-Build Project Manager (DBPM) who will make a preliminary assessment of whether such changes warrant further evaluation and verify acceptance of cost-responsibility by the Design-Builder or by SHA. The DBPM will initiate development of design and construction strategies to address and mitigate these changes and costs. The DBPM will secure SHA authorization if such changes warrant exceptions to project requirements or if SHA will incur any cost responsibility. All change order requests will include the following information: the need for the change, alternative solutions, benefits of the change, effect on project requirements, effect on other work packages for each alternative, schedule impact for each alternative, the cost impact for each alternative and cost responsibility. When scope changes are authorized by SHA, the DBPM will ensure the immediate adjustment of project costs, schedules and contract documents such as modifications to the “issued for construction” drawings” and recordation to the as-built plans.

The DBT will establish and maintain documented procedures for Change Management review throughout the course of the contract. In the event that modification to the contract requirements are needed, either by SHA request, discovery of conditions that affect previously stated requirements or any other situation necessitating such change, DBT will have a documented process for communicating with the SHA and for review and coordination of contract modification activities. As part of change management, all Contract Modifications and Change Orders, modified “issued for construction” drawings and as-built plans including supporting documentation, will be maintained by the DBT as official Project records.

#### **7) Safety Management**

Safety concerns have always been paramount in the construction industry. Jobsites for highway projects are dangerous environments, with workers from multiple trades interacting in challenging conditions while interfacing with motorists and pedestrians. The DBT will bring to the project a corporate culture which emphasizes the importance of safety as our top priority. We will create high awareness to all parties during this project by educating and informing our employees, motorists, pedestrians, site visitors and other impacted shareholders. Our goal is to have the safest project possible, delivered in the most efficient way, with zero injuries. The following is our 17 point plan to establish safety as a top priority to this project:

- 1) Implement safety mitigation into the design process.
- 2) Analyze potential site safety hazards during design and in preconstruction.
- 3) Appoint/Assign/Authorize project safety personnel.
- 4) Educate, forewarn and protect the traveling public and pedestrians of all hazardous conditions.
- 5) Develop safe and effective motorist’s routes including safe pedestrian and bicycle passage.
- 6) Develop a site specific health and safety plan.
- 7) Establish measurable safety goals and objectives.
- 8) Develop a site specific emergency action plan.
- 9) Utilize effective job safety hazard analysis.
- 10) Use an effective safety screening policy/safety procurement program.
- 11) Provide site specific training program for workers and subcontractors.
- 12) Conduct near-miss and incident investigations.
- 13) Include jobsite workers and citizens in the safety process.
- 14) Establish open door policy for workers and the local communities to report hazards.

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### Project Management



- 15) Conduct regular safety audits.
- 16) Track leading safety metrics.
- 17) Offer safety incentives.

The development of a comprehensive integrated Transportation Management Plan (TMP) will be very critical to the success of the project and our safety goals. Our TCP design and implementation shall include provisions for the safe and efficient passage of pedestrians (including those with disabilities), bicycles, and vehicular traffic through and around construction zones. The plan will provide convenient and logical rerouting of traffic and pedestrians (by advance warning systems, direction and information signing, lighting and striping) to provide “driver friendly” and “pedestrian friendly” detours and to maximize the safety of the traveling public. Work zone impacts, including impacts on the environment and surrounding communities, will be kept to a minimum, and will be considered when developing and implementing the TMP.

The DBT will maintain all existing pedestrian/bicycle access safely along and across the existing facilities at all times during construction. Existing pedestrian signals/crosswalks will also be maintained at all times and temporary pedestrian signals and crosswalks will be provided if required. Recreational trails, including bicycle paths, shall be maintained and kept in good condition and will be coordinated with the appropriate governing agency. The DBT will schedule and sequence the work to provide new pedestrian and bicycle facilities as soon as possible. There will be an increased emphasis on the use of pedestrian guide signage and channelization through work zones. Signage will also be used to alert motorists to the increased presence of pedestrians at high volume pedestrian crossings. The DBT will coordinate with SHA, Prince George’s County DPW&T, and the Prince George’s County Police Department to implement pedestrian education efforts in the communities surrounding the project. The DBT will coordinate with local schools, the Prince George’s County BOE, and public transportation agencies for both city and local counties to maintain bus, private vehicle, and pedestrian access to educational facilities and public transportation services in the area. Access to bus stops will be maintained at all times.

The DBT will provide measures of traffic calming and awareness by implementing advance warning signs, reduce lane widths, new 45 mph speed limit signs, portable variable message signs, working with the police to enforce the speed limits and utilize SHA speed trailers. MOT Plans will be developed and the work will be sequenced to minimize traffic shifts and move traffic to prolonged traffic lane locations. Work zones will be protected by temporary concrete barriers with minimum construction access openings. We will appoint a full time Traffic and Safety Managers to oversee the daily MOT and construction operations of the project.

The DBT will establish a proactive program of public outreach for conducting effective education and relationships with the communities and businesses that are in the proximity to the construction areas. Public awareness strategies will include a project website, either maintained by SHA with input from the DBT or a website developed and maintained by the DBT, a project toll free telephone hotline, town hall meetings, regional DMS signs if appropriate, fixed mounted signs and local variable message signs. Project brochures will also be created to educate the public on pedestrian access, work zone safety and future traffic switches.

DAY is uniquely qualified to construct the MD 4 project. Performing work in dangerous work zones and conditions while maintaining traffic and protecting pedestrian and bicyclist safety is an everyday requirement on all of our projects. It has become an integral part of our corporate safety culture and something we take great pride in performing with an outstanding safety record for the SHA.



## B. Design and Construction Summary Schedule

### 1) Schedule Supporting Narrative

The DBT has thoroughly evaluated the Project RFP documents, visited the site, attended the pre-proposal meeting, and had working sessions among our design and construction teams. Through this progression, we developed a simplified solution to deliver the project through our sequencing plan. This narrative explains how we plan to deliver a positive experience to SHA and to the stakeholders of the area.

**Project Milestones** - The proposal schedule is based on the required milestones specified in the contract and the estimated milestones shown: Bid Opening 09/03/2014; Notice of Award 10/03/2014 (Est.); Contract Execution 11/03/2014 (Est.); Notice-to-Proceed 11/10/2014 (Est.); and Contract Completion 08/30/2017.

**Work Breakdown Structure** - The baseline schedule integrates design and construction into a Work Breakdown Structure (WBS) as shown below:

**4 Level 1: Schedule Milestones** – Overall review of schedule progress.

**4 Level 2: Design Services** – Includes semi-final and final design cycles with time allocated for engineering services, plan development, QA/QC reviews, SHA, MDE and other regulatory agency reviews and approvals of plans. Also included in this WBS are surveying/SUE and geotechnical investigations. Additional WBS levels have been added to differentiate the design quality control plan, geotechnical investigations, utility coordination, 60% design preparation/approval and final design/approval activities.

**4 Level 3: Construction** – Includes all components of roadway construction, as well as MOT, traffic signalization, ESC, SWM, drainage, lighting and roadside improvements. This section has additional WBS levels which differentiates the work areas as follows: *Phase 1*: Median improvements; *Phase 2*: Eastbound and Westbound outside improvements; and *Phase 3*: Project Wide improvements.

**Calendars** - The schedule uses 3 calendars for design/construction. The design portion of the work is based on a 5 day work calendar for the design work and a 7 day calendar the review of design submittals. The construction calendar is based on an approved SHA calendar which reflects holidays and weather impacts.

**Plan to Execute the Work** - The design phase will begin immediately, upon Notice of Award, to begin work advancing the DQCP for submittal such that upon NTP design activities can commence promptly. ROW and utility impacts will be identified early during this process and coordination and mitigation for same will begin immediately. Plan preparation will include verification that sufficient limits of disturbance (LOD) is accounted for on the SHA wetland plates and adequacy of ROW.

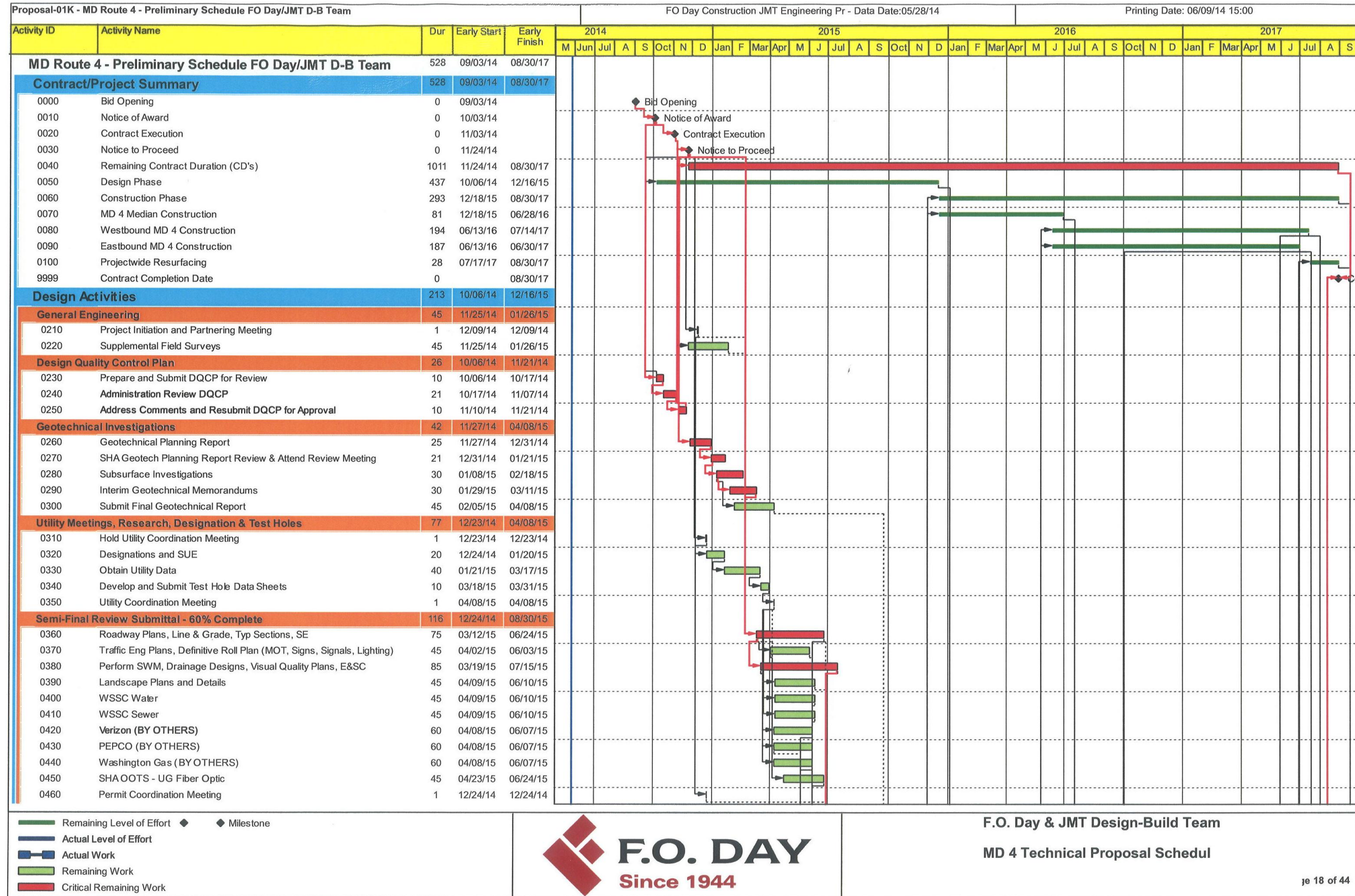
Our concept construction schedule is based on providing the maximum window and coordination time for ROW acquisition by SHA and utility relocations by others. Our plan is based on a 3 phase approach, constructing the median first, the outside work of the eastbound and westbound lanes concurrently second and the final overlay and pavement markings third. **Using this sequence, beginning construction in the median first, ROW acquisition and utility relocations have the least chance to impact the schedule.**

**Critical Path** -The critical path is shown in our attached preliminary schedule by the highlighted red activities. The critical path flows through the design phase of the project until plans are approved for construction including the necessary environmental approvals. The critical path changes to construction activities once plans are approved. The construction path flows thru the 3 proposed phases of construction as shown until the completion of the project. Work activities have been consolidated due to proposal page limitation constraints.

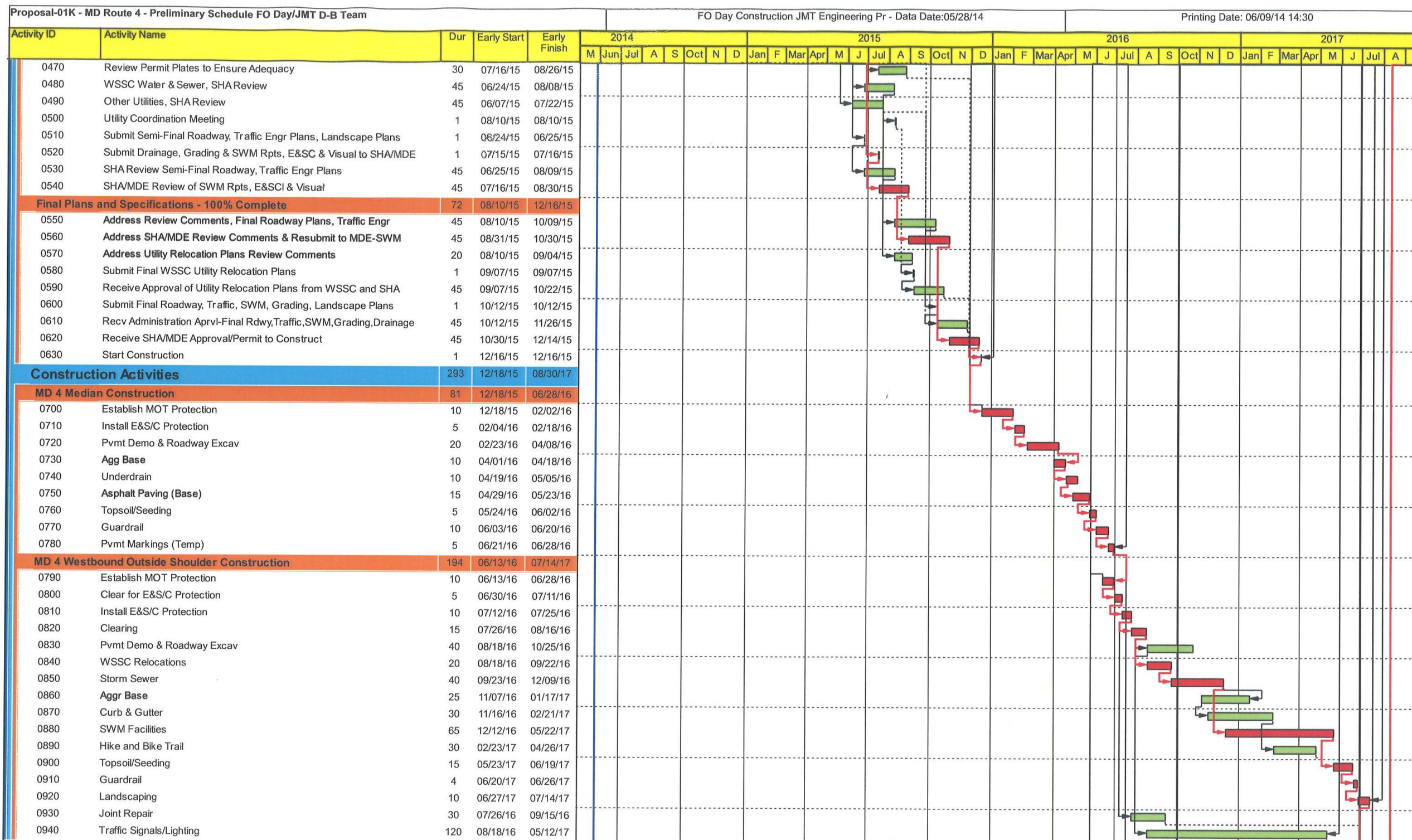
# 2.09.03

## Project Management

### 2) Summary Schedule







█ Remaining Level of Effort    ◆ Milestone  
█ Actual Level of Effort  
█ Actual Work  
█ Remaining Work  
█ Critical Remaining Work



F.O. Day & JMT Design-Build Team

MD 4 Technical Proposal Schedu



# 2.09.03

## Project Management



Proposal-01K - MD Route 4 - Preliminary Schedule FO Day/JMT D-B Team				FO Day Construction JMT Engineering Pr - Data Date:05/28/14				Printing Date: 06/09/14 14:56																																												
Activity ID	Activity Name	Dur	Early Start	Early Finish	2014												2015												2016												2017											
					M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	J	Jul	A	S							
<b>MD 4 Eastbound Outside Shoulder Construction</b>																																																				
0950	Establish MOT Protection	10	06/13/16	06/28/16																																																
0960	Clear for E&S/C Protection	5	06/30/16	07/11/16																																																
0970	Install E&S/C Protection	10	07/12/16	07/25/16																																																
0980	Clearing	15	07/26/16	08/16/16																																																
0990	Pvmt Demo & Roadway Excav	40	08/18/16	10/25/16																																																
1000	WSSC Relocations	20	08/18/16	09/22/16																																																
1010	Storm Sewer/WSSC	40	09/23/16	12/09/16																																																
1020	Aggr Base	25	11/07/16	01/17/17																																																
1030	Curb & Gutter	30	11/30/16	03/08/17																																																
1040	Sidewalk	30	03/10/17	05/04/17																																																
1050	Topsoil/Seeding	15	05/05/17	06/01/17																																																
1060	Guardrail	2	06/02/17	06/05/17																																																
1070	Landscaping	15	06/06/17	06/30/17																																																
1080	Joint Repair	30	07/26/16	09/15/16																																																
1090	Traffic Signals/Lighting	120	08/18/16	05/12/17																																																
<b>Project Wide</b>																																																				
1100	Milling Project Wide	16	07/17/17	08/08/17																																																
1110	Asphalt Paving (Surface) Project Wide	8	08/10/17	08/22/17																																																
1120	Perm Pvmt Markings (Final) Project Wide	4	08/24/17	08/30/17																																																

- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone



F.O. Day & JMT Design-Build Team  
MD 4 Technical Proposal Schedu



### C. ORGANIZATIONAL STRUCTURE

#### 1) Narrative Description of the Team's Approach to Design-Build Contracting

The DBT's focus on process, planning, and scheduling make DAY/JMT an excellent team for this project. Both organizations are well integrated into the D-B process. The DBT have qualified personnel experienced in design/construction of highways. DAY has extensive experience/knowledge on phased highway widening projects under difficult traffic conditions. JMT has the required expertise/experience in community safety and enhancement projects. All key design staff are registered professionals in the State of Maryland in their respective disciplines. Below is how the DBT will function as an integrated entity:

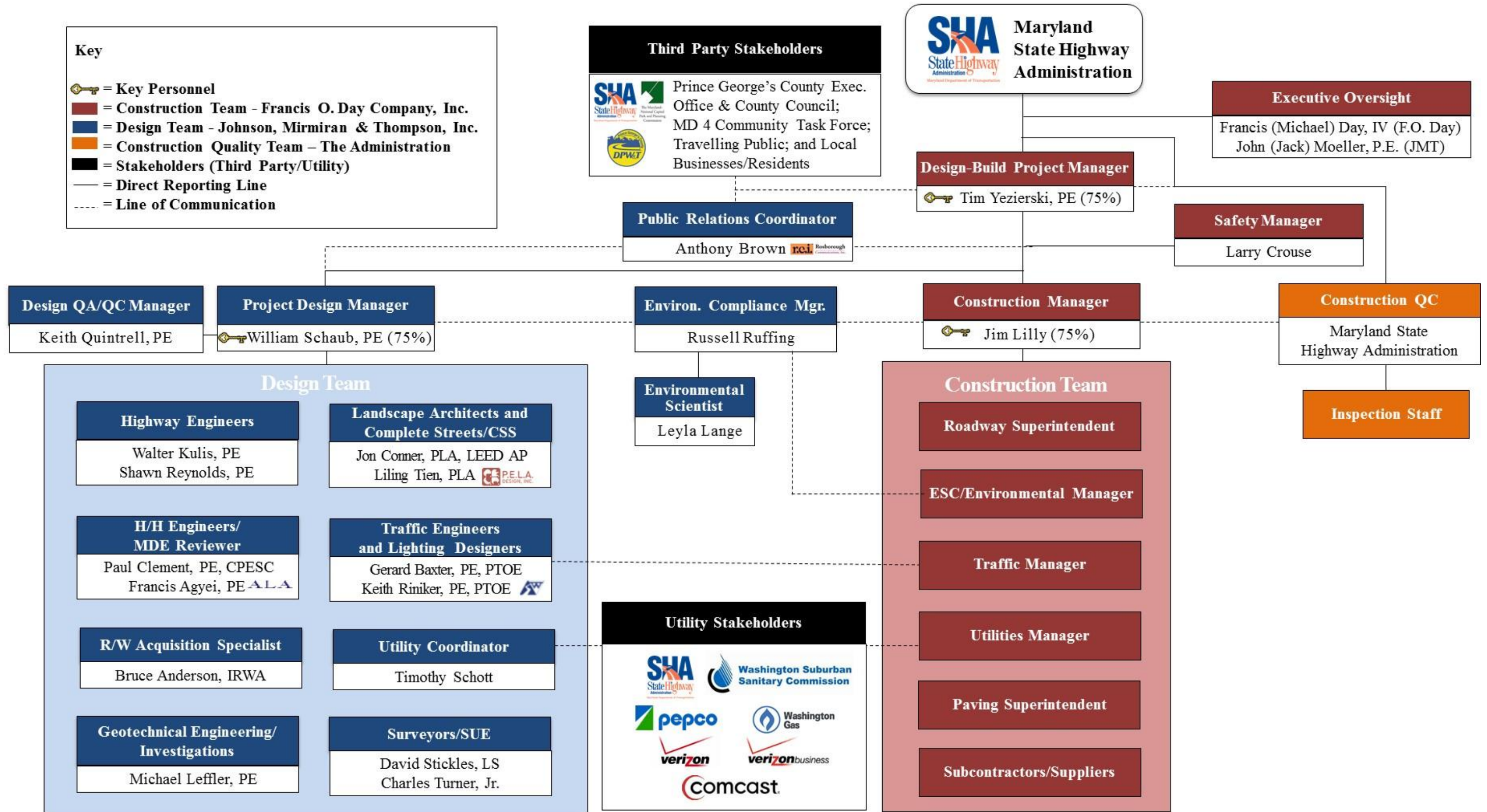
**Project Control, Coordination and Team Organization** – The DBT will use its extensive experience in construction scheduling to successfully manage the design/approval process. A phased construction sequence will ensure a timely/coordinated project start and successful completion within the time allotted. Because DAY Superintendents participate in schedule development, ownership of the schedule is built in from the start. The DBT's organization structure ensures that schedule issues are identified and resolved quickly, while maintaining continuous communication within the DBT and external stakeholders. The DBT will use a variety of PM software programs (ProjectWise and Primavera). Access to this information will be available 24/7. We strongly believe that our DBT structure and proven management approach, supplemented with our use of latest technology, will effectively draw upon the strengths of both our designer/construction staff. The DBT have established proven methods, procedures, processes and relationships that will ensure that the DBT hits the ground running and meets the Project goals. By having DAY work directly with the designer, constructability/ sequencing issues are put on the table and the design is tailored to those issues. Long lead time materials can be identified and that portion of the design can take priority so construction materials will be on-site when the contractor is ready to break ground. Due to the integration of the contractor into the design process there is an opportunity to accelerate construction by releasing elements of design for approval prior to complete plan development. Issues are resolved during the design process as our DBT of designers/contractors are all actively reviewing/incorporating better, more economical ways of designing and constructing the project.

**Construction Staff involved with Design Activities** – DAY's DBPM and CM will provide over the shoulder reviews of design work during the development of each phase. DAY and JMT have a formal program in which DAY's Managers and key subcontractors/suppliers participate in constructability reviews during every stage of design development. Items addressed by the constructability reviews are: Verify design is compatible with construction schedule and any special project sequencing requirements (MOT/ESC plans will be checked in this regard); Conformance with SHA standards and specifications; Development of project specific specs as required; Confirm the accuracy of plan details and typical sections and verify any utility conflicts; Review easements/LOD to verify the work can be constructed within the project LOD and ROW; while minimizing wetland impacts.

**Design Staff involved with Construction Activities** - JMT design staff will regularly visit the project site, attend progress meetings, answer questions and resolve field issues as they arise. The DBT's working relationship will expedite the RFI process, often resulting in same day resolution and advance designs to assist in economical procurement of critical key materials and services. All changes to approved construction documents/final plans will be submitted to SHA for approval prior to implementation.

The chart on the following page reflects the chain of command/communication links that will ensure clear, concise transfer of information among stakeholders, and allow for issue resolution at the lowest possible level.

2) Organizational Chart







# 2.09.04 - Team Experience

2.09.04  
Team Experience



**Contract Number:** PG7585184

**Project Description:** MD 4 – Forestville Road to MD 458 (Silver Hill Road)

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**FORM A-1**

**PROPOSED KEY STAFF INFORMATION**

**Name of Proposer:** Francis O. Day Co., Inc. (F.O. Day)

<b>Position</b>	<b>Name</b>	<b>Years of Experience<sup>1</sup></b>	<b>Education/ Registrations</b>	<b>Name of Employer</b>
Project Design Manager	William E. Schaub, P.E.	9/34	<ul style="list-style-type: none"><li>▪ BSCE/1984/Civil Engineering</li><li>▪ AA/1981/General Studies</li><li>▪ Dale Carnegie Mgmt. Training</li><li>▪ Maryland Registered Professional Engineer No. 17318</li></ul>	Johnson, Mirmiran & Thompson, Inc.
Design-Build Project Manager	Timothy L. Yeziarski, P.E.	<1/21	<ul style="list-style-type: none"><li>▪ BSCE/1993/Civil Engineering</li><li>▪ Maryland Registered Professional Engineer No. 38740</li><li>▪ USACE Constr. Quality Mgmt. for Contractors</li><li>▪ 40-Hour OSHA Hazardous Materials Certified</li><li>▪ 10-Hour OSHA Certified</li><li>▪ MDE ESC Green Card</li><li>▪ First Aid and CPR Certified</li></ul>	Francis O. Day Co., Inc.
Construction Manager	James Lilly	20/27	<ul style="list-style-type: none"><li>▪ High School Graduate</li><li>▪ MD Traffic Control Mgr.</li><li>▪ SHA ESC Yellow Card</li><li>▪ MDE ESC Green Card</li><li>▪ 30-Hour OSHA Certified</li><li>▪ 10-Hour OSHA Certified</li><li>▪ Cert. Trenching/Shoring</li><li>▪ First Aid and CPR Certified</li><li>▪ Hazard Comm./SDS Training</li><li>▪ Confine Space Training</li><li>▪ Trimble Total Station/GPS Project Control Specialist</li></ul>	Francis O. Day Co., Inc.

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<sup>1</sup> Present Firm/Total



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.1

# Lead Constructor Firm Experience

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### .1 Lead Constructor Firm Experience

#### A. Experience and Qualifications Documentation

##### 1) TIMOTHY L. YEZIERSKI, P.E.

##### Design-Build Project Manager



- 4 Years of Experience:** DAY <1 Total 21
- 4 Education/Training:** BSCE/1993/Civil Engineering  
40-Hour and 10-Hour OSHA Certified  
MDE ESC Green Card and First Aid/CPR Certified
- 4 Registration(s):** 2010/Maryland Registered Professional Engineer No. 38740

*Tim is a Maryland Registered Professional Engineer with more than 20 years of construction and project management experience. He recently joined DAY as Operations Manager overseeing company operations. Tim has managed the daily operations and project management staff on more than 52 projects in Maryland and Virginia over his career. Tim is experienced in heavy highway construction including D-B projects such as ICC Contact A. He has coordinated pre-bid engineering design, estimated costs and prepared technical proposals on D-B projects up to \$1.2B. He has worked on highway construction projects involving heavy pedestrian access, utility coordination and relocations, right-of-way coordination and acquisition, drainage construction/ stormwater management, maintenance of traffic in urban areas, projects involving highly sensitive environmental requirements, public outreach, scheduling management, risk management and safety management. Highlighted projects include:*

**SHA, ICC (MD 200) Contract A, Montgomery County, MD (\$464.4M) - Lead Project Engineer.** Design and construction of six-lane highway, which was the first segment of the ICC that extends from Shady Grove Road to MD 97 for approximately 7.2 miles and involved two (2) major interchanges at Metro Access Road and Georgia Avenue. Tim’s responsibilities included managing field operations including but not limited to: provided constructability input in on-going D-B task force meetings; coordinated field operations with construction manager and superintendents; managed environmental commitments; managed utility relocation and coordination; managed subcontractors; conducted weekly staff and schedule meetings; managed cost control; directed coordination with Owner and community outreach programs; and prepared and negotiated changes with SHA and Subcontractors.

**NYDOT, Reconstruction of Route 9A, Lower Manhattan, NY (\$70M) – Tunnel Project Manager.** Tim was responsible for managing this extension to the Battery Park underpass and all associated value engineering design changes. His responsibilities included management of the demolition and reconstruction of Battery Park underpass; coordination, installation/relocation of water mains and electrical power feeds; cost management; hazardous material abatement coordination; MOT design/implementation; and community outreach.

**NJ Transit Corporation, Newark City Subway Extension (D-B), Newark, NJ (\$72M) – Rail Project Manager.** This was an at-grade rail facility and Tim was directly responsible for overseeing the track tub construction and sound damping; coordination with adjacent construction projects; utility relocation and coordination including electrical improvements around live power feeds with the utility owner and subcontractor; QA/QC management; cost management; scheduling management and coordination; and prepared presentation materials and presented same at community outreach meetings.

**Newark Liberty International Airport, CTA Roadway and Bridges, Newark, NJ (\$45M) – Project Engineer.** Responsible for the construction of a simply supported bridge span and the ancillary work including utilities, roadway approaches and pavement installation. Duties included cost management, construction management and coordination, cost control and schedule coordination.

### 2) JAMES LILLY

### Construction Manager



**4 Years of Experience:**  
**4 Education/Training:**

DAY 20 Total 27  
 High School Graduate; MDE ESC Green Card and SHA ESC Yellow Card; Maryland Certified Traffic Control Manager; Confined Space Training; First Aid/CPR Certified and 30-Hour/10-Hour OSHA Certified; Competent Person Certification – Trenching/Shoring; Hazard Communications/Safety Data Sheet Training; and Trimble Total Station/GPS Project Control Specialist

*Jim has more than 27 years (20 with DAY) of experience managing heavy highway construction projects with the SHA including managing and overseeing identical projects like MD 4. His previous project duties have included the entire management and oversight of all self-performed/subcontracted construction operations. His duties included complete oversight of MOT, ESC, excavation, drainage work, SWM, aggregate base/asphalt paving, bridges/ retaining walls, utility work, environmental compliance, QC and safety. He has successfully coordinated utility relocations with all of the utility companies impacted by the MD 4 project. Jim has completed many dangerous roadway renovations under traffic requiring complex construction phasing. All of which required extensive community coordination and public outreach to accomplish same. He has a very successful track record of ensuring project safety goals were met on these projects including the protection of workers, motorists, pedestrians and bicyclists. All projects were completed in accordance with the contract requirements. Some of Jim’s highlighted SHA projects include: I-270 (MD 28 to Gude Dr.), I-270 (Middlebrook Rd. to Muddy Branch Rd.), MD 100 (MD 170 to I-97), I-270 (MD 189 to I-270 Spur), MD 27 (Penn Shop Rd. to MD 108), MD 121 (I-270 to MD 355) and I-270 and Dr. Perry Rd. Interchange.*

**SHA, MD 650 (New Hampshire Avenue) from MD 212 (Powder Mill Road) to North of U.S. 29, Montgomery County, MD - Construction Manager.** Constructed this urban other principal arterial highway reconstruction project in an urban area under traffic with high traffic volumes. Construction services on this project included: coordinated with SHA continuous education to the community and all roadway users; safe/accessible facility for pedestrians along and across MD 650; provided a safe/accessible facility for bicyclists along and across the project; provided a safe facility and maintained mobility for motorist along MD 650; constructed parallel sidewalks and hike and bike paths while provided pedestrian safety/accessibility throughout the project limits, especially within work zones; installed traffic signalization and interconnect cable for 5 new intersections under traffic; provided ESC protection for the project and achieved superior QA ratings; and project scheduling/mitigated schedule impacts such as the discovery of unforeseen conditions encountered during the course of the project.

**SHA, MD 450 (Annapolis Road) from Whitfield Chapel Rd. to Seabrook Rd., Prince Georges County, MD – Construction Manager.** Responsible for construction on this urban minor arterial highway reconstruction project in an urban area under traffic with high traffic volumes for a total length of approximately 1-mile. Construction services on this project included: provided and coordinated with SHA continuous education to the community and all roadway users; provided a safe and accessible facility for pedestrians along and across MD 450; provided a safe facility and maintained mobility for motorist along MD 450; and constructed parallel sidewalks and hike & bike paths while provided pedestrian safety and accessibility throughout the project limits, especially within work zones.

**SHA, ICC Contract B (MD 200) E. of MD 97 to W. of U.S. 29, Montgomery County, MD – Construction Manager.** Responsible for all DAY operations on this 483,000 ton asphalt paving project. His duties also included supervision of all quality control inspection, MOT protection of DAY operations, personnel safety, motorist/pedestrian safety and utilization of GPS equipment and grade controls for all asphalt paving work.

B. Form A-2 Lead Constructor Firm Past Project Descriptions

Contract Number: PG7585184

Project Description: MD 4 – Forestville Road to MD 458 (Silver Hill Road)

FORM A-2

PROJECT DESCRIPTION

Name of Proposer: Francis O. Day Co., Inc. (DAY)

Name of Firm: Francis O. Day Co., Inc. (DAY)

Project Role: Lead Contractor

Designer: Contractor: Other (Describe):

Years of Experience:

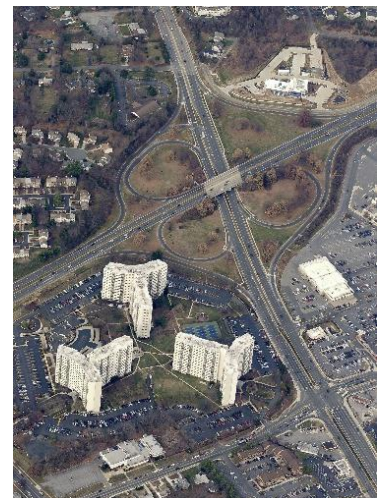
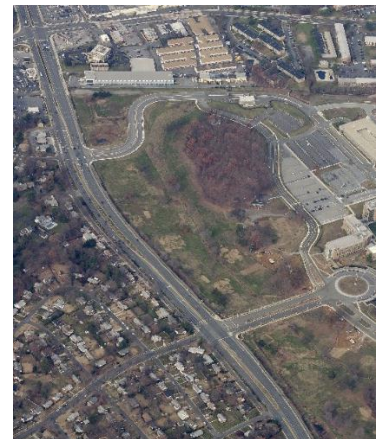
Roads/Streets: 70 Bridges/Structures: 70 Environmental: 44

Project Name, Location, Description and Specific Nature of Work for which Company was responsible MD 650 (New Hampshire Avenue) from MD 212 (Powder Mill Road) to North of U.S. 29, Montgomery County, MD

DAY constructed this urban other principal arterial (OPA) highway reconstruction project in an urban area under traffic with high traffic volumes. The work included the widening and resurfacing of MD 650 (New Hampshire Avenue) from MD 212 (Powder Mill Road) to north of U.S. 29 for a total length of 2 miles. The project is located just north of the Capital Beltway (I-495) in Montgomery County, MD.

Construction services on this project included:

- Provided and coordinated with SHA continuous education to the community and all roadway users.
Provided a safe and accessible facility for pedestrians along and across MD 650.
Provided a safe and accessible facility for bicyclists along and across the project.
Provided a safe facility and maintained mobility for motorist along MD 650.
Provided on going third party coordination with stakeholders.
Constructed parallel sidewalks and hike & bike paths while provided pedestrian safety and accessibility throughout the project limits, especially within work zones

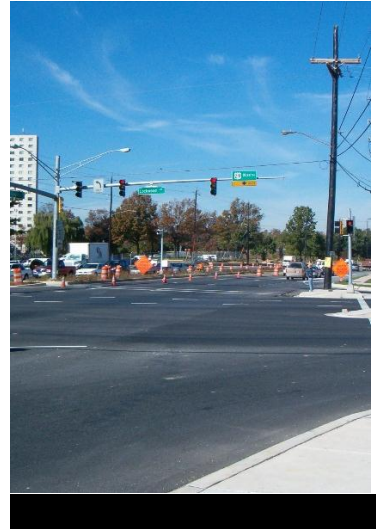




# 2.09.04

## Team Experience

- Installed traffic signalization and interconnect cable for 5 new intersections under traffic.
- Provided erosion and sediment protection for the project and achieved superior quality assurance ratings.
- Providing project scheduling and mitigated schedule impacts such as the discovery of unforeseen underground structures encountered during the course of the project.
- Met established minority participation goals.
- Completed the project with an excellent safety record.
- Completed on time.



The project also included 55,000 CY of roadway excavation, 6,700 LF of storm sewer, 18,000 LF of erosion and sediment control perimeter protection, asphalt milling, 23,000 tons of asphalt paving, 19,500 LF of curb and gutter, landscaping, lighting and WSSC water and sanitary sewer improvements.

DAY completed the Lockwood Drive portion of this project ahead of schedule based on the incentive program established in the contract.

**MD 650 Personnel Proposed for this MD 4 Project**

- Jim Lilly
- Larry Crouse

<b>List any awards and/or commendations received for the project:</b> N/A	
<b>Name of Client (Owner/Agency, Contractor, etc.):</b> Maryland State Highway Administration District 3	
<b>Address:</b> 9300 Kenilworth Avenue Greenbelt, MD 20770	
<b>Contact Name:</b> Mr. Bryan Young	<b>Telephone:</b> 301-513-7300
<b>Owner's Project or Contract No.:</b> MO9005171	<b>Fax No.:</b> 301-513-7415
<b>Contract Value (US\$):</b> \$9,597,000	<b>Final Value (US \$):</b> \$10,778,000
<b>Percent of Total Work Performed by Company:</b> 100% of Construction	
<b>Commencement Date:</b> 8/13/2003	<b>Planned Completion Date:</b> 6/23/2006
<b>Actual Completion Date:</b> 6/23/2006	
<b>Any disputes taken to arbitration or litigation?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

# 2.09.04

## Team Experience





Contract Number: PG7585184

Project Description: MD 4 – Forestville Road to MD 458 (Silver Hill Road)

### FORM A-2

#### PROJECT DESCRIPTION

Name of Proposer: Francis O. Day Co., Inc. (DAY)

<b>Name of Firm:</b> Francis O. Day Co., Inc. (DAY)	
<b>Project Role:</b> <u>Lead Contractor</u>	
<b>Designer:</b> <u>    </u> <b>Contractor:</b> <input checked="" type="checkbox"/> <b>Other (Describe):</b> <u>    </u>	
<b>Years of Experience:</b>	
<b>Roads/Streets:</b> <u>70</u>	<b>Bridges/Structures:</b> <u>70</u>
<b>Environmental:</b> <u>44</u>	
Project Name, Location, Description and Specific Nature of Work for which Company was responsible <b>MD 450 (Annapolis Road) from Whitfield Chapel Road to Seabrook Road, Prince Georges County, MD</b>	
<p>DAY constructed this urban minor arterial highway reconstruction project in an urban area under traffic with high traffic volumes. The work included the widening and resurfacing of MD 450 (Annapolis Road) from Whitfield Chapel Road to Seabrook Road for a total length of approximately 1 mile. The project is located just east of the Capital Beltway (I-495) in Prince George’s County, MD. Construction services on this project included:</p> <ul style="list-style-type: none"> <li>▪ Provided and coordinated with SHA continuous education to the community and all roadway users.</li> <li>▪ Provided a safe and accessible facility for pedestrians along and across MD 450.</li> <li>▪ Provided a safe and accessible facility for bicyclists along and across the project.</li> <li>▪ Provided a safe facility and maintained mobility for motorist along MD 450.</li> <li>▪ Provided on going third party coordination with stakeholders.</li> <li>▪ Constructed parallel sidewalks and hike &amp; bike paths while provided pedestrian safety and accessibility throughout the project limits, especially within work zones.</li> </ul>	
 	

# 2.09.04

## Team Experience

- Installed traffic signalization and interconnect cable for 3 new intersections under traffic.
- Provided erosion and sediment protection for the project and achieved superior quality assurance ratings.
- Providing project scheduling and mitigated schedule impacts for extensive Verizon relocations required during the course of the project.
- Met established minority participation goals.
- Completed the project with an excellent safety record.
- Completed on time.



The project also included 65,000 CY of roadway excavation, 4,000 LF of storm sewer, 14,500 LF of erosion and sediment control perimeter protection, 91,000 SY of asphalt milling, 34,000 tons of asphalt paving, 30,400 LF of curb and gutter, pavement repairs, landscaping, lighting and WSSC water and sanitary sewer improvements.

**MD 450  
Personnel Proposed for  
this MD 4 Project**

- Jim Lilly
- Larry Crouse

<b>List any awards and/or commendations received for the project:</b> N/A	
<b>Name of Client (Owner/Agency, Contractor, etc.):</b> Maryland State Highway Administration District 3	
<b>Address:</b> 9300 Kenilworth Avenue Greenbelt, MD 20770	
<b>Contact Name:</b> Mr. Brian Young	<b>Telephone:</b> 301-513-7300
<b>Owner's Project or Contract No.:</b> PG9005471	<b>Fax No.:</b> 301-513-7415
<b>Contract Value (US\$):</b> \$7,897,117	<b>Final Value (US \$):</b> \$9,557,493
<b>Percent of Total Work Performed by Company:</b> 100% of Construction	
<b>Commencement Date:</b> 5/08/2003	<b>Planned Completion Date:</b> 1/10/2006
<b>Actual Completion Date:</b> 1/10/2006	
<b>Any disputes taken to arbitration or litigation?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

# 2.09.04

## Team Experience




Contract Number: PG7585184

Project Description: MD 4 – Forestville Road to MD 458 (Silver Hill Road)

### FORM A-2

### PROJECT DESCRIPTION

Name of Proposer: Francis O. Day Co., Inc. (DAY)

<b>Name of Firm:</b> Francis O. Day Co., Inc. (DAY)	
<b>Project Role:</b> <u>Lead Contractor</u>	
<b>Designer:</b> ___ <b>Contractor:</b> ___ <b>Other (Describe):</b> <u>Subcontractor</u>	
<b>Years of Experience:</b>	
<b>Roads/Streets:</b> <u>70</u>	<b>Bridges/Structures:</b> <u>70</u>
<b>Environmental:</b> <u>44</u>	
Project Name, Location, Description and Specific Nature of Work for which Company was responsible	
<b>Intercounty Connector (ICC) Contract B (MD 200) – East of MD 97 to west of U.S. 29, Montgomery County, MD</b>	
DAY was the asphalt paving subcontractor and the largest subcontractor on this half a billion dollar D-B contract for the SHA and the joint venture firm of MD 200 Constructors. The work included paving approximately 6.5 miles of new urban freeway expressway paving (6 main lanes and 4 shoulders) through northern Montgomery County. Construction services included:	
<ul style="list-style-type: none"> <li>▪ 402,400 tons of mainline and shoulder asphalt paving.</li> <li>▪ 51,500 tons of ramp asphalt paving.</li> <li>▪ 21,600 tons of asphalt paving or asphalt repaving of MD 28, Longmeade Crossing, MD 182, Bonifant Rd., Notley Rd. and MD 650 under traffic.</li> <li>▪ 7,400 tons of detour asphalt paving.</li> <li>▪ Provided a safe/accessible facility for motorists, pedestrians and bicyclists.</li> <li>▪ Met established minority participation goals.</li> <li>▪ Completed the project with an excellent safety record.</li> <li>▪ Completed the project in the time frames required by the Prime Contractor.</li> </ul>	
	
<p><b>ICC Contract B Personnel Proposed for this MD 4 Project</b></p> <ul style="list-style-type: none"> <li>○ Jim Lilly</li> <li>○ Larry Crouse</li> </ul>	
<b>List any awards and/or commendations received for the project:</b> N/A	
<b>Name of Client (Owner/Agency, Contractor, etc.):</b> SHA/MD 200 Constructors	
<b>Address:</b> Office of Construction 7450 Traffic Drive Hanover, MD 21076	
<b>Contact Name:</b> Mr. Mark Coblentz	<b>Telephone:</b> 443-572-5200
<b>Owner’s Project or Contract No.:</b> AT3765B60	<b>Fax No.:</b> 410-787-0986
<b>Contract Value (US\$):</b> \$25,431,967	<b>Final Value (US \$):</b> \$34,942,052
<b>Percent of Total Work Performed by Company:</b> 100% of Subcontract	
<b>Commencement Date:</b> 8/01/09	<b>Planned Completion Date:</b> 11/11/11
<b>Actual Completion Date:</b> 11/11/11	
<b>Any disputes taken to arbitration or litigation?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	





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.2

Lead Design  
Firm Experience

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
## .2 Lead Design Firm Experience

### A. Experience and Qualifications Documentation

#### 1) WILLIAM E. SCHAUB, P.E.

#### Project Design Manager



 4	<b>Years of Experience:</b>	JMT 9 Total 34
 4	<b>Education/Training:</b>	BS/1984/Civil Engineering AA/1981/General Studies
 4	<b>Registration(s):</b>	1989/Maryland Registered Professional Engineer No. 17318

*Bill is a Maryland Registered Professional Engineer (No. 17318) with more than 33 years (9 with JMT) of experience in planning and design of highways and structures. He has his Bachelor of Science degree in Civil Engineering from University of MD. Bill has managed the construction document preparation of numerous highway/bridge projects, both D-B and design-bid-build projects for federal and state agencies including SHA and MDTA (Section 100). He is an active member of the DBIA. Bill is JMT's D-B Practice Leader and has been Design Project Manager on several of JMT's D-B projects over the past 9 years including:*

**SHA, U.S. 40 at MD 715 Interchange Improvements (D-B), Harford County, MD (\$17.7M) – Project Design Manager.** This project was adjacent to Aberdeen Proving Ground (APG) and accommodated additional personnel relocated to APG as part of the BRAC. Project included upgrading the interchange, widening the bridge on MD 715 over U.S. 40, design improvements, connecting ramps, and adjoining roadways, for a total length of 2.40 miles. Provided relocation designs for 800 LF of a stream, drainage design, SWM/ESC, traffic/lighting, landscaping, utility relocation design/coordination and MDE permits.

**FHWA-EFLHD/VDOT, Mark Center Short and Mid-Term Improvements (D-B), Alexandria, VA (\$9.1M) – Project Design Manager.** Responsible for executing the design and QA/QC program for this urban roadway and intersection improvements project. This project had an extremely aggressive schedule to address the tremendous growth from new building construction in the area and to address the resulting complex transportation issues associated with the growth. The project included context sensitive solutions, which resulted in community enhancements including widened sidewalks.

**FHWA-EFLHD/VDOT, Fairfax County Parkway (FCP), Phases I/II & IV (D-B), Springfield, VA (\$112.5M) – Project Design Manager.** Executed the design and QA/QC program, for two interchanges, seven bridges, retaining and noise walls, and culverts. The project had an extremely aggressive schedule of 750 calendar days. Oversaw the multi-disciplined design efforts including geotechnical, roadway, structural, traffic, SWM, drainage, ESC, trail, landscaping, permitting, lighting, and utility coordination/ relocation. The FCP alignment crossed firing ranges/testing sites that had significant groundwater/soil contamination, and stringent Land Use Controls. Managed in-situ waste characterization study/remediation plan including in depth coordination with USACE BRAC Integration office, Fort Belvoir DPW, ENRD and Fairfax Co. **Bill received a “Star Partner” award for his exceptional dedication, teamwork and professionalism in support of the project’s goals by the NGA and USACE. The project has been recognized by DBIA National, DBIA Mid-Atlantic Region, ACEC Local Chapters Metropolitan Washington, Virginia and Maryland.**

**FHWA-EFLHD/DDOT, 9<sup>th</sup> St. Bridge Replacement over Railways and NY Ave. (D-B), Washington, DC (\$58.4M) – Project Design Manager.** Responsible for the QA/QC and design which included geotechnical, roadway, structural, traffic, SWM, ESC, drainage, lighting, ROW, utility relocations, electric traction design to facilitate the phased removal and complete reconstruction of an existing structure and the reconstruction of the 9<sup>th</sup> St./NY Ave. The bridge was a 645’ long 4-span structure, spanning NY Ave. and CSXT/Amtrak railroads. The project included context sensitive solutions, which resulted in numerous community enhancements including widened sidewalks, bicycle lanes and aesthetic architectural bridge elements.

# 2.09.04

## Team Experience



### B. Form A-2 Lead Design Firm Past Project Descriptions

**Contract Number:** PG7585184

**Project Description:** MD 4 – Forestville Road to MD 458 (Silver Hill Road)

#### FORM A-2

#### PROJECT DESCRIPTION

**Name of Proposer:** Francis O. Day Co., Inc. (DAY)

**Name of Firm:** Johnson, Mirmiran & Thompson. Inc. (JMT)

**Project Role:** Lead Designer

**Designer:**  **Contractor:**  **Other (Describe):** \_\_\_\_\_

**Years of Experience:**

**Roads/Streets:** 43      **Bridges/Structures:** 43      **Environmental:** 43

Project Name, Location, Description and Specific Nature of Work for which Company was responsible

#### **U.S. 40/MD 715 Interchange Improvements (D-B), Harford County, MD**

JMT and our design-build partner was selected for this project to accommodate additional personnel being relocated to the U.S. Army’s Aberdeen Proving Ground (APG) facility as part of the BRAC initiative. The work included widening of MD 715 in both directions between south of Amtrak Bridge to the APG entrance under Phase 1. The Phase 2 work included upgrading the interchange including widening the bridge on MD 715 over U.S. 40. JMT designed improvements to connecting ramps, and adjoining roadways and intersection improvements, for a total project length of approximately 2.40 miles. All design work included:

- **Surveys** - Provided supplemental topo surveys including a detailed bridge survey; approach roadways; and tie-points; drainage and utilities; and stream channel profile and alignment.
- **Utility Relocation and Design** - Provided extensive utility coordination with utility agencies to address the numerous relocations required to accommodate the construction. Included in this effort was the relocation design of approx. 1,300 LF of 16” water main, 385 LF of 12” water main, 115 LF of 8” water main, relocation of 12 fire hydrants and the relocation of 405 LF of 8” sewer main.
- **H/H Design & Stream Restoration** - The storm drain system consists of approximately 20,000 LF of new pipe, four (4) SWM ponds and associated ESC design. JMT assessed the most sustainable and ecologically suitable location for the relocated/ restored channel at the downstream limit of the stream restoration. An extensive forested wetland is located at the upstream end of the stream restoration limit. A sustainable tie-in location was assessed while considering minimization of waterway and wetland impacts.



# 2.09.04

## Team Experience



**U.S. 40 Personnel Proposed for this MD 4 Project**

- William Schaub, PE
- Walter Kulis, PE
- Jon Conner, PLA, LEED
- Gerard Baxter, PE, PTOE
- Jeremy Koser, PE
- Michael Leffler, PE
- Russell Ruffing
- Leyla Lange
- David Stickles, LS
- Timothy Schott

- **Roadway Design** - Prepared design plans to address the roadway widening required along eastbound U.S. 40, along northbound and southbound MD 715 leading into APG and along Old Philadelphia Road.
- **Structural Design** - Prepared the design plans for the widening of the existing 203' long, 2-span Bridge carrying MD 715 over U.S. 40 and a 300 ft. MSE retaining wall. The design incorporated aesthetic features on the bridge parapet and abutment wingwalls and ornamental lighting.
- **Traffic Engineering and Lighting** - Design included two new traffic signals, updates to an existing traffic signal, interconnect plans and lighting design. Detailed Maintenance of Traffic (MOT) and detour plans were prepared. A Transportation Management Plan (TMP) was prepared to address proposed improvements and impacts to the motoring public.
- **Geotechnical Investigations** – Consists of deflectometer testing of the pavements, and engineering for earthwork stability, pavement sections, bridge foundations and retaining wall.
- **Extensive Public Relations and Partnering** - Attended public meetings, prepared flyers and mailed to over 500 addresses, advertised in local media outlets and established a toll free information number.

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

- N/A

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

**Address:** 707 N. Calvert Street Baltimore, MD 21202

**Contact Name:** Mr. David Phillips **Telephone:** 410-545-8823

**Owner's Project or Contract No.:** HA2705171 **Fax No.:** 410-209-5001

**Contract Value (US\$):** \$17,777,000 **Final Value (US \$):** \$17,777,000

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

**Commencement Date:** July 15, 2010 **Planned Completion Date:** July 31, 2013

**Actual Completion Date:** July 31, 2013

**Any disputes taken to arbitration or litigation?** Yes  No



# 2.09.04

## Team Experience



Contract Number: PG7585184

Project Description: MD 4 – Forestville Road to MD 458 (Silver Hill Road)

### FORM A-2

### PROJECT DESCRIPTION

Name of Proposer: Francis O. Day Co., Inc. (DAY)

Name of Firm: Johnson, Mirmiran & Thompson. Inc. (JMT)

Project Role: Lead Designer

Designer:  Contractor:  Other (Describe):

Years of Experience:

Roads/Streets: 43 Bridges/Structures: 43 Environmental: 43

Project Name, Location, Description and Specific Nature of Work for which Company was responsible

#### MD 924 (Main Street) Streetscape Improvements from MD 22 (Fulford Avenue) to Maulsby Avenue (D-B), Harford County, MD

JMT and our design-build partner renovated Bel Air’s Main Street quickly and dramatically with minimal construction disruptions to the community. Main Street (MD 924) in Bel Air, the seat of county government, experienced high volumes of traffic during peak weekday hours and on weekends. In addition, the poor condition of sidewalks impeded access to Main Street businesses and government buildings. Modifications to MD 924 were sought to encourage visitors and improve flow along this central corridor for county activities. JMT and our D-B partner were selected to provide a 3/4-mile streetscape project that would not only enhance the town’s nostalgic look and feel while applying traffic safety improvements but would also minimize construction impacts on local businesses.

JMT performed all design including civil, structural, utility, traffic, drainage, and electrical engineering; landscape architecture; permit acquisition; right-of-way services; and surveying. Some of the complex design components JMT encountered included reconfiguration of on-street parking, elimination of the existing sidewalk bifurcation of over 2’ in vertical height, upgrades of pedestrian facilities to meet ADA requirements, pedestrian-scale lighting that minimized light pollution, and replacement of water line service connections and the main line. These elements needed to be constructed while maintaining traffic lanes and continuing water service. Additional attention was required for the courthouse, police station, and county office complex. JMT used the design/build delivery method to best advantage by segmenting the project into three phases, each of which would ensure vehicular flow at peak times, no disruptions to access for Main Street businesses, and constant utility service, while delivering the project on a fast track basis.



# 2.09.04

## Team Experience

The Town of Bel Air and the business community was guarded and concerned about the project. During our background investigation into the project, JMT recognized this critical concern and worked diligently to address this concern as we developed our project approach. JMT worked closely with the Town and SHA to provide regularly scheduled project updates with the citizens and businesses of Bel Air. These updates allowed these stakeholders to review the proposed project phasing, specific design elements and construction schedule and most importantly to provide their input and to be heard. JMT prepared artist renderings of the final streetscape appearance. This effort allowed JMT to build consensus & support among the business leaders.

The Town and the County had issues to be addressed as well. Various festivals and parades occurred along the project route throughout the year. While this was not a contract requirement to allow these to continue during construction, our Team recognized the local importance of these events and arranged our construction schedule and activities accordingly to allow these events to occur with minimal disturbance. Throughout the project, JMT worked with local businesses and restaurants to understand their needs, particularly to maintain access for patrons and deliveries during construction.

**The Bel Air Economic & Community Development Commission awarded the project the Archer-Bull Award for meeting these key goals.** The D-B Team established a working culture that focused on total owner satisfaction and project quality, successfully balancing the needs of the client, the town, and businesses to assure long-term project quality, including future maintenance. The streetscape improvements completed in Bel Air signified to the engineering profession and the community that major infrastructure improvements can be completed along a town main street while maintaining the current economic vitality during construction.



**MD 924 Personnel Proposed for this MD 4 Project**

- Jon Conner, PLA, LEED
- Paul Clement, PE, CPESC
- David Stickles, LS
- Charles Turner, Jr.
- Timothy Schott

<b>List any awards and/or commendations received for the project:</b>	
<ul style="list-style-type: none"> <li>▪ DBIA Regional D-B Merit Awards Transportation Projects: Under \$25 million</li> <li>▪ ACEC/MD Honor Award for Special Projects, ACEC/MD;</li> <li>▪ MdQI Awards of Excellence - Context Sensitive Project Development and Partnering</li> <li>▪ Bel Air Economic &amp; Community Development Commission - Archer-Bull Award</li> </ul>	
<b>Name of Client (Owner/Agency, Contractor, etc.):</b> Maryland State Highway Administration	
<b>Address:</b> 707 N. Calvert Street Baltimore, MD 21202	
<b>Contact Name:</b> Mr. Jeffrey Folden	<b>Telephone:</b> 410-545-8814
<b>Owner's Project or Contract No.:</b> HA1865184	<b>Fax No.:</b> 410-209-5001
<b>Contract Value (US\$):</b> \$8,671,472	<b>Final Value (US \$):</b> \$8,671,472
<b>Percent of Total Work Performed by Company:</b> 100% of Design	
<b>Commencement Date:</b> 9/14/2006	<b>Planned Completion Date:</b> 11/1/2008
<b>Actual Completion Date:</b> 11/1/2008	
<b>Any disputes taken to arbitration or litigation?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Contract Number: PG7585184

Project Description: MD 4 – Forestville Road to MD 458 (Silver Hill Road)

FORM A-2

PROJECT DESCRIPTION

Name of Proposer: Francis O. Day Co., Inc. (DAY)

Name of Firm: Johnson, Mirmiran & Thompson. Inc. (JMT)

Project Role: Lead Designer

Designer: [checked] Contractor: [ ] Other (Describe): [ ]

Years of Experience:

Roads/Streets: 43 Bridges/Structures: 43 Environmental: 43

Project Name, Location, Description and Specific Nature of Work for which Company was responsible

Mark Center Short and Mid-Term Improvements (Design-Build), Alexandria, VA

JMT and our design-build partner was selected as the best value team for the \$9.1M M D-B project by the Federal Highway Administration – Eastern Federal Land Highway Division (EFLHD) in collaboration with the VDOT, the U.S. Department of Defense (DoD) and the City of Alexandria, VA. The design and construction of these infrastructure improvements associated with the Mark Center Complex are at the intersections of Mark Center Avenue with Seminary Road and N. Beauregard Street; adjacent to the Seminary Road Interchange with I-395. The Mark Center project was the BRAC identified location for the Washington Headquarters Service relocation, as well as a number of other DoD agencies, and is currently considered to be part of Fort Belvoir. The Mark Center brought a nearly 6,400 new jobs to Alexandria with full completion and deployment of personnel. This tremendous growth in the area resulted in the need to implement these short and mid-term improvements to address the complex transportation issues experienced by the increase in traffic volumes. This contract included the following context sensitive solutions, which resulted in community enhancements including widened sidewalks:

- a) Seminary Road & I-395S Off Ramp - Widened the Seminary Road westbound approach and gore area from the rotary to the Mark Center Ave. intersection from one to two lanes. Restriped the westbound Seminary Road flyover to allow one through lane on Seminary Road and one left turn lane into Mark Center.
b) Seminary Road Turn Lane - Widened Seminary Road to provide a dedicated right turn lane from westbound Seminary Road to Southern Towers.

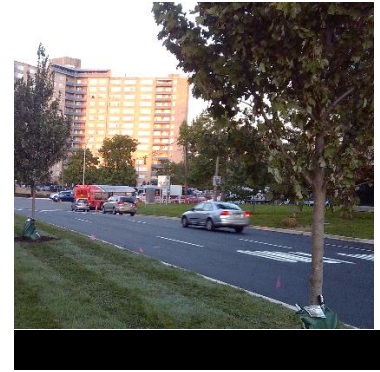




# 2.09.04

## Team Experience

- c) **Seminary Road/North Beauregard Street Intersection** - Widened westbound Seminary Road to provide a deceleration lane and widened northbound Beauregard St. to provide an acceleration lane for the westbound to northbound right turn lane.
- d) **Seminary Road/Mark Center Avenue Intersection** - Widened the eastbound Seminary Road approach to Mark Center Avenue to allow three through lanes. Widened the northbound Mark Center Avenue approach to four lanes to allow one left turn lane, one shared through/right turn lane and two right turn lanes.
- e) **N. Beauregard Street Turn Lane** - Widened northbound Beauregard St. between Mark Center Avenue and Seminary Road to provide a dedicated right turn lane at the northbound approach to Seminary Road after the direct connect ramp from northbound Beauregard St. to eastbound Seminary Road.
- f) **I-395S On-Ramp** - Widened eastbound Seminary Road and the southbound I-395S on ramp from Mark Center Avenue to the ramp meter signal to provide a continuous two lane ramp from Seminary Road to the ramp meter. Restriped the southbound ramp connection from the rotary to provide a merge into the two lane ramp from eastbound Seminary Road.



**Mark Center Personnel Proposed for this MD 4 Project**

- William Schaub, PE
- Shawn Reynolds, PE
- Jon Conner, PLA, LEED
- Gerard Baxter, PE, PTOE
- Paul Clement, PE, CPESC
- David Stickles, LS
- Charles Turner, Jr.
- Bruce Anderson, IRWA
- Timothy Schott

The D-B Team offered time and cost saving ideas to EFLHD and VDOT. Some of these elements included:

- Leveraged experience working in locations with similar or higher ADTs.
- Detailed schedule that included innovative design enhancements.
- Long standing quality relationships with project stakeholders and a proven commitment to partnering.
- In-depth experienced with EFLHD, VDOT, DoD and the City of Alexandria's design standards, specifications and details.
- Completed this project early (3 months) and reduced impact to traveling public.

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

- N/A

**Name of Client (Owner/Agency, Contractor, etc.):** Federal Highway Administration - EFLHD

**Address:** 21400 Ridgetop Circle Sterling, VA 22170

**Contact Name:** Mr. Robert Morris, PE **Telephone:** 703-404-6302

**Owner's Project or Contract No.:** DTFH71-12-R-00001 **Fax No.:** 703-404-6217

**Contract Value (US\$):** \$9,128,072 **Final Value (US \$):** \$9,128,072

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

**Commencement Date:** March 12, 2012 **Planned Completion Date:** October 15, 2013

**Actual Completion Date:** July 1, 2013

**Any disputes taken to arbitration or litigation?** Yes  No



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## 2.09.05 - Environmental Approach and Environmental Past Performance

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### A. Environmental Approach

#### 1) Understanding of the Major Environmental Features

Although this project is located in a heavily urbanized area, there are known environmental features that must be considered during the D-B process. These resources include jurisdictional wetlands and Waters of the U.S., forest stands and individual trees, and M-NCPPC parkland located at MD 4 and Walters Lane, each of which will be addressed separately below:

**4 Wetlands and Waters of the U.S.** – the DAY/JMT D-B Team (DBT) understands that impacts to jurisdictional wetlands and Waters of the U.S. are anticipated for this project and that mitigation is being addressed off-site. It is further understood that Maryland State Highway Administration (SHA) is receiving authorization from the regulatory agencies and is providing offsite compensatory mitigation through a separate project (Marbury Drive Stream Mitigation Project) but any additional impacts will be the responsibility of the DBT, including permit authorization and any required compensatory mitigation. Additional efforts to further avoid and minimize impacts to jurisdictional resources will be considered throughout both design and construction activities.



**4 Forests/Specimen Trees** – the DBT understands that SHA has acquired approval from Maryland Department of Natural Resources (MDNR) Forest Service for the necessary clearing of existing forested areas and removal of individual specimen trees. The DBT must provide 1.09 acres of on-site reforestation within the project area; SHA will provide the remainder of mitigation at an off-site location. On-site reforestation provided by the DBT will be established within one year of the project’s official completion date in accordance with MDNR Forest Service requirements and will conform to SHA’s planting specifications. A copy of the planting plan/schedule of materials will be provided to MDNR Forest Service. Additionally, the DBT will continue to explore the possibility of further avoiding impacts to individual specimen trees that have been identified within the project limits both during design efforts and construction.



**4 The Maryland-National Capital Park and Planning Commission (M-NCPPC) Property** – the DBT understands that temporary impacts will be required to the existing park located at the intersection of MD 4 and Walters Lane due to occupancy. No permanent impacts are anticipated at this time and all efforts will be made to ensure that there are no permanent impacts to M-NCPPC property.



#### 2) Permit Acquisition/Compliance and Addressing Any Non-Compliance Issues

The DBT takes a proactive approach to compliance with permit conditions. As such, the DBT will comply with the conditions of the permits that SHA has already acquired (MDPSGP-4 and Forest Conservation) and apply for those necessary to construct the project including but not limited to those associated with erosion and sediment control (ESC), stormwater management (SWM) and utility relocations.

Compliance begins by conveying a thorough understanding of the environmental resources that exist in the project area. Our DBT has already created a comprehensive Environmental Summary Table for this RFP and educated our design/construction leads on all resources, issues, and requirements associated with this project. This will be repeated during the bid, design and construction phases of the project to ensure understanding among the complete team. We will perform environmental design reviews of all major project elements to ensure that compliance and stewardship measures are carried forward. To ensure boots-on-the-ground



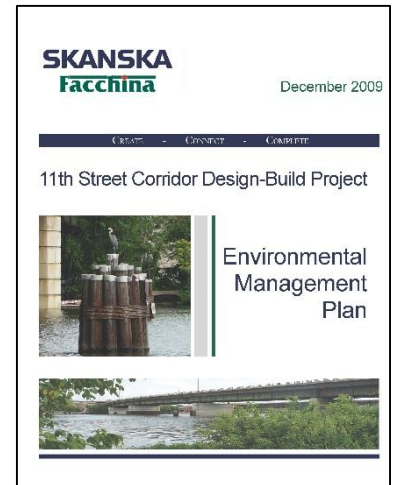
## 2.09.05

### Environmental Approach and Environmental Past Performance



implementation, we will conduct environmental sensitivity training for all construction workers and implement pre-activity meetings addressing environmentally sensitive features. This will include information about cultural resources and indicators to look for during excavation and earth-moving activities.

We will track all compliance requirements by creating a comprehensive Commitment Tracking and Wetlands / Waters Impacts Database for the project, which will be used to inform our quarterly Compliance Reports. This database will be updated biweekly. Our environmental compliance team and landscape architect will conduct pre-construction surveys to personally attest that all reasonable avoidance and minimization efforts are made to avoid wetlands, waterways, and individual specimen trees. Often, additional savings of trees can be accomplished in this manner instead of simply relying on design plans and construction stakeouts. This activity will also allow for a ground search to identify potential contaminated materials dump sites that may need to be addressed, to ensure that all orange protective fencing is in place around sensitive habitats and buffers, and perform a ground search for wildlife.







*JMT led the Compliance effort, which has had outstanding compliance with all 188 NEPA environmental commitments.*

Compliance during construction activities will be ensured through routine site inspections in addition to standard ESC inspections that must be performed following rain events. Pre-storm inspections will also be conducted to ensure that all perimeter controls and protective measures are in place and functioning as designed. The DBT will designate an ESC Inspector that holds a SHA Yellow Card to perform inspections and document the results. Non-compliance of the project with commitments and permit conditions is unacceptable and any instances of non-compliance will be taken seriously with an investigation to determine the cause and identify measures to prevent future occurrences. Willful or negligent actions by workers that violates any commitment or permit condition maybe grounds for dismissal.



Coordination with the SHA will occur through regular contact with the CM in addition to participating in Partnering Meetings and Quarterly Compliance Report (including checklist of compliance items associated with commitments in NEPA document as well as tracking of impacts to wetlands and Waters of the U.S.).

### **3) Implementation of an Effective Erosion and Sediment Control Plan**

To achieve an effective ESC plan, the DBT will first need to develop ESC plans and details that meet or exceed the design criteria. The DBT ESC design for the MD 4 project will be in accordance with:

-  4 Special Provisions 3.05.18 Erosion and Sediment Control (ESC) Design and Approvals and 3.07.01.6 Erosion and Sediment Control (ESC) Plans;
-  4 Terms and Conditions 3.17 - Drainage, Stormwater Management, and Erosion & Sediment Control Performance Specification;
-  4 Special Provisions Category 300 Drainage items; and
-  4 Prepare the reports per the format of Section 3.07.03.3 Erosion and Sediment Control (ESC) Report.

ESC design will be in accordance with:

-  4 The Maryland Department of the Environment (MDE), 2011 Standards and Specification for Soil Erosion and Sediment Control and
-  4 The Erosion and the Sediment Control Guidelines for State and Federal Projects.






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




### Environmental Approach and Environmental Past Performance



The ESC design will comply with:




-  4 The Code of Maryland Regulations (COMAR) Title 26.17.01 – Erosion and Sediment Control;
-  4 Title 26.08.04 – NPDES General Permit for Construction Activity; and
-  4 Title 26.08.02.10 – Water Quality Certification.

#### Summary of ESC Documents Required to Obtain Approval Modifications

-  4 MDE Transmittal Form
-  4 Modification Cover Letter and Response to Comments
-  4 Final ESC Computations and Report
-  4 Final ESC Plans and Details (by Phases)
-  4 Modified Notice of Intent Form (by Phases)

After the pre-permitting meeting, the DBT H/H Engineers will prepare the Final ESC Report and Plans that presents the ESC final design; design computations for ESC devices; Sequence of Construction, and include plans and notes for the construction of the proposed ESC devices. Our H/H Engineers have completed the Maryland Department of the Environment's (MDE) ESC Green Card and SHA's ESC Yellow Card and Design ESC Certification Programs. JMT also has H/H Engineers that are certified as a MDE Reviewers to review and certify by signature that the ESC plans have met the requirements of MDE prior to any submission to MDE for review. The ESC plans shall be coordinated with the SWM and MOT plans. Our ESC Plan will include a written Sequence of Construction (that will be strictly followed), Inspection and Maintenance Protocols for ESC devices, and approach to stockpiling materials needed to perform emergency maintenance. The Final ESC Reports and Design Plans including the MDE transmittal form, the NPDES, NOI form shall be submitted to the MDE for approval via modification of the Letter of Intent. Copies of the Final ESC Reports and Plans will be submitted to SHA. It is anticipated that the Final ESC Report and Plans will provide sufficient detail for the MDE to review and issue an approval (modification to the Letter of Intent) for the entire project. Copies of the MDE approval and approved ESC plans will be maintained onsite along with the MDE 2011 Standards and Specification for Soil Erosion and Sediment Control manual.

During the design of the ESC Plan, the DBT will establish a quality control program which will include reviews by SHA and the Independent Environmental Monitor (IEM) on behalf of MDE and USACE prior to formal submission. The main features of our ESC Plan will be as follows:

-  4 Separate clean water from sediment laden water by diverting all off-site clear water around the disturbed area. Runoff from all disturbed areas will be conveyed through sediment trapping devices such as Temporary Gabion Outlet Structures, Temporary Stone Outlet Structures, Sediment Traps, and Sediment Basins that utilize the SWM basins and natural contours. These trapping devices will be located outside of wetlands and Waters of the U.S., and will treat runoff prior to discharge to streams. The DBT will install SSF along streams and wetlands as redundant ESC.
-  4 Disturb only the amount of area absolutely necessary to perform a grading operation at one time. By minimizing the amount of exposed earth and using timely stabilization, the DBT will minimize potential for erosion of soil, thus reducing the burden upon the ESC devices.
-  4 Provide sufficient resources to expedite the completion of earthwork activities in any one area.

## 2.09.05

### Environmental Approach and Environmental Past Performance

- 4** Use the proposed SWM extended detention basins as sediment basins and sediment laden runoff will be conveyed to the basins using swales (that will act as grass channels) and diversion dikes. SF will be installed between the disturbed areas and the swales as the work progresses to provide redundant ESC treatment.
- 4** Provide additional ESC measures such as sediment traps, inlet protection, TSOS, TGOS, portable sediment tanks (or sediment bags) and diversion fences.
- 4** Develop a detailed sequence of construction (SOC) that is closely coordinated with the MOT and SWM Plans and time restrictions for all stream crossings.
- 4** The ESC will include plans for the initial, interim (if necessary) and final stages of the construction and shall be coordinated with the MOT, wetlands and waterways (including identification of hydric and erodible soils, drainage and SWM design).
- 4** Provide a set of the approved plans on-site at the field office.

The following summarizes our approach to phasing of earthwork and ESC on the project:

- 4** Adherence to all Environmental Commitments;
- 4** Construction of temporary and permanent culverts respecting time or year restrictions;
- 4** Adherence to ROW and Limits of Disturbance (LOD) restrictions;
- 4** Approval of Readiness For Construction ESC Plans by SHA and MDE;
- 4** Installation of perimeter ESC devices prior to start of earth disturbance activities;
- 4** Continuous excavation and stabilization to minimize actual disturbed areas; and
- 4** Minimize impact to the public.

The DBT is committed to being proactive in its handling of ESC throughout the lifecycle of the project and these objectives will be incorporated into the ESC Plan. The ESC Plan will utilize perimeter controls such as earth dikes wherever possible to divert off-site clear water around the work areas to reduce the amount of sediment laden water generated. In environmentally sensitive areas, such as Non-Tidal Wetlands and associated buffers, the DBT will use clear water diversions to minimize impacts. In other areas, the earth dikes and diversions will be used to convey sediment laden runoff to sediment traps and basins.



One of the most important components of a successful ESC plan is minimizing the length of time that earth is exposed. To comply with this component, The DBT will only disturb those areas that can be actively worked in a continuous operation. The work shall be phased within each earth disturbance area (EDA) such that as the active grading operations proceed, the cut and fill slopes shall be brought to final grade and stabilized with permanent seed and mulch in vertical increments of 5 feet based on the day to day field operations. Any disturbed areas that are not being actively worked for a period of seven (7) days and have not reached the final grade will be stabilized with temporary seed and mulch (as appropriate).

## 2.09.05

### Environmental Approach and Environmental Past Performance



The DBT will implement a comprehensive Erosion and Sediment Control (ESC) Program that allows for the timely and efficient movement of earth within the project corridor, while going above and beyond the requirements for protecting waterways and other sensitive environmental resources. We will conduct a Pre-Construction Meeting to review our ESC Program in coordination with SHA, including the Quality Assurance Inspector (QAI), MDE and the IEM. Implementation of the ESC Program, including construction and maintenance of ESC facilities, will be under the direction of the Erosion and Sediment Control Manager (ESCM) and the Construction Manager (CM). Both of whom shall have completed MDE ESC Green Card and SHA ESC Yellow Card Certification Programs. The ESCM will be responsible for compliance with Section 308.03.03 of the Standard Specifications, the ESC Program, as well as MDE requirements and will have the authority to direct or halt construction to gain compliance.

The DBT will have a field manager dedicated to the installation, monitoring, and maintenance of the erosion and sediment control devices designed for the project. This field superintendent will work under the supervision of the ESCM. This superintendent will be assigned sufficient craft foreman, craft personnel, equipment, and subcontractors to perform all sediment and erosion control work. All foremen working under his control will possess MDE ESC Training Green Cards. Further, we will have all excavation; drainage, utility, and other necessary craft foreman obtain the MDE ESC Green Card.

The ESC crew will have access to all the resources of the DBT necessary to perform their duties and to maintain the highest ratings possible. Their job will be to understand the designed controls for the particular operations and phases of work scheduled. They will understand and utilize the best management practices for the installation and maintenance of the designed ESC devices and provide feedback to the ECM on the performance and applicability of the various ESC devices and control schemes. The ESC crew will have the necessary tools to make the DBT aware of upcoming weather events. Preplanning and preparedness will be necessary for our DBT to maintain the highest level of rating. By dedicating a field crew to ESC, we feel we can achieve our goals.

ESC work on this project shall be subject to ESC Quality Assurance Ratings outlined in section 308.01.03. ESC compliance will be monitored to ensure compliance with the approved ESC Program by SHA. The DBT intends to maintain an A Rating throughout the life of the project. We consider a B Rating unacceptable and will immediately correct minor deficiencies to restore our A Rating. ESC work is subject to incentives and/or liquidated damages, as outlined in Section 308.01.03 and we intend to collect the maximum incentive allowed under this contract.

The DBT will provide more than adequate resources and efforts to ensure that all required erosion and sediment control is provided. The ESCM will be responsible for performing the daily ESC inspections. Daily Inspection Reports will be performed as the work progresses. The DBT shall provide two hard copies and one electronic version (PDF format) of the various reports unless otherwise requested by SHA.

The DBT will perform daily inspections (usually in the morning) of the installed ESC devices with the Independent Environmental Monitor (IEM), and others as appropriate to insure that all environmental controls are installed per the approved plans and sequence of construction and are maintained and functioning properly. If additional controls or additional actions are required, this will be identified and documented in the Daily Inspection Reports (including implementation dates). At no time will the ESCM or the IEM leave the site until the required remedial work is identified and documented. For work that must be completed by the end of the day, the ESCM will remain on site until all work is completed and documented.

Any revisions to the approved ESC will first be presented to the MDE Compliance Inspector for determination as to whether they can be approved as a field revision or require submittal to the MDE, Plan Review Division. For the latter scenario, the H/H Design Engineer will be immediately contacted to initiate the plan revisions. Plan revisions will be sent directly to the MDE for approval with copies submitted to SHA. The DBT recognizes that any revisions to the ESC plan are the responsibility of the DBT.

The DBT will develop a Storm Response Plan to respond to severe weather events comprising 3” of rainfall over a 24-hour period. The key element in our Storm Response Plan will be the Severe Weather Action Team (SWAT). This will be a dedicated work group with the sole responsibility of inspecting and repairing ESC facilities installed throughout the project. Whenever a severe storm event is forecast the SWAT will inspect and clean all ESC facilities and drainage facilities including ditches, storm drains, culverts, and outfalls in preparation for the storm. Any disturbed areas will be stabilized to the maximum extent possible. Following the storm, the SWAT will repair and/or restore the ESC facilities and drainage facilities within 48 hours of the end of the event but prior to the next storm. The SWAT will consist of a dedicated foreman, work crew, and equipment necessary to inspect, maintain and repair ESC and drainage facilities. The SWAT will be expanded as needed to service multiple EDAs. When not acting in response to severe weather events, the SWAT will be used to provide maintenance of ESC facilities on a daily basis, including removal of sediment, containment of sediment spills and restoration of sediment contaminated areas. The DBT is committed to insuring that the required ESC devices shall be maintained in operable condition at all times.

#### **4) Measures to Ensure Compliance with Commitments and Laws Related to Cultural Resources**

As previously stated, all environmental commitments and compliance requirements will be tracked in a comprehensive Commitment Tracking & Wetlands/Waters Impacts Database for the project. The database will be updated biweekly and Compliance Reports will be generated on a quarterly basis. All personnel working on the project will undergo Environmental Compliance Awareness Training, which will address all of the environmental commitments as well as permit conditions. The potential for discovery situations will be included in the training so that if an unknown resource is discovered personnel are aware of the process that must be followed.

Should an unknown cultural resource be discovered during construction all activities will immediately be suspended in the immediate vicinity and SHA’s cultural resources liaison will be contacted. Work in the area will not resume until clearance is given by SHA and Maryland State Historic Preservation Office (SHPO).

#### **5) Proposed Techniques, Products, Practices or Innovation**

Innovations used on past projects that we will investigate for feasibility of implementing on this project includes slope stabilization, median/ROW width reductions via innovative SWM, and geometry improvements to reduce impacts. Others ideas that we have considered and that may be implemented include phased roadway construction to minimize ESC bump-outs, foot-print reduction using alternative construction techniques, ESC BMPs that reduce width (such as fence diversions instead of berm diversions), perimeter fencing to prevent wildlife interactions, use of lined concrete washout pits, use of rock/fabric blankets to convey seeps and maintain wetland hydrology, SWM BMPs that reduce thermal loading to streams, use of stabilization methods and perimeter controls for geotechnical work near wetlands/waterways. Our environmental staff will participate in over the shoulder reviews with design and construction staff and explore opportunities within the design and construction to employ innovative solutions, products and



practices that protect environmental resources and to reduce impact to environmental features and reduce waste or pollution.

Our goal will be to minimize fish mortality during permitted in-stream work, and prevent the injury or death of any animals during construction. Prior to stream work for culvert construction, we will seek to relocate any fish and other aquatic organisms downstream of any impacted areas using hand nets if possible, and install netting to prevent re-entry to the impacted reach. Also, prior to clearing and grubbing, we will conduct intensive ground searches focusing on nesting birds as well as slow-moving animals such as reptiles and amphibians, which would be relocated to nearby locations outside of the construction zone. We will conduct periodic monitoring of the site and perimeter controls to prevent re-entry of specimens.

### **B. Environmental Past Performance**

#### **1) Project Specific Techniques, Products and Practices Incorporated in Past Projects**

Project specific techniques, products, and practices incorporated into past projects which have resulted in a reduction in impacts to environmental features or a reduction to waste or pollution. Identify if these techniques, products, or practices were owner directed or suggested by the members of your team.

Our DBT recognizes the importance of Environmental Stewardship not only from the client’s perspective, but also that of the general public. With all our projects we make every attempt to reduce impacts to environmental features and/or reduce waste and pollution by utilizing innovative techniques, products and practices. In certain cases a project sponsor will direct a certain product to be used; however, truly innovative techniques and practices are generated by members of the DBT during both design and construction. The first step we take is determining if there are any potential areas in which the LOD can be reduced to avoid resources and ensure that there are no subsequent constructability concerns. Innovative measures used specifically to minimize impacts to environmental features and reduce pollution on past projects have including use of retaining walls, slope stabilization, median and ROW width reductions via innovative SWM, and geometry improvements. Others have included phased roadway construction to minimize ESC bump-outs, foot-print reduction using alternative construction techniques, ESC BMPs that reduce width (such as fence diversions instead of berm diversions), and perimeter fencing to prevent wildlife interactions, use of lined concrete washout pits, use of rock and fabric blankets to convey seeps and maintain wetland hydrology, SWM BMPs that reduce thermal loading to streams, use of stabilization methods and perimeter controls for geotechnical work near wetlands and waterways.

The JMT led design of the 11<sup>th</sup> Street Corridor (Bridges and Interchanges over the Anacostia River) D-B project in Washington, DC provides examples of the successful implementation of some of these innovations. Materials, means and methods used to drive piles within the Anacostia River (*photo on right*) did not generate significant underwater sound waves and vibrations. As a result, negotiations with the regulatory agencies (U.S. Army Corps of Engineers, NOAA National Marine Fisheries Service and the District Department of the Environment’s Water Quality Division) resulted in the Time-of-Year restrictions for in-stream construction to be lifted allowing the project to progress on an accelerated schedule. Continuous monitoring of underwater vibration was performed and provided to the agencies; no fish mortalities were noted during construction.



*Materials, means and methods used to drive piles within the Anacostia River (11<sup>th</sup> Street Corridor) did not generate significant underwater sound waves and vibrations.*

# 2.09.05

## Environmental Approach and Environmental Past Performance



### 2) Correcting Deficiencies Related to Measures to Protect Environmental Resources in Past Performance

DAY is very proud of our commitment to protect the environment which is evidenced in our SHA Quality Assurance performance ratings shown in the table below:

**F.O. Day Erosion and Sediment Control Grade History  
(2006 to 2014)**

Year	Scores							Total Scores	Average Score
	>100	100	A	B	C	D	F		
2014		20	27	8			1	36	93.3%
2013	26	58	118	9				127	97.9%
2012	10	57	100	12	2			114	96.8%
2011	10	38	74	31				105	93.8%
2010	6	13	59	30	2			91	91.5%
2009	5	46	102	23	5	2		132	94.0%
2008	3	19	37	9	1			47	94.6%
2007*		12	36	25	2			63	89.1%
2006*			45	11	2			58	81.7%
Totals	60	263	598	158	14	2	1	773	94.6%
	7.8%	34.0%	77.4%	20.4%	1.8%	0.3%	0.1%		

\*Note - These years had different grading scales (A=90, B=80 and C=70)

Our company has taken a very proactive approach to protecting the environment which is evidenced by the fact DAY receive a 100 or greater rating 41.8% of the time and an A or B rating 97.8% of the time we are evaluated.

We have developed a partnership with SHA over the years to mitigate potential problem areas on projects that become apparent as the work progresses. We typically oversize perimeter controls such as earth berms whenever possible to provide extra protection and prevent future failure.

Whenever a severe storm event is forecast the Severe Weather Action Team (SWAT) will inspect and clean all the ESC facilities and drainage facilities including ditches, storm drains, culverts, and outfalls in preparation for the storm. Any disturbed areas will be stabilized to the maximum extent possible. Following the storm, the SWAT will repair and/or restore the ESC facilities and drainage facilities within 48 hours of the end of the event but prior to the next storm.

The DBT is committed to ensuring that the environment is protected by proper design, planning, execution and maintenance.



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