

4/29/2017

MD 5 – The Causeway to South of Camp Brown Road



Maryland Department of Transportation State
Highway Administration
Contract No. SM7745171
St. Mary's County
Technical Proposal



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B. Capability of the Proposer

1. Key Staff

a. Project Manager – Robert Trautman, P.L.S.

Years with GMTP: 24 **Total Years:** 59

Active Registration: MD/SHA E&S Yellow Card
MDE Green Card

Certification: Professional Land Surveyor
Maryland # 10586 West Virginia #444

Education: University of Maryland 1 Year

Commitment & Time Availability for this Project: Precon. 50% / Constr. 50%

Robert has served as a Field Engineer, Estimator, Project Manager and Design Professional. He has managed roadway, highway and utility construction, cost control, and schedule compliance (interpreting design and construction) as well as final as-built design and calculations for the MD SHA, St. Mary's County Public Works & Transportation Department and St. Mary's County Metropolitan Commission.

Relevant Project Experience

May 1985 – September 1987

Maryland State Route 6 – Charles County, Maryland Cost - \$4.6 million

Project Manager in charge of construction of 4.5 miles of a single lane **24 foot wide paved roadway with 10 foot wide paved shoulder** including the construction of a double barrel concrete box culvert and related **storm drainage** throughout the project. **All sediment and control measures and other related environmental features including the protection of wetland, flood plains, etc.**

April 2004 – September 2009

Abberly Crest – Phases 1 & 2 – Cost \$5.7 million

Project Manager in charge of the construction streets and infrastructures for approximately 900 apartment units. Included was the clearing and grubbing, grading, storm drainage, **stormwater management ponds & structures**, aggregate base course, hot mix asphalt paving, concrete curb & gutter and topsoil, seeding & mulch as well as the **widening**, signage & striping of Willows Road.

July 2004 – September 2016

Pembroke Subdivision Sections 1, 2, 3 & 4 Cost - \$8.8 million

Project Manager in charge of construction of the streets, drives, courts and alleys for approximately a 350 lot subdivision for single family homes. Included was the clearing & grubbing, grading, **storm drainage, stormwater management ponds & structures, aggregate base course, hot mix asphalt paving**, concrete curb & gutter, sanitary waste water pumping station, related pipe lines and manholes, water lines, **erosion & sediment control**, topsoil, seed & mulch and signage.

August 2008 – October 2016

Three Notch Hiker/Biker Trail Phase 4A, 5 & 6 Cost \$4.0 million

Project Manager in charge of the construction of a **10 foot wide paved trail** approximately 9 miles in length in two different locations. Included was the clearing & grubbing, grading, **storm drainage, stormwater management ponds & structures**, aggregate base course, **hot mix asphalt paving**, handicap tactile warning strips, bollards, & gates, signage and landscaping.

b. Construction Manager – Stephen DeTemple

Years with GMTP: 7 **Total Years:** 10

Certification: CRP, First Aid, Quality Control
Manager

Active Registration: MD/SHA E&S Yellow Card

MDE Green Card, ATSSA Flagger, MD/SHA Traffic Control Orange Card

Education: College of Southern MD 1.9 Yr.

Commitment & Time Availability for this Project: Precon. 50% / Constr. 100%

Stephen has gained field and management experience in his career. Has a thorough understanding of grading, drainage and utility work as well as dealing with maintenance of traffic. In addition he has working knowledge of dealing with material availability, quality control procedures, and the capacities and capabilities of subcontractors and vendors. He brings a wealth of knowledge relating to budget development and oversight, design coordination, constructability reviews, issue resolution, project scheduling and phasing, operations management, subcontractor management and public outreach. He has overseen numerous highway projects involving stream diversions, ditch-line relocations, soil nail walls, retaining walls, and traffic control.

Relevant Project Experience

May 2011 – May 2013, Design-Bid-Build, Intersection Improvements on MD Rt. 2 @ MD 423 in Anne Arundel County, SHA Contract No. AA4935130 \$1.30M

Construction Manager Stephen was assigned from the start up to close out. He oversaw the monthly progress meetings and conducted **traffic control** along with the **stream diversion** for the project. At the startup of the project a design flaw was noted with the traffic control plan with line of sight issues for cars crossing the intersection. Stephen worked together with his team and SHA to redesign the traffic control plan to ensure the safest outcome for both the traveling public and working employees. This project included the restoration of two failing slopes along MD RT 2 due to existing stream erosion. Stephen managed the stream diversion, maintenance, fill of the slope, and the restoration.

May 2014 - October 2016, Design-Bid-Build, MD 4 from MD 235 to Patuxent Blvd. Geometric Improvements in St. Mary's County, SHA Contract No. SM2165176 \$3.11M.

E&S Manager and Construction Manager for the project he oversaw and performed daily E&S reports. Along with the **relocation of existing electrical utility** and the installation of 3,200 SF of soil nail walls. Stephen worked with a MBE firm to value engineer the project and in-lieu of installing additional soil nail walls a 390LF retaining wall was installed in which a significant savings was provided to the owner. A total of **4 Bio-Swales** were installed on the project and Stephen coordinated with the site superintendent to ensure all materials were delivered and remained uncontaminated. **Stephen coordinated with paving contractor and SHA to perform a night time paving operation in which double lane closures and center lane closure operations were utilized as to impact traffic the least and provide the safest working conditions.**

May 2015 – November 2016, Design-Bid-Build, Dowell Rd. Improvements Phase 1 in Calvert County, Contract No. Purch. 2015-003 \$4.8M

Construction Manager for this project he handled all submittals and acquiring all subcontractors. **This project consisted of widening an existing road that had existing drainage ditches along both sides of the road. Widening of 1 side of the road was completed under flagging operation then traffic was shifted to maintain 2 lanes while widening the other side. All water was diverted to a SWM Pond constructed on this project. Value engineered by GMTP to \$3.36M**

c. Cost Estimator – Donald Ocker, L.S.

Years with GMTP: 3 Total Years: 37

Certification: Licensed MD Property Line

Active Registration: On Board for Soil Conservation

Surveyor

MDE Green Card,

Education: Waynesburg College, PA 3.9 YR

Commitment & Time Availability for this Project: Precon. 15% / Constr. 30%

Donald has served as a Field Engineer, Estimator, and Design Professional. He has managed roadway, highway and utility construction, and cost control. He was part ownership of NG&O Engineering, Inc. for 25 years and was in charge of review of all site, subdivision, road, stormwater management, grading, and sediment control plans. As owner of an engineering firm he was constantly working budget estimates for owners for their review for possible construction costs. Donald has now been working for GMTP for the past 3 years working as our quantity and cost estimator to add to his experience gained with NG&O Engineering.

Relevant Project Experience

November 2015

Patuxent River NAVAIR Runway 14-32 Phase 1 – St. Mary’s County, Maryland Cost - \$22.2 million

As cost estimator Donald was lead in quantifying components for all major disciplines on the project. Took the lead in acquiring all sub-contractor quotes and was an active participant in the constructability review meetings. Relevant items with similar scope to work include **sediment controls, storm drain, asphalt paving, striping, and air-field traffic control.**

November 2016

Patuxent River NAVAIR Runway 14-32 Phase 2&3 – St. Mary’s County, Maryland Cost - \$41.9

As cost estimator Donald estimated all major components of the project and led the transition team from the estimates to the construction coordination. Also again had sole leadership in acquiring all sub-contractor quotes and was active participant in the constructability review. The takeoff and estimated components of this project consisted of **sediment control, concrete repairs, electrical, building, asphalt milling, asphalt paving, striping, and air-field traffic control.**

February 2017

Patuxent Homes Road Repairs Phase 4 Cost - \$2.5 million

As cost manager was lead in quantifying components for all major disciplines on the project. This project consisted of the re-construction of the streets, drives, courts and alleys for approximately an 85 lot subdivision for single family homes. Included was the demolition of existing asphalt, concrete, new grading, **storm drainage, stormwater management structures, aggregate base course, hot mix asphalt paving, concrete curb & gutter, erosion & sediment control, topsoil, seed & mulch, signage and one lane traffic control.**

July 2016

Patuxent Homes Water & Sewer Phase 3 Cost \$3.4 million

As cost estimator Donald estimated all major components of the project and led the transition team from the estimates to the construction coordination. This project consisted of the re-construction of new 10,000 LF of water and sewer in an existing paved subdivision. Included was demolition of existing asphalt, placement of new water line, **aggregate base course, hot mix asphalt paving. Most relevant was the traffic control necessary to complete the project. All working days consisted of a 2 to 4 man flagging operation to complete the project.**

2. Team Past Performance

a. Past Project 1

FORM A-2 PAST PROJECT DESCRIPTION

Name of Construction Firm: **Great Mills Trading Post, Inc.**

Project Role: **Prime Contractor**

Contractor: Other (Describe): _____

Years of Experience: Roads/Streets: 35 Environmental: 35

Project Name and Location: **MD 4 from MD 235 to Patuxent Blvd Geometric Improvements (Design-Bid-Build)**

Project Key Staff (as applicable to project)

Construction Manager: **Stephen DeTemple**

Description and specific nature of work for which firm was responsible and how it is relevant to this contract:

MD Rt. 4 Improvements consisted of 4,000LF of roadway widening along with nighttime sidewalk and ramp reconstruction. GMTP self-performed the traffic control for this project along with the sediment control, grading, bio-swale construction, drainage improvements, water line relocation, GAB installation, and base paving. With the help of our subcontracting team additional work overseen by GMTP included, concrete curb & gutter, interconnect line relocation, guardrails, asphalt milling, surface course paving, soil nail walls, retaining wall, lighting work, turfgrass sod, tree planting, and striping.

Maintenance of traffic was the most critical aspect of the project's success. GMTP coordinated with SHA, Patuxent Naval Base, and local government to install all traffic control devices and lane closures to the least impact to drivers. Multiple times throughout the duration of this project night time lane closures were put into effect to complete construction in an efficient manner. On MD Rt. 235 a double lane closure was installed during a night time operation for the installation of new handicap ramps, relocation of a median island, and the milling & paving operation at the MD Rt. 235 and MD Rt. 4 intersection. During the milling, paving and striping portion of the project multiple lane closure operations were utilized and self-performed by GMTP. Specifically installed were right and left shoulder closures, right and left lane closures, lane shift left and right, and center lane closure. With the complete partnering



effort from all parties GMTP was able to complete this project ahead of schedule and within budget of SHA.

Description of specific nature of work for which key staff proposed for this contract was responsible for on project and how it is relevant to this contract:



Robert Trautman (Proposed Project Manager) – As chief project manager and estimator for GMTP Mr. Trautman steered the project team during the bidding process and was very instrumental in making sure the contract stayed within budget for GMTP and SHA throughout the duration of the project.

Stephen DeTemple (Proposed Construction Manager) – Started from the beginning of this project and assisted Mr. Trautman throughout the bidding portion of this project. On award Stephen handled all submittals for the entire project and signed all subcontractors including the MBE. He was able to sign on a total of 4 MBE subcontractors for a total of 14.55% work performed on the project. Stephen also was assigned the E&S Manager along with Construction Manager for the project. He was at the site daily, inspecting the installation and maintenance of all sediment control measures along making sure all materials were delivered in a timely fashion. He was present for monthly partnering meetings and updating the monthly schedule to keep all interested parties up to date on the project throughout the close out of the project.

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

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

Contact Name: Robert Murphy
(Mobile)

Telephone: 410-841-1034 / 410-802-9066

Owner's Project or Contract No.: SM2165176 **Fax No.:** 301-737-2512

Contract Value (US \$): \$3,116,862 **Final Value (US \$):** \$3,171,881 (owner approved qty. overruns)

Percent of Total Work Performed by Company: 55% (45% subcontract)

Commencement Date: 5/5/2014 **Original Completion Date As Defined in IFB:** 11/15/2016

Actual Completion Date: 10/8/2016

Any disputes taken to arbitration or litigation? Yes No

b. Past Project 2

FORM A-2 PAST PROJECT DESCRIPTION

| | |
|--|--|
| Name of Construction Firm: Great Mills Trading Post | |
| Project Role: Prime Contractor | |
| Contractor: <input checked="" type="checkbox"/> Other (Describe): _____ | |
| Years of Experience: Roads/Streets: <u>35</u> Environmental: <u>35</u> | |
| Project Name and Location: Repair Runways 14-32 and 6-24 Phase 1 at Naval Air Station Patuxent River (Design-Bid-Build) | |
| Project Key Staff (as applicable to project) | |
| Construction Manager: Stephen DeTemple | |
| Description and specific nature of work for which firm was responsible and how it is relevant to this contract: The work provided under this contract parallels that of the proposed solicitation. Under this contract GMTP provided labor, supervision, transportation, material and equipment to successfully complete site work, paving and electrical upgrades for the Patuxent River Naval Air Station, Repairs to Runways 14-32 and 6-24. The site work included demolition of Catapult 159, demolition of unused concrete pavement at the Runway 14 and Runway 20 end, construction of new shoulders at the Runway 14 end and removal of airfield marking on the concrete aprons at both ends of Runway 14-32. The airfield paving included milling and overlaying Runway 14-32 and the intersection of Runway 6-24, the overrun on Runway 14 end and Runway 20 end, Taxiways Bravo, Charlie, Delta, Echo, and Foxtrot tie-ins to the Runways, and the TC-7 area, concrete replacement at Arresting Gear #1 and #3, Runway 20 overrun, and spall and full depth repairs at both ends of Runway 14-32 and the TC-7 area. Once all the airfield paving was completed, the Runways and Taxiways had to have all the airfield pavement marking painted on both the asphalt and concrete laid out and painted. Runway 6-24 required temporary striping installed to reopen the runway for use on the airfield. GMTP maintained communications at all times with the Airfield. We coordinated runway and taxiway closures with Air Operations and performed the intersection work between Runway 14-32 and 6-24 within the allowed construction duration, opening Runway 6-24 as required by the contract allowing the Navy to maintain testing schedules for the fleet. During the construction activities near the runway, we cleaned all asphalt work to maintain a FOD-free area during all operations. As required by this contract, GMTP established a Construction Schedule, Quality Control Plan, Environmental Protection Plan, Asphalt Paving Plan, Concrete Pour Plan and Health and Safety Plan which were submitted to the ROICC office and approved. | |



For this project, the work was required to be completed in phases around the operational requirements of the airfield. GMTP successfully conducted the project within the phase requirements and opened portions of the airfield while construction activities were still underway. Runway 6-24 was completed in 22 days and Taxiway Charlie was opened to taxi aircraft across Runway 14-32 while work was still being completed in this phase. We used relocated thresholds to keep the 32 end of Runway 14-32 operational while working on the demolition of Catapult 159 and the overrun area of the 14 end of Runway 14-32. This project was completed while the airfield was operational and all work was coordinated with Air Ops to maintain scheduled training and testing flights required of this facility. We worked closely with personnel at the base to ensure that construction activities were scheduled in advance to maintain smooth operations of the facility while the work in close proximity to the runway was completed.

Description of specific nature of work for which key staff proposed for this contract was responsible for on project and how it is relevant to this contract:




Robert Trautman (Proposed Project Manager) – As chief project manager and estimator for GMTP Mr. Trautman steered the project team during the bidding process and was very instrumental in making sure the contract stayed within budget for GMTP and Navy throughout the duration of the project.
Donald Ocker (Proposed Cost Estimator) – For this project Mr. Ocker was

responsible for acquiring all job quantities and monitoring subcontractor costs. This project was bid a lump sum proposal to the government and no quantities were provided to the bidding contractors. Using the Roctek Program along with various CAD programs he was able to provide us with breakdown excel spreadsheets along with original price quotes for all subcontractors and supplier materials.

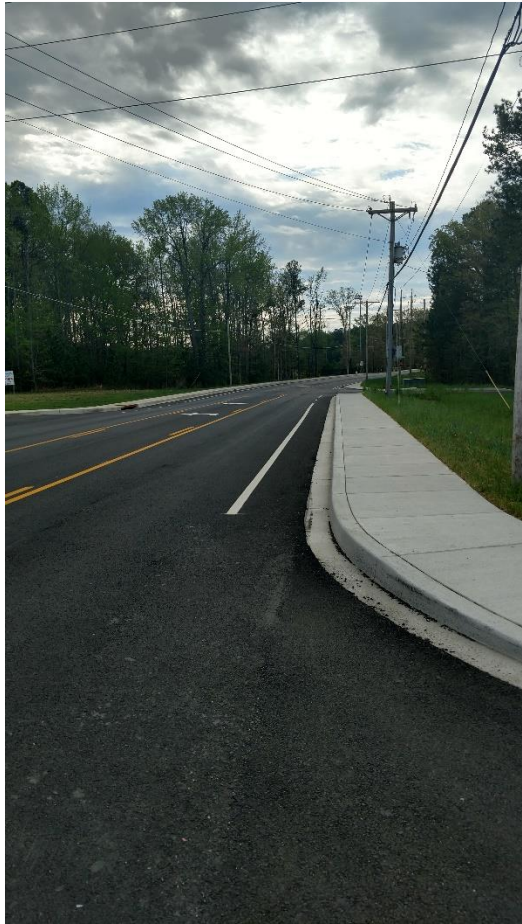
| | |
|---|---|
| Name of Client (Owner/Agency, Contractor, etc.): Department of Navy | |
| Address: 1314 Harwood Street, SE, Bldg 212, First Floor Mail Room Washington, D.C. 20374 | |
| Contact Name: Melanie R. Grigsby, P.E. LT Telephone: 301-757-3481 / 813-244-3360 (Mobile) | |
| Owner’s Project or Contract No.: N40080-17-R-0002 | Fax No.: |
| Contract Value (US \$): \$22,270,000 Final Value (US \$): \$22,515,482 (owner approved add. work) | |
| Percent of Total Work Performed by Company: 81% (19% subcontract) | |
| Commencement Date: 10/27/2015 Original Completion Date As Defined in IFB: 12/31/2016 | |
| Actual Completion Date: 11/30/2016 | |
| Any disputes taken to arbitration or litigation? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |

c. Past Project 3

3. FORM A-2 PAST PROJECT DESCRIPTION

| | |
|---|--|
| Name of Construction Firm: Great Mills Trading Post | |
| Project Role: Prime Contractor | |
| Contractor: <input checked="" type="checkbox"/> Other (Describe): _____ | |
| Years of Experience: Roads/Streets: <u>35</u> Environmental: <u>35</u> | |
| Project Name and Location: Dowell Road Widening Improvements, Ph. 1 (Design-Bid-Build) | |
| Project Key Staff (as applicable to project) | |
| Construction Manager: Stephen DeTemple | |
| <p>Description and specific nature of work for which firm was responsible and how it is relevant to this contract:</p> <p>This project is very similar to the MD 5 at Point Lookout project. This project was necessary because this existing 2 lane roadway wasn't wide enough for the amount of traffic traveling it daily along with the pedestrians and bicyclists. GMTP widened 0.65 miles of existing roadway to accommodate a new 4 foot bicycle line in both directions, 12 foot travel lane in both directions and a 10' center turn lane. The existing roadway had v ditches in both directions and standing water was evident during the bidding process. A temporary swale was installed along the LOD of the project to relocate all running water away from where the widening was occurring. New drainage pipes were installed across the roadway until it reached the SWM Pond constructed. A flagging operation was utilized in Phase 1 of the project where we were widening the North side of the road. Once the North side was based in we used a new traffic pattern and shifted traffic to maintain 1 lane in both directions while GMTP worked on widening the South side of the project. The work performed under this Contract included but not limited to the following:</p> <ol style="list-style-type: none"> 1. Clearing and grubbing. 2. Erosion and sediment control. 3. Construction of stormwater management improvements including one (1) stormwater management facility, grading, storm drainage and paving of roadways. 4. Sidewalk and roadway appurtenances. 5. Maintenance of Traffic. 6. Roadway signing and pavement markings. | |
|  | |

Description of specific nature of work for which key staff proposed for this contract was responsible for on project and how it is relevant to this contract:



Robert Trautman (Proposed Project Manager) – As chief project manager and estimator for GMTP Mr. Trautman steered the project team during the bidding process and was very instrumental in making sure the contract stayed within budget for GMTP and Calvert County DPWT throughout the duration of the project.

Stephen DeTemple (Proposed Construction Manager) – Started from the beginning on this project and assisting Mr. Trautman throughout the bidding portion of this project. On award Stephen handled all submittals for the entire project and acquired all subcontractors. Stephen also was assigned the E&S Manager along with Construction Manager for the project. Daily at the site inspecting the installation and maintenance of all sediment control measures along with making sure all materials were delivered in a timely fashion. He was present for monthly partnering meetings and updating the monthly schedule to keep all interested parties up to date on the project throughout the close out of the project.

Name of Client (Owner/Agency, Contractor, etc.): Calvert County DPWT

Address: 150 Main Street, Suite 107 Prince Frederick, MD 20678

Contact Name: Frank Schlotter

Telephone: 410-535-2204 ext. 2568

Owner's Project or Contract No.: Purch 2015-003 **Fax No.:** 410-535-2129

Contract Value (US \$): \$4,809,086 **Final Value (US \$):** \$3,363,605 (Value Engineered)

Percent of Total Work Performed by Company: 80% (20% subcontract)

Commencement Date: 5/3/2015 **Original Completion Date As Defined in IFB:** 2/28/2017

Actual Completion Date: 11/30/2016

Any disputes taken to arbitration or litigation?

Yes

No

3. Organizational Chart

a. Value-Added Staff

In order to provide you with the right team who has all of the capabilities to perform the work, additional personnel is listed below...

Design Coordinator – Louis E. Shaw II, P.E.

Louis “Les” Shaw is a certified Professional Engineer in MD # 20470. He has 30 years of construction experience with 13 years being with GMTP. Les also worked for Maryland Environmental Service from May 1989 till August 2004. He was in charge of preparing computations, calculations, quantity estimates, and engineer estimates for construction work. Also prepared site, road construction, stormwater management, soil conservation, forest conservation, and wetland plans. Since working for GMTP he has worked as Project/Construction Manager and Cost Estimator. Using his design background he has been essential in value engineering projects and ensuring projects stay within budget for owners.

Off-Site Executive – Joseph D. Knott

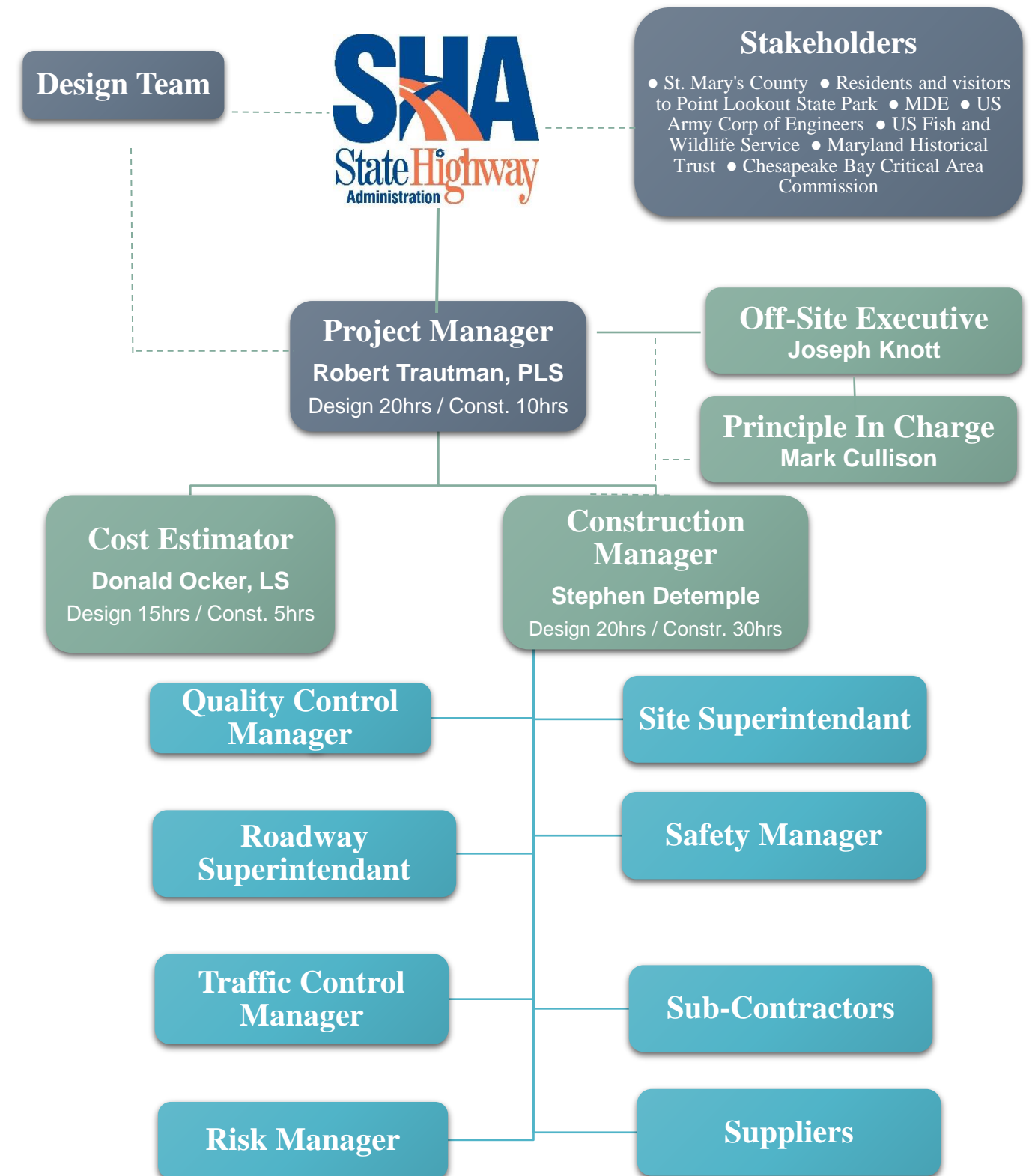
Joseph “Bubby” Knott started this company 45 years ago self-performing civil site work. With 45 years of experience bidding and overseeing projects he is responsible for all executive oversight.

Principle-In-Charge – Mark A. Cullison

Mark is currently the Vice President/General Superintendent for GMTP with 36 years of construction experience and 25 years with GMTP. He manages the daily construction crews and ensures work is completed to specifications, on schedule, and within budget. He establishes high priority risks and organized resources to accomplish tasks. He has the authority to negotiate contracts and change orders and has signature authority.

Safety Manager – Gary L. Sweitzer

Gary is currently Safety Manager along with Airfield Operational Manager for GMTP. He has 30 years of experience with 16 years being at GMTP. He is familiar with all local, state, and federal safety standards and ensures that guidelines are followed at the work site. With Gary being at the head of our safety management our EMR Rate has been at an average of 0.74 for the past 4 years. He communicates with all field superintendents to see that daily toolbox safety meetings are being held along with holding a company-wide safety meeting at the beginning of each month. He is certified with MD SHA to be a Traffic Control Manager and has completed the OSHA 30 Hour Training along with, CPR, First Aid, Confined Space, and Heavy Equipment.



C. Project Approach

1. Preconstruction Approach

a. Collaboration

GMTP would put partnering at the forefront with all stake holders and the Administration to ensure the preconstruction process goes smooth as possible. We would establish goals to be reviewed at each progress meeting during preconstruction, including;

- Minimize risk and traffic maintenance for the public
- Ensure the site is safe for employees and traveling public
- Follow all MDE & Traffic Control Guidelines
- Protect existing wetlands and park areas
- Complete the project on budget and on schedule

b. Design and Construction Review

Design Coordinator: Louis Shaw will act as the construction team's Design Coordinator and will utilize his Civil Engineering experience to fill this role. With several agencies, design firms, and stakeholders involved in a project, it can be a challenge to continuously advance the design while accommodating the needs of all parties involved. By having one person champion the overall design coordination, we ensure that the design stays on schedule, within budget, and priority is given to activities that provide the most benefit to the overall project.

Preconstruction Schedule: Mr. DeTemple will create and manage an integrated project schedule that includes all design, permit, utility, procurement, right-of-way and stakeholder activities. This schedule will give the team the ability to understand overall project progress and ensure the project is completed on time.

Design and Progress Meetings

Task force meetings are an effective project collaboration tool, and we hold them weekly for each discipline. Each task force will be comprised of the design discipline leads, GMTP staff, SHA representatives, and project stakeholders. The purpose of these meetings are to review overall design status, discuss technical issues, jointly review design comments, reduce errors and omissions, and designs under development (over-the-shoulder review). These meetings offer SHA, stakeholders, and the contractor direct input into the design process. This forum is intended to be a collaborative environment that benefits the project by having the requirements 'designed in' rather than 'reviewed in'. Weekly status meetings will also be held that allows the team to take a bigger picture look at the overall design status, and to ensure there is strong collaboration between all disciplines. In addition, the team will discuss any concerns with design progress while helping identify any changes to the established priorities. All discipline leads will report on upcoming submittals, relay schedules to the review teams and target any items that affect other disciplines. Both of these meetings ensure a collaborative partnership, eliminate surprises, reduce review time, minimize comments, and eliminate design rework.

Constructability/Value Engineering Reviews

During every phase of the design, our team will provide innovative constructability and value engineering ideas through a formal process. This process will be led by our certified facilitator. Each suggestion will be provided to the team and evaluated to decide whether to further

advance the idea. Advancing a suggestion may result in the need for cost estimating, value analysis or exploring a design for feasibility. In order to accomplish this, we utilize the Decision Analysis and Resolution Team (DART) tracking. The DART matrix organizes and quantifies innovations developed during design to help the team evaluate the overall change. Each innovation is evaluated based on impacts to design, construction, schedule, the client and overall project goals and weighted scores are entered for each category. This allows the team to make informed decisions for every value engineered or innovative idea.

Coordination Activities

Utilities Coordination: Utilities coordination is of critical importance since they are often long lead items and not under direct control of the CMAR team. During preconstruction, we identify all utility agencies with facilities within the work zone, ensure utility owners attend regular project meetings, acquire as-built information and verify with physical test-pit data as needed, work with the CMAR task forces and utility owners to identify potential conflicts, and assist with conflict resolution and coordination. Our number one goal is utility relocation avoidance and to minimize utility impacts and relocations.

Drainage Coordination: The design of the ditch drainage is contingent upon the roadway grades. Through design coordination, we provide the designers with input regarding temporary drainage to match our construction and MOT sequencing. For example, we communicate our phasing plan to the design team to ensure SWM areas are designed and constructed in the proper sequence to handle construction storm water and keep the project in compliance.

Traffic Maintenance Coordination: We will work with MOT task managers to discuss residential and the national park access and working room requirements to assist with the development of the design. Our planned construction sequence will be a key factor in developing the MOT design. During preconstruction, we will host a phasing workshop and develop the phasing plans with the design team.

Stakeholder Coordination: St. Mary's County, Point Lookout State Park, Environmental Agencies and the local residents will require extensive coordination during preconstruction. We must meet with them early and often to understand their planning throughout the year and their concerns.

Keeping Cost of Construction within Budget

By being a local firm having done projects in St. Mary's County for the past 35 years, we are able to reduce the cost of construction and maximize value. First, our project team will perform independent estimates and jointly review, compare, and reconcile both estimates prior to review with SHA. The benefits to SHA include having a working knowledge of local costs and an established relationship with all local agencies and residents to find the lowest cost solution, and combining material and equipment resources that we already own. Next, our team will have a larger pool of local subcontractors and suppliers due to past experience in St. Mary's County. We each have a long standing history with the local economy, and we will solicit quotes from more capable firms to get the best value in each package.

c. Risk Management

Reducing risk and applying innovation is critical to the success of any project. Risk management begins by defining the risks associated with the project and by understanding a risk's potential impact which is essential to managing and mitigating it.

We will work in partnership with the SHA and the designer to identify, analyze, innovate, and manage any potential risks that may occur on the project. Working closely together, we will develop a plan and strategy that:

- Identifies all potential risks that may arise on the project
- Separates any risk out of the cost models
- Determines the correct contingency amounts for those risks that cannot be eliminated
- Regardless of ownership, develops approaches that either eliminate or minimize those risks
- Determines which party “owns” each risk item

Analysis of Notable Risks

As part of this proposal, our team has already taken an in-depth look at the potential risks that are associated with the project. The biggest piece missing is the critical input from the SHA, engineer of record and potential stakeholders. In order to develop the potential risks associated with this project, we utilized a collaborative approach, which would be the same approach we use during the preconstruction phase of the project. First, we brainstorm potential risks by performing an initial plan study with all team members involved in the project including the client, designer of record, estimators, superintendents, internal professional engineers and managers. During this study, we are familiarizing everyone with the project, but also diving into the details of each plan sheet. Every potential risk is added to the initial risk register. Next, each team member spends individual time getting deeper into the details of the project plans. Many times, our engineers, estimators and superintendents are able to find additional risks by performing takeoffs, running calculations, and developing the project schedule. In order to capture each team member’s thoughts, we ask individuals to maintain their own individual risk registers and then hold a formal meeting to discuss every idea, and put it on the master list. For this project, we paid special attention to items such as:

- **Utility locations:** There are several key overhead utilities within the widening of MD-5
- **Surrounding homes:** Making sure all local residents always have access to and from their property
- **Geotechnical conditions:** Wet soil conditions can deeply impact the schedule for the project
- **Environmental:** Many of the widened areas are located near streams, ditches, and other environmentally sensitive areas.
- **MOT:** There are several traffic switches and access requirements that are critical to the success of this project. We will pay special attention to conflicts between mainline traffic and construction.

All of these items and many others were added to the initial risk matrix. After identification of the risk on the matrix, our team will go through a process of analyzing risks that lead to appropriate innovations and developing mitigation and innovative strategies, along with efficient allocation of risks. As a team, we will compare costs, schedule, and risk between different design alternatives and construction practices to develop the best overall approach that eliminates or reduce risk.

For example, for the relocation of the existing overhead utilities we start that process during the preconstruction phase.

For the schedule, our team can run several “what if” scenarios during preconstruction to identify potential issues if a long lead material gets delayed or if we experience a differing site condition during roadway construction. This project is highly phased, and it is important to play out several different scenarios. By ensuring that there are several “Plan B” options, we can develop the optimal phasing plan that maintains the completion date if an issue were to arise. Since the risks can change as the team decides which concepts and approaches will be adopted, we will utilize the risk register as a living document to prioritize and track progress during design and construction to mitigate risk.

During design development on the MD-5 Improvement project, we propose to discuss the risk register at our formal weekly meetings. Along with constructability reviews, our team would discuss the risk register along with innovative suggestions to mitigate the risk. Advancing an innovation can result in cost estimating, value analysis or exploring a design for feasibility. To maintain efficient decision making, the team would maintain an action item list with detailed assignment and due dates. Separate face-to-face or conference calls can be established with key personnel to ensure we have the right people to discuss specific potential suggestions. An advocate would be assigned to champion each suggestion to ensure full evaluation is performed with the proper personnel involved and resolution obtained.

GMTP Cost Estimator, Donald Ocker, will lead the development and management of the risk register, along with support from Stephen DeTemple and Robert Trautman. Donald brings tremendous value because he understands SHA requirements and the processes in alternative delivery procurement.



Risk Matrix

| Risk or Innovation Description | Probable Cost Savings of Risk Mitigation or Innovation | Probability of Occurrence | Cost Savings to Project (Probable Cost X Probability of Occurrence) | Schedule Impact to Project (Days) | Summary of Mitigation/Elimination or Implementation Plan |
|---|--|---------------------------|---|-----------------------------------|--|
| Encountering Unsuitable Materials in Widening Section | Construction cost saving: \$299,970 User Cost Savings: \$90,000 | 90% | \$350,973 | 60 days | <ul style="list-style-type: none"> Perform geotechnical investigation during preconstruction to identify types of materials |
| Delays in Overhead Utility Relocation | Construction Cost Saving: \$40,000 User Cost Saving: \$20,000 | 75% | \$45,000 | 30 days | <ul style="list-style-type: none"> Conduct thorough utility investigation early in preconstruction Begin working through design/permitting with utilities early in preconstruction |
| Adverse Weather | Construction Cost Saving: \$75,000 User Cost Saving: \$22,500 | 90% | \$87,750 | 30 days | <ul style="list-style-type: none"> Perform widening work March – October Asphalt paving April - September |

d. Proposed Technical Concepts

GMTP brings a local knowledge to the MD 5 project in St. Mary's County that will enhance the overall project and ensure the project goals are met. Having reviewed the plans and preconstruction documents provided by the Administration there are a couple innovations we suggest for the construction of this project.

1. Installing Temporary Swales along the outside perimeter of the project

A major impact to this project is the standing water in the existing ditches along the edge of the existing road. GMTP proposes to install temporary swales along the edge of the perimeter of the project to relocate any water away from the widening section of the road. This will help keep the project on schedule and within budget.

2. Using local products for the installation of the project

Having past experience working with MSHA we are familiar with the materials and specifications. The use of RC-6 in lieu of GAB would provide significant savings in time and cost. Noting the location of this project in Southern Maryland GAB is not a local made product and therefore would have to be trucked from one of the various locations approved by MDSHA. GMTP owns 3 local gravel pits in which RC-6 is made with the closest being 25 miles from this site. In addition to the cost reduction RC-6 is a product that handles saturated soil conditions superior to GAB. GAB has the tendency to not be manageable when the moisture content is too high and with the existing ground water being a concern RC-6 would provide a superior final product.

3. Existing Soil Conditions will be an issue for this project

Working constructions projects for the past 35 years in St. Mary's County we have a local knowledge of the existing soil conditions in this area. Seeing the project has existing water issues typically a contractor would want to come in and excavate to sturdy soil and then import select fill to bring it back up to grade. Having local history with this issue we have learned that performing a deep undercut is not necessary and a way to expedite the project schedule and save on costs is to dig 1 to 2 feet then place a layer of cloth on the soils, put a bridge of 2 to 3 inch stone on the ground then cover with RC-6 or GAB.

2. Construction Approach

a. Construction Sequencing

Phase 1: Starting at station 474+50 to 367+00 North clear and grub as necessary along the LOD to install sediment and erosion controls. Install sediment and erosion controls once the clearing and grubbing is completed. Once erosion controls are installed and inspected we will finish clearing the remainder of this area. To relocate the existing water next to the roadway we propose to install temporary swales along the LOD and divert all drainage to these areas. Excavate for widening starting at station 424+50 working towards 367+00 installing drainage pipes as we work down the road. Base paving to be installed as the sub-base material is installed in the widening. This work will have to be completed under a flagging operation. By installing the temporary swales the excavation part of construction can be completed during any season. The base paving portion would need to be completed between April and November.

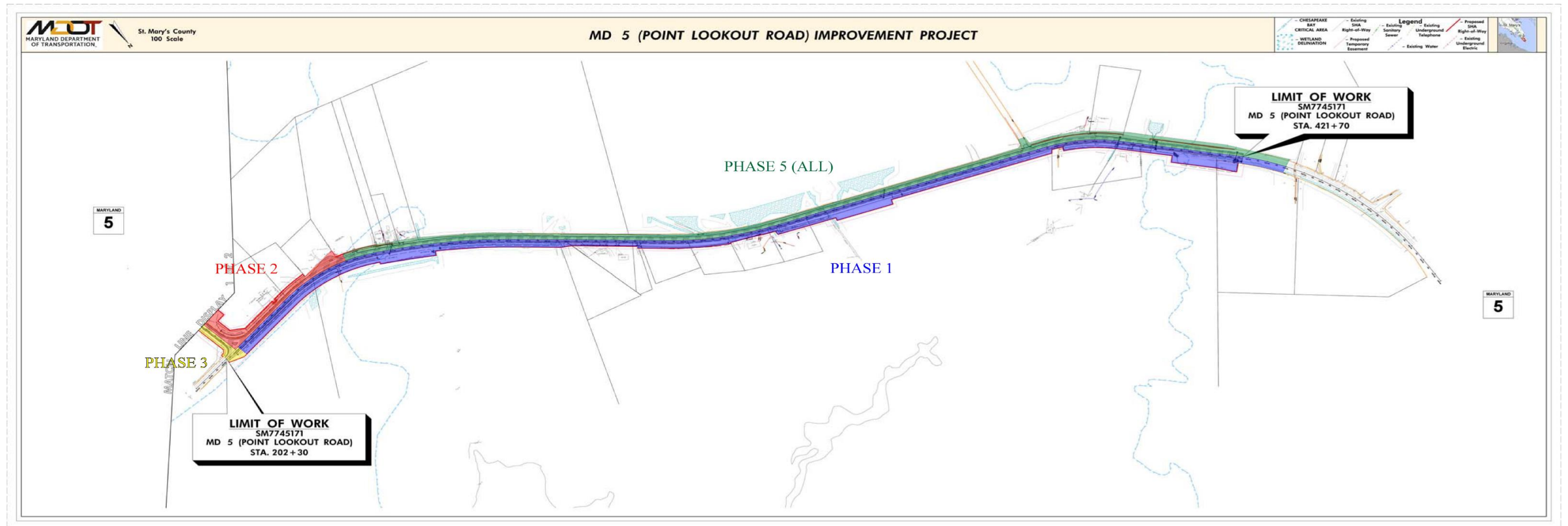
Phase 2: Station 328+00 to 374+50 South clear and grub as necessary along the LOD to install sediment and erosion controls. Install sediment and erosion controls once the clearing and grubbing is completed. Once erosion controls are installed and inspected we will finish clearing the remainder of this area. To relocate the existing water next to the roadway we propose to install temporary swales along the LOD and divert all drainage to these areas. Excavate for widening starting at station 374+50 working towards 328+00 installing drainage pipes as we work down the road. Base paving to be installed as the sub-base material is installed in the widening. This work also will have to be completed under a flagging operation. By installing the temporary swales the excavation part of construction can be completed during any season. The base paving portion would need to be completed between April and November under flagging operations

Phase 3: Station 328+00 to 367+00 North clear and grub as necessary along the LOD to install sediment and erosion controls. Install sediment and erosion controls once the clearing and grubbing is completed. Once erosion controls are installed and inspected we will finish clearing the remainder of this area. To relocate the existing water next to the roadway we propose to install temporary swales along the LOD and divert all drainage to these areas. Excavate for widening starting at station 328+00 working towards 367+00 installing drainage pipes as we work down the road. This work can be completed under a traffic shift operation towards the South side of the road maintaining 2 travel lanes. By installing the temporary swales the excavation part of construction can be completed during any season. The base paving portion would need to be completed between April and November.

Phase 4: Station 328+00 to 303+75 North and South clear and grub as necessary along the LOD to install sediment and erosion controls. Install sediment and erosion controls once the clearing and grubbing is completed. Once erosion controls are installed and inspected we will finish clearing the remainder of this area. Install all drainage pipes and swales as per plans working off the existing edge of pavement. Perform cut to fills in this area without the use of a flagging operation and keep all construction work off the travel roadway. Flagging operations only to be utilized if trucking is necessary to haul material in or out. Complete grading for the trail and final stabilization in this area. Due to the area not being widened as such and the

existing drainage areas being maintained where they are located this would be beneficial to be completed between May and October.

Phase 5: Station 424+50 to 303+75 North & South remove all existing asphalt that is shown on plans to be removed from station 424+50 to 367+00 south. Install all drainage pipes from 424+50 to 327+50 South. Convert all temporary swales to permanent ditches and install all SWM/Bio Ponds along the entire project. Traffic will be shifted to center of roadway to provide shoulders through the entire project for construction traffic to operate. To install the concrete island we would perform this at night using a flagging operation and would be completed in 2 nights. Once the permanent SWM grading is complete we perform our wedge/level and surface course paving at night using a flagging operation which will have the least impact to traffic. Also using the same operation to complete our striping. This operation would be beneficial to be completed between May and October.



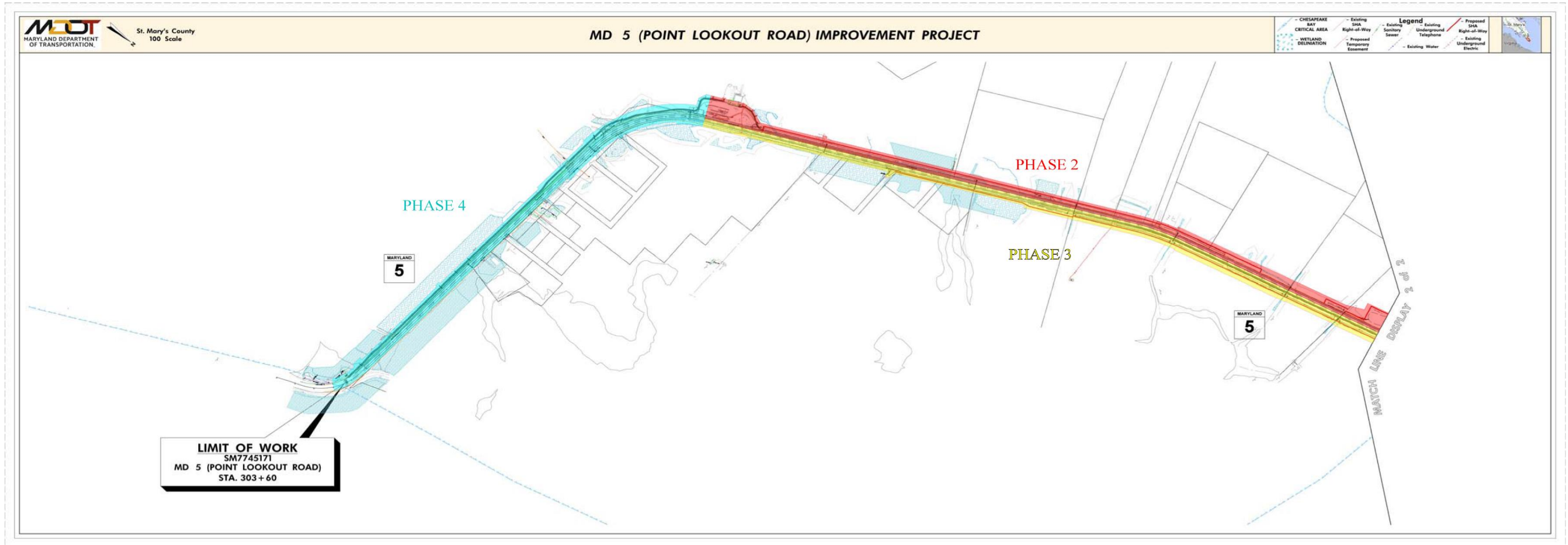
b. Construction Schedule

Phase 1 (474+50 to 367+00 North)

- Clear LOD for E&S Control
- Install E&S Controls then get inspected
- Finished clearing LOD
- Install temporary swale along perimeter of LOD to relocate water
- Excavate for widening performing undercut as necessary and taking the common material and placing it behind the widening portion to backfill along edge of pavement
- Install storm drain crossings where shown
- Install select fill and sub-base to bring grade up
- Install base course asphalt along widening portion
- Base paving needed to be completed between April and November
- Shift traffic to the north which would center along the road where widening was just completed

Phase 2 (374+50 to 328+00 South)

- Clear LOD for E&S Control
- Install E&S Controls then get inspected
- Finished clearing LOD
- Install temporary swale along perimeter of LOD to relocate water
- Excavate for widening performing undercut as necessary and taking the common material and placing it behind the widening portion to backfill along edge of pavement
- Install storm drain crossings where shown
- Install select fill and sub-base to bring grade up
- Install base course asphalt along widening portion
- Shift traffic to the south which would center along the road where widening was just completed
- Base paving to be completed between April and November



| | | |
|--|---|--|
| <p>Phase 3 (328+00 to 367+00 North)</p> <ul style="list-style-type: none"> Clear LOD for E&S Control Install E&S Controls then get inspected Finished clearing LOD Install temporary swale along perimeter of LOD to relocate water Excavate for widening performing undercut as necessary and taking the common material and placing it behind the widening portion to backfill along edge of pavement Install storm drain crossings where shown Install select fill and sub-base to bring grade up Install base course asphalt along widening portion Base Paving to be completed between April and November | <p>Phase 4 (303+75 to 328+00 North & South)</p> <ul style="list-style-type: none"> Clear LOD for E&S Control Install E&S Controls then get inspected Finished clearing LOD Install storm drain pipes across entrances and complete the permanent ditch installation Grade for the pedestrian trail way Install sub-base for trail way Install base course asphalt on trail way Install surface course asphalt on trail way Trail paving to be completed between May and October | <p>Phase 5 (303+75 to 424+50 North & South)</p> <ul style="list-style-type: none"> Convert all temporary swales either to permanent ditches or SWM/Bio Ponds Install drainage pipes from 327+50 to 424+50 South Utilizing night time operation install the concrete island at station 367+00 Re-spread topsoil along entire project Permanent seed & straw and landscape Wedge/Level and surface course paving during night time Striping at night time After stabilization remove all sediment control features Paving & Striping to be completed between May and October |
|--|---|--|

c. Stakeholder Coordination

During construction, our team continually monitors the effectiveness of our outreach plan and each of its elements.

The program performance is based on feedback from stakeholders. We establish a monthly formal evaluation process that measures the performance of our stakeholder interaction, and use the feedback from those evaluations to modify and improve upon the initial programs.

We are committed to establishing and maintaining excellent relationships with our key stakeholders. Our team understands that communication builds trust and sharing information in a timely fashion is the best way to maintain successful working relationships.

During construction, our team has weekly operations meetings to generate a three-week look-ahead work schedule, which includes any MOT changes or potential road/lane closures affecting residents and commuters. This schedule is distributed to interested third parties. Stakeholders are notified two weeks in advance of the initial MOT installation or any major MOT traffic switches. In addition, we notify the traveling public of major traffic changes or lane closures through message boards. In the event of a traffic emergency, local emergency responders are notified immediately.

More specifically, the chart below details our goals between our team and each stakeholder.

| Stakeholder | Goals & Planning |
|---|--|
| St. Mary's County, Residents and Visitors to Point Lookout State Park, MDE, MDNR, US Army Corp of Eng., US Fish & Wildlife Services, MD Historical Trust Chesapeake Bay Critical Area Commission | <ul style="list-style-type: none"> ● Maintain clear, consistent messaging and information on potential impacts ● Minimize traffic impacts to local streets, local transit and school routes ● Minimize impacts to local Emergency Services ● Minimize impacts to local community events ● Install an informational board with GMTP and SHA emergency numbers for the public to contact us ● Maintain communication channels with local public officials ● Using local newspapers and radio to inform the public of any construction work, lane closures and or lane shifts. |
| Utility Companies | <ul style="list-style-type: none"> ● Coordinate any planned improvements to their infrastructure ● Regularly communicate to minimize impact to existing facilities ● Assist the utilities by clearing or providing access for them to perform their work |

D. Approach to Cost Estimating

1. Estimating Environment

GMTP has been estimating projects in St. Mary's County for 35 years and with this experience have adapted a unit price cost approach. Each corresponding item has a breakdown of all costs associated towards it including labor, equipment, material, and trucking. All subcontractors' prices are also shown for their portion of the work. With our local working knowledge we have the prime advantage of knowing the average going rates where all prices should fall for the project and would make sure the Administration would receive fair pricing for work performed by GMTP and all associated sub-contracted work. **Being located 20 miles from the site GMTP is confident it would be more advantageous for the Administration to have GMTP price this project.**

GMTP's work for our various clients on large scale projects in the area allows GMTP to build relationships with local subcontractors and suppliers. Therefore giving GMTP a price advantage which is incorporated into our unit pricing. Also, by completing the majority of the work our own equipment and personnel, we are better able to control the associated cost and pass these savings on to MD SHA.

2. Sample Estimate

Project: Sample Estimate

Client Name:

| Item#: | Description | Qty | Measure | Unit Price | Total |
|------------|---------------------------------------|--------|---------|-------------|-----------------------|
| 1 | Demolition | | | | \$940,400.00 |
| \$5,137.00 | A. Clear and Grub | 94.00 | AC | \$10,000.00 | \$940,000.00 |
| | B. Sawcut Existing Pavement | 50 | LF | \$8.00 | \$400.00 |
| 2 | Excavation | | | | \$3,383,152.00 |
| | PHASE 2A - (96,869 SY) | | | | \$1,082,868.00 |
| | A. Topsoil Strip 1' (31,878 CY Total) | | | | |
| | A.1 Topsoil Store | 22,277 | CY | \$6.00 | \$133,662.00 |
| | A.2 Topsoil Dispose | 9,601 | CY | \$12.00 | \$115,212.00 |
| | B.1 Cut to Fill | 89,910 | CY | \$6.00 | \$539,460.00 |
| | B.2 Topsoil to Fill | 20,077 | CY | \$6.00 | \$120,462.00 |
| | C. Fine Grading Gravel Parking Area | 78,236 | SY | \$2.00 | \$156,472.00 |
| | D. Top Soil Respread (19,804 SY) | 2,200 | CY | \$8.00 | \$17,600.00 |
| | PHASE 2B - (97,363 SY) | | | | \$1,534,160.00 |
| | A. Topsoil Strip 1' (30,457 CY Total) | | | | |
| | A.1 Topsoil Store | 3,053 | CY | \$6.00 | \$18,318.00 |
| | A.2 Topsoil Dispose | 27,404 | CY | \$12.00 | \$328,848.00 |
| | B.1 Cut to Fill | 39,356 | CY | \$6.00 | \$236,136.00 |
| | B.2 Export | 49,045 | CY | \$16.00 | \$784,720.00 |
| | C. Fine Grading Gravel Parking Area | 70,857 | SY | \$2.00 | \$141,714.00 |
| | D. Top Soil Respread | 3,053 | CY | \$8.00 | \$24,424.00 |
| | PHASE 2C - (93,468 SY) | | | | \$766,124.00 |
| | A. Topsoil Strip 1' (29,336 CY Total) | | | | |
| | A.1 Topsoil Store | 21,760 | CY | \$6.00 | \$130,560.00 |
| | A.2 Topsoil Dispose | 7,576 | CY | \$12.00 | \$90,912.00 |
| | B.1 Cut to Fill | 54,824 | CY | \$6.00 | \$328,944.00 |
| | B.2 Topsoil to Fill | 15,055 | CY | \$6.00 | \$90,330.00 |
| | C. Fine Grading Gravel Parking Area | 35,869 | SY | \$2.00 | \$71,738.00 |
| | D. Top Soil Respread | 6,705 | CY | \$8.00 | \$53,640.00 |
| 3 | Sediment Control | | | | \$1,275,585.00 |

| Material | Labor | Equip | Sub-C | Total Cost | Overhead |
|----------|--------------|--------------|--------------|--------------|--------------|
| | | | | | |
| | | | \$482,878.00 | \$482,878.00 | \$457,122.00 |
| \$0.00 | \$147.60 | \$180.40 | | \$328.00 | \$72.00 |
| | | | | | |
| | | | | | |
| \$0.00 | \$49,321.28 | \$60,281.56 | | \$109,602.84 | \$24,059.16 |
| \$0.00 | \$42,513.23 | \$51,960.61 | | \$94,473.84 | \$20,738.16 |
| \$0.00 | \$199,060.74 | \$243,296.46 | | \$442,357.20 | \$97,102.80 |
| \$0.00 | \$44,450.48 | \$54,328.36 | | \$98,778.84 | \$21,683.16 |
| \$0.00 | \$57,738.17 | \$70,568.87 | | \$128,307.04 | \$28,164.96 |
| \$0.00 | \$6,494.40 | \$7,937.60 | | \$14,432.00 | \$3,168.00 |
| | | | | | |
| \$0.00 | \$6,759.34 | \$8,261.42 | | \$15,020.76 | \$3,297.24 |
| \$0.00 | \$121,344.91 | \$148,310.45 | | \$269,655.36 | \$59,192.64 |
| \$0.00 | \$87,134.18 | \$106,497.34 | | \$193,631.52 | \$42,504.48 |
| \$0.00 | \$289,561.68 | \$353,908.72 | | \$643,470.40 | \$141,249.60 |
| \$0.00 | \$52,292.47 | \$63,913.01 | | \$116,205.48 | \$25,508.52 |
| \$0.00 | \$9,012.46 | \$11,015.22 | | \$20,027.68 | \$4,396.32 |
| | | | | | |
| \$0.00 | \$48,176.64 | \$58,882.56 | | \$107,059.20 | \$23,500.80 |
| \$0.00 | \$33,546.53 | \$41,001.31 | | \$74,547.84 | \$16,364.16 |
| \$0.00 | \$121,380.34 | \$148,353.74 | | \$269,734.08 | \$59,209.92 |
| \$0.00 | \$33,331.77 | \$40,738.83 | | \$74,070.60 | \$16,259.40 |
| \$0.00 | \$26,471.32 | \$32,353.84 | | \$58,825.16 | \$12,912.84 |
| \$0.00 | \$19,793.16 | \$24,191.64 | | \$43,984.80 | \$9,655.20 |

| Item#: | Description | Qty | Measure | Unit Price | Total |
|------------|-------------------------------------|---------------------|---------|-------------|--------------|
| \$400.00 | A. Stabilized Construction Entrance | 9 | EA | \$900.00 | \$8,100.00 |
| | B. Mountable Berm | 160 | LF | \$10.00 | \$1,600.00 |
| \$0.22 | C.1 Silt Fence | 2,180 | LF | \$4.00 | \$8,720.00 |
| \$4.99 | C.2 Super Silt Fence | 7,150 | LF | \$15.00 | \$107,250.00 |
| \$0.19 | C.3 Tree Protection Fence | 3,340 | LF | \$5.00 | \$16,700.00 |
| \$0.50 | D. LOD Fencing (Orange Silt Fence) | 20,150 | LF | \$3.50 | \$70,525.00 |
| | E.1 A-2 Swale | 2,340 | LF | \$5.00 | \$11,700.00 |
| | E.2 A-3 Swale | 720 | LF | \$8.00 | \$5,760.00 |
| | E.3 B-2 Swale | 320 | LF | \$11.00 | \$3,520.00 |
| | F.1 Earth Dike A-2 | 13,980 | LF | \$5.00 | \$69,900.00 |
| | F.2 Earth Dike A-3 | 3,780 | LF | \$7.00 | \$26,460.00 |
| \$150.00 | G. TSOS | 8 | EA | \$750.00 | \$6,000.00 |
| \$1,800.00 | H. TGOS | 17 | EA | \$4,000.00 | \$68,000.00 |
| \$150.00 | I. Check Dams | 15 | EA | \$500.00 | \$7,500.00 |
| | J. Sandbags | 2,100 | EA | \$9.00 | \$18,900.00 |
| \$150.00 | K. Inlet Protections | 23 | EA | \$500.00 | \$11,500.00 |
| \$35.00 | L.1 Riprap Class 1 | 6,200 | TNS | \$65.00 | \$403,000.00 |
| \$0.57 | L.2 Geocloth | 5,400 | SY | \$3.00 | \$16,200.00 |
| | M. Fiber Roll | 1,070 | LF | \$8.00 | \$8,560.00 |
| | N. Draw Down Device | 13 | EA | \$750.00 | \$9,750.00 |
| | O. Removable Pump Station | 5 | EA | \$4,500.00 | \$22,500.00 |
| | P. 18" Slope Drain | 160 | LF | \$23.00 | \$3,680.00 |
| | Q. 24" Slope Drain | 120 | LF | \$29.00 | \$3,480.00 |
| \$0.25 | R. Temporary Seed & Straw | 143,140 | SY | \$2.00 | \$286,280.00 |
| | S. Maintenance | 1 | LS | \$80,000.00 | \$80,000.00 |
| 4 | Stormwater Management | \$689,831.00 | | | |
| | PHASE 2A | \$277,529.00 | | | |
| 1.5 | A. Sediment Basin #6 | \$64,716.00 | | | |
| A.1 | CORE TRENCH CUT TO WASTE | 650 | CY | \$14.00 | \$9,100.00 |

| Material | Labor | Equip | Sub-C | Total Cost | Overhead |
|--------------|-------------|--------------|-------|--------------|-------------|
| \$3,600.00 | \$1,368.90 | \$1,673.10 | | \$6,642.00 | \$1,458.00 |
| \$0.00 | \$590.40 | \$721.60 | | \$1,312.00 | \$288.00 |
| \$479.60 | \$3,001.86 | \$3,668.94 | | \$7,150.40 | \$1,569.60 |
| \$35,678.50 | \$23,519.93 | \$28,746.58 | | \$87,945.00 | \$19,305.00 |
| \$634.60 | \$5,876.73 | \$7,182.67 | | \$13,694.00 | \$3,006.00 |
| \$10,075.00 | \$21,489.98 | \$26,265.53 | | \$57,830.50 | \$12,694.50 |
| \$0.00 | \$4,317.30 | \$5,276.70 | | \$9,594.00 | \$2,106.00 |
| \$0.00 | \$2,125.44 | \$2,597.76 | | \$4,723.20 | \$1,036.80 |
| \$0.00 | \$1,298.88 | \$1,587.52 | | \$2,886.40 | \$633.60 |
| \$0.00 | \$25,793.10 | \$31,524.90 | | \$57,318.00 | \$12,582.00 |
| \$0.00 | \$9,763.74 | \$11,933.46 | | \$21,697.20 | \$4,762.80 |
| \$1,200.00 | \$1,674.00 | \$2,046.00 | | \$4,920.00 | \$1,080.00 |
| \$30,600.00 | \$11,322.00 | \$13,838.00 | | \$55,760.00 | \$12,240.00 |
| \$2,250.00 | \$1,755.00 | \$2,145.00 | | \$6,150.00 | \$1,350.00 |
| \$0.00 | \$6,974.10 | \$8,523.90 | | \$15,498.00 | \$3,402.00 |
| \$3,450.00 | \$2,691.00 | \$3,289.00 | | \$9,430.00 | \$2,070.00 |
| \$217,000.00 | \$51,057.00 | \$62,403.00 | | \$330,460.00 | \$72,540.00 |
| \$3,078.00 | \$4,592.70 | \$5,613.30 | | \$13,284.00 | \$2,916.00 |
| \$0.00 | \$3,158.64 | \$3,860.56 | | \$7,019.20 | \$1,540.80 |
| \$0.00 | \$3,597.75 | \$4,397.25 | | \$7,995.00 | \$1,755.00 |
| \$0.00 | \$8,302.50 | \$10,147.50 | | \$18,450.00 | \$4,050.00 |
| \$0.00 | \$1,357.92 | \$1,659.68 | | \$3,017.60 | \$662.40 |
| \$0.00 | \$1,284.12 | \$1,569.48 | | \$2,853.60 | \$626.40 |
| \$35,785.00 | \$89,534.07 | \$109,430.53 | | \$234,749.60 | \$51,530.40 |
| \$0.00 | \$29,520.00 | \$36,080.00 | | \$65,600.00 | \$14,400.00 |
| \$0.00 | \$3,357.90 | \$4,104.10 | | \$7,462.00 | \$1,638.00 |

| Item#: | Description | Qty | Measure | Unit Price | Total |
|------------|--------------------------------------|------|---------|--------------|-------------|
| \$12.50 | A.2 CLAY BORROW CORE TRENCH BACKFILL | 840 | CY | \$32.00 | \$26,880.00 |
| | A.3 WIER WALL | 1 | EA | \$14,958.00 | \$14,958.00 |
| \$4.23 | A.4 6" SCH 40 PVC PIPE | 20 | LF | \$22.00 | \$440.00 |
| \$7.53 | A.5 6" PERF SCH 40 PVC PIPE 1" HOLES | 20 | LF | \$12.00 | \$240.00 |
| \$34.16 | A.6 6" X 6" DWV TEE | 1 | EA | \$52.00 | \$52.00 |
| \$21.73 | A.7 6" DWV CLEANOUT CAP | 3 | EA | \$33.00 | \$99.00 |
| | A.8 DRILL HOLE IN CAP | 1 | EA | \$40.00 | \$40.00 |
| | A.9 CONCRETE ANCHOR | 1 | EA | \$200.00 | \$200.00 |
| \$26.44 | A.10 # 2 GRAVEL | 14 | CY | \$40.00 | \$560.00 |
| \$110.00 | A.11 TOE WALL | 4 | CY | \$250.00 | \$1,000.00 |
| \$0.57 | A.12 FILTER CLOTH | 461 | SY | \$3.00 | \$1,383.00 |
| | A.13 MAINTENANCE | 1 | LS | \$2,000.00 | \$2,000.00 |
| | A.14 PUMP BASIN | 1 | LS | \$1,500.00 | \$1,500.00 |
| | A.15 CLEAN BASIN | 1 | LS | \$2,500.00 | \$2,500.00 |
| | A.16 CONVERT BASIN | 1 | LS | \$2,000.00 | \$2,000.00 |
| \$5.00 | A.17 BAFFLE | 98 | LF | \$15.00 | \$1,470.00 |
| | A.18 REMOVE BAFFLE | 98 | LF | \$3.00 | \$294.00 |
| 1.5 | B. Sediment Basin #8 | | | \$82,504.00 | |
| | B.1 CORE TRENCH CUT TO WASTE | 480 | CY | \$14.00 | \$6,720.00 |
| \$12.50 | B.2 CLAY BORROW CORE TRENCH BACKFILL | 840 | CY | \$32.00 | \$26,880.00 |
| | B.3 30" RCP C-361 C-25 | 36 | LF | \$130.00 | \$4,680.00 |
| | B.4 30" END SECTION | 1 | EA | \$1,529.00 | \$1,529.00 |
| \$4,692.09 | B.5 RISER (S-1) | 1 | EA | \$8,461.00 | \$8,461.00 |
| \$2,858.59 | B.6 TRASH RACKS | 1 | LS | \$5,025.00 | \$5,025.00 |
| | B.7 CONCRETE COLLAR | 1 | EA | \$900.00 | \$900.00 |
| | B.8 CONCRETE ANTI SEEP COLLAR | 1 | EA | \$3,780.00 | \$3,780.00 |
| \$110.00 | B.9 CONCRETE CRADLE | 16 | CY | \$325.00 | \$5,200.00 |
| | B.10 SADDLE BLOCKS | 10 | EA | \$50.00 | \$500.00 |
| \$4.23 | B.11 6" PVC SCH 40 | 20 | LF | \$15.00 | \$300.00 |
| \$7.53 | B.12 6" PERFORATED PVC SCH 40 | 20 | LF | \$17.00 | \$340.00 |
| \$34.16 | B.13 6" X 90 BEND | 1 | EA | \$52.00 | \$52.00 |
| \$21.73 | B.14 6" CLEANOUT CAP | 2 | EA | \$33.00 | \$66.00 |
| | B.15 DRILL HOLE IN CAP | 1 | EA | \$40.00 | \$40.00 |
| | B.16 CONCRETE ANCHOR | 1 | EA | \$200.00 | \$200.00 |
| \$26.44 | B.17 # 2 GRAVEL | 17 | CY | \$40.00 | \$680.00 |
| \$110.00 | B.18 TOE WALL | 10 | CY | \$250.00 | \$2,500.00 |
| \$0.57 | B.19 FILTER CLOTH | 933 | SY | \$3.00 | \$2,799.00 |
| | B.20 MAINTENANCE | 1 | LS | \$2,000.00 | \$2,000.00 |
| | B.21 PUMP BASIN | 1 | LS | \$1,500.00 | \$1,500.00 |
| | B.22 CLEAN BASIN | 1 | LS | \$2,500.00 | \$2,500.00 |
| | B.23 CONVERT BASIN | 1 | LS | \$2,000.00 | \$2,000.00 |
| \$5.00 | B.24 BAFFLE | 214 | LF | \$15.00 | \$3,210.00 |
| | B.25 REMOVE BAFFLE | 214 | LF | \$3.00 | \$642.00 |
| | C. Sediment Basin #5 | | | \$130,309.00 | |
| | C.1 CORE TRENCH CUT TO WASTE | 580 | CY | \$14.00 | \$8,120.00 |
| \$12.50 | C.2 CLAY BORROW CORE TRENCH BACKFILL | 2230 | CY | \$32.00 | \$71,360.00 |
| \$50.31 | C.3 24" RCP C-361 C-25 | 85 | LF | \$80.00 | \$6,800.00 |
| \$697.48 | C.4 24" END SECTION | 1 | EA | \$1,200.00 | \$1,200.00 |

| Material | Labor | Equip | Sub-C | Total Cost | Overhead |
|-------------|-------------|-------------|-------|-------------|-------------|
| \$10,500.00 | \$5,193.72 | \$6,347.88 | | \$22,041.60 | \$4,838.40 |
| \$0.00 | \$5,519.50 | \$6,746.06 | | \$12,265.56 | \$2,692.44 |
| \$84.59 | \$124.30 | \$151.92 | | \$360.80 | \$79.20 |
| \$150.52 | \$20.83 | \$25.45 | | \$196.80 | \$43.20 |
| \$34.16 | \$3.81 | \$4.66 | | \$42.64 | \$9.36 |
| \$65.19 | \$7.20 | \$8.79 | | \$81.18 | \$17.82 |
| \$0.00 | \$14.76 | \$18.04 | | \$32.80 | \$7.20 |
| \$0.00 | \$73.80 | \$90.20 | | \$164.00 | \$36.00 |
| \$370.16 | \$40.07 | \$48.97 | | \$459.20 | \$100.80 |
| \$440.00 | \$171.00 | \$209.00 | | \$820.00 | \$180.00 |
| \$262.77 | \$392.08 | \$479.21 | | \$1,134.06 | \$248.94 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$0.00 | \$553.50 | \$676.50 | | \$1,230.00 | \$270.00 |
| \$0.00 | \$922.50 | \$1,127.50 | | \$2,050.00 | \$450.00 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$490.00 | \$321.93 | \$393.47 | | \$1,205.40 | \$264.60 |
| \$0.00 | \$108.49 | \$132.59 | | \$241.08 | \$52.92 |
| \$0.00 | \$2,479.68 | \$3,030.72 | | \$5,510.40 | \$1,209.60 |
| \$10,500.00 | \$5,193.72 | \$6,347.88 | | \$22,041.60 | \$4,838.40 |
| \$0.00 | \$1,726.92 | \$2,110.68 | | \$3,837.60 | \$842.40 |
| \$0.00 | \$564.20 | \$689.58 | | \$1,253.78 | \$275.22 |
| \$4,692.09 | \$1,010.67 | \$1,235.26 | | \$6,938.02 | \$1,522.98 |
| \$2,858.59 | \$567.86 | \$694.05 | | \$4,120.50 | \$904.50 |
| \$0.00 | \$332.10 | \$405.90 | | \$738.00 | \$162.00 |
| \$0.00 | \$1,394.82 | \$1,704.78 | | \$3,099.60 | \$680.40 |
| \$1,760.00 | \$1,126.80 | \$1,377.20 | | \$4,264.00 | \$936.00 |
| \$0.00 | \$184.50 | \$225.50 | | \$410.00 | \$90.00 |
| \$84.59 | \$72.64 | \$88.78 | | \$246.00 | \$54.00 |
| \$150.52 | \$57.73 | \$70.55 | | \$278.80 | \$61.20 |
| \$34.16 | \$3.81 | \$4.66 | | \$42.64 | \$9.36 |
| \$43.46 | \$4.80 | \$5.86 | | \$54.12 | \$11.88 |
| \$0.00 | \$14.76 | \$18.04 | | \$32.80 | \$7.20 |
| \$0.00 | \$73.80 | \$90.20 | | \$164.00 | \$36.00 |
| \$449.48 | \$48.65 | \$59.47 | | \$557.60 | \$122.40 |
| \$1,100.00 | \$427.50 | \$522.50 | | \$2,050.00 | \$450.00 |
| \$531.81 | \$793.52 | \$969.85 | | \$2,295.18 | \$503.82 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$0.00 | \$553.50 | \$676.50 | | \$1,230.00 | \$270.00 |
| \$0.00 | \$922.50 | \$1,127.50 | | \$2,050.00 | \$450.00 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$1,070.00 | \$702.99 | \$859.21 | | \$2,632.20 | \$577.80 |
| \$0.00 | \$236.90 | \$289.54 | | \$526.44 | \$115.56 |
| \$0.00 | \$2,996.28 | \$3,662.12 | | \$6,658.40 | \$1,461.60 |
| \$27,875.00 | \$13,788.09 | \$16,852.11 | | \$58,515.20 | \$12,844.80 |
| \$4,276.15 | \$584.93 | \$714.92 | | \$5,576.00 | \$1,224.00 |
| \$697.48 | \$128.93 | \$157.59 | | \$984.00 | \$216.00 |

| Item#: | Description | Qty | Measure | Unit Price | Total |
|------------|--------------------------------------|------|---------|--------------|-------------|
| \$5,343.99 | C.5 RISER (S-3) | 1 | EA | \$8,500.00 | \$8,500.00 |
| | C.6 TRASH RACKS | 1 | LS | \$4,945.00 | \$4,945.00 |
| | C.7 CONCRETE COLLAR | 1 | EA | \$900.00 | \$900.00 |
| | C.8 CONCRETE ANTI SEEP COLLAR | 1 | EA | \$6,580.00 | \$6,580.00 |
| \$110.00 | C.9 CONCRETE CRADLE | 25 | CY | \$325.00 | \$8,125.00 |
| | C.10 SADDLE BLOCKS | 22 | EA | \$50.00 | \$1,100.00 |
| \$4.23 | C.11 6" PVC SCH 40 | 20 | LF | \$15.00 | \$300.00 |
| \$7.53 | C.12 6" PERFORATED PVC SCH 40 | 20 | LF | \$17.00 | \$340.00 |
| \$34.16 | C.13 6" X 90 BEND | 1 | EA | \$52.00 | \$52.00 |
| \$21.73 | C.14 6" CLEANOUT CAP | 2 | EA | \$33.00 | \$66.00 |
| | C.15 DRILL HOLE IN CAP | 1 | EA | \$40.00 | \$40.00 |
| | C.16 CONCRETE ANCHOR | 1 | EA | \$200.00 | \$200.00 |
| \$26.44 | C.17 # 2 GRAVEL | 5 | CY | \$40.00 | \$200.00 |
| \$110.00 | C.20 TOE WALL | 1 | CY | \$250.00 | \$250.00 |
| \$0.57 | C.21 FILTER CLOTH | 117 | SY | \$3.00 | \$351.00 |
| | C.22 MAINTENANCE | 1 | LS | \$2,000.00 | \$2,000.00 |
| | C.23 PUMP BASIN | 1 | LS | \$1,500.00 | \$1,500.00 |
| | C.24 CLEAN BASIN | 1 | LS | \$2,500.00 | \$2,500.00 |
| | C.25 CONVERT BASIN | 1 | LS | \$2,000.00 | \$2,000.00 |
| \$5.00 | C.26 BAFFLE | 160 | LF | \$15.00 | \$2,400.00 |
| | C.27 REMOVE BAFFLE | 160 | LF | \$3.00 | \$480.00 |
| | PHASE 2B | | | | |
| | A. Sediment Trap #7 | | | \$89,235.00 | |
| | A.1 CORE TRENCH CUT TO WASTE | 1380 | CY | \$14.00 | \$19,320.00 |
| \$12.50 | A.2 CLAY BORROW CORE TRENCH BACKFILL | 1340 | CY | \$32.00 | \$42,880.00 |
| | A.3 WIER WALL | 1 | EA | \$10,431.00 | \$10,431.00 |
| \$4.23 | A.4 6" PVC SCH 40 | 20 | LF | \$15.00 | \$300.00 |
| \$7.53 | A.5 6" PERFORATED PVC SCH 40 | 20 | LF | \$17.00 | \$340.00 |
| \$34.16 | A.6 6" X 6" T | 1 | EA | \$54.00 | \$54.00 |
| \$21.73 | A.7 6" CLEANOUT CAP | 3 | EA | \$34.00 | \$102.00 |
| | A.8 DRILL HOLE IN CAP | 1 | EA | \$40.00 | \$40.00 |
| | A.9 CONCRETE ANCHOR | 1 | EA | \$200.00 | \$200.00 |
| \$26.44 | A.10 # 2 GRAVEL | 14 | CY | \$40.00 | \$560.00 |
| \$110.00 | A.11 TOE WALL | 7 | CY | \$150.00 | \$1,050.00 |
| \$0.57 | A.12 FILTER CLOTH | 762 | SY | \$3.00 | \$2,286.00 |
| | A.13 MAINTENANCE | 1 | LS | \$2,000.00 | \$2,000.00 |
| | A.14 PUMP TRAP | 1 | LS | \$1,500.00 | \$1,500.00 |
| | A.15 CLEAN TRAP | 1 | LS | \$2,500.00 | \$2,500.00 |
| | A.16 CONVERT TRAP | 1 | LS | \$2,000.00 | \$2,000.00 |
| \$5.00 | A.17 BAFFLE | 204 | LF | \$15.00 | \$3,060.00 |
| | A.18 REMOVE BAFFLE | 204 | LF | \$3.00 | \$612.00 |
| | PHASE 2C | | | \$323,067.00 | |
| | A. Sediment Trap #14 | | | \$62,343.00 | |
| | A.1 CORE TRENCH CUT TO WASTE | 630 | CY | \$14.00 | \$8,820.00 |
| \$12.50 | A.2 CLAY BORROW CORE TRENCH BACKFILL | 780 | CY | \$32.00 | \$24,960.00 |
| | A.3 WIER WALL | 1 | EA | \$12,095.00 | \$12,095.00 |

| Material | Labor | Equip | Sub-C | Total Cost | Overhead |
|-------------|------------|-------------|-------|-------------|------------|
| \$5,343.99 | \$731.70 | \$894.31 | | \$6,970.00 | \$1,530.00 |
| \$0.00 | \$1,824.71 | \$2,230.20 | | \$4,054.90 | \$890.10 |
| \$0.00 | \$332.10 | \$405.90 | | \$738.00 | \$162.00 |
| \$0.00 | \$2,428.02 | \$2,967.58 | | \$5,395.60 | \$1,184.40 |
| \$2,750.00 | \$1,760.63 | \$2,151.88 | | \$6,662.50 | \$1,462.50 |
| \$0.00 | \$405.90 | \$496.10 | | \$902.00 | \$198.00 |
| \$84.60 | \$72.63 | \$88.77 | | \$246.00 | \$54.00 |
| \$150.60 | \$57.69 | \$70.51 | | \$278.80 | \$61.20 |
| \$34.16 | \$3.82 | \$4.66 | | \$42.64 | \$9.36 |
| \$43.46 | \$4.80 | \$5.86 | | \$54.12 | \$11.88 |
| \$0.00 | \$14.76 | \$18.04 | | \$32.80 | \$7.20 |
| \$0.00 | \$73.80 | \$90.20 | | \$164.00 | \$36.00 |
| \$132.20 | \$14.31 | \$17.49 | | \$164.00 | \$36.00 |
| \$110.00 | \$42.75 | \$52.25 | | \$205.00 | \$45.00 |
| \$66.69 | \$99.51 | \$121.62 | | \$287.82 | \$63.18 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$0.00 | \$553.50 | \$676.50 | | \$1,230.00 | \$270.00 |
| \$0.00 | \$922.50 | \$1,127.50 | | \$2,050.00 | \$450.00 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$800.00 | \$525.60 | \$642.40 | | \$1,968.00 | \$432.00 |
| \$0.00 | \$177.12 | \$216.48 | | \$393.60 | \$86.40 |
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| \$0.00 | \$7,129.08 | \$8,713.32 | | \$15,842.40 | \$3,477.60 |
| \$16,750.00 | \$8,285.22 | \$10,126.38 | | \$35,161.60 | \$7,718.40 |
| \$0.00 | \$3,849.04 | \$4,704.38 | | \$8,553.42 | \$1,877.58 |
| \$84.60 | \$72.63 | \$88.77 | | \$246.00 | \$54.00 |
| \$150.60 | \$57.69 | \$70.51 | | \$278.80 | \$61.20 |
| \$34.16 | \$4.55 | \$5.57 | | \$44.28 | \$9.72 |
| \$65.19 | \$8.30 | \$10.15 | | \$83.64 | \$18.36 |
| \$0.00 | \$14.76 | \$18.04 | | \$32.80 | \$7.20 |
| \$0.00 | \$73.80 | \$90.20 | | \$164.00 | \$36.00 |
| \$370.16 | \$40.07 | \$48.97 | | \$459.20 | \$100.80 |
| \$770.00 | \$40.95 | \$50.05 | | \$861.00 | \$189.00 |
| \$434.34 | \$648.08 | \$792.10 | | \$1,874.52 | \$411.48 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$0.00 | \$553.50 | \$676.50 | | \$1,230.00 | \$270.00 |
| \$0.00 | \$922.50 | \$1,127.50 | | \$2,050.00 | \$450.00 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$1,020.00 | \$670.14 | \$819.06 | | \$2,509.20 | \$550.80 |
| \$0.00 | \$225.83 | \$276.01 | | \$501.84 | \$110.16 |
| | | | | | |
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| | | | | | |
| \$0.00 | \$3,254.58 | \$3,977.82 | | \$7,232.40 | \$1,587.60 |
| \$9,750.00 | \$4,822.74 | \$5,894.46 | | \$20,467.20 | \$4,492.80 |
| \$0.00 | \$4,463.06 | \$5,454.85 | | \$9,917.90 | \$2,177.10 |

| Item#: | Description | Qty | Measure | Unit Price | Total |
|----------|--------------------------------------|------|---------|--------------------|-------------|
| \$4.23 | A.4 6" PVC SCH 40 | 40 | LF | \$15.00 | \$600.00 |
| \$7.53 | A.5 6" PERFORATED PVC SCH 40 | 20 | LF | \$17.00 | \$340.00 |
| \$34.16 | A.6 6" X 6" T | 1 | EA | \$58.00 | \$58.00 |
| \$21.73 | A.7 6" CLEANOUT CAP | 3 | EA | \$34.00 | \$102.00 |
| | A.8 DRILL HOLE IN CAP | 1 | EA | \$40.00 | \$40.00 |
| | A.9 CONCRETE ANCHOR | 1 | EA | \$200.00 | \$200.00 |
| \$26.44 | A.10 # 2 GRAVEL | 14 | CY | \$49.00 | \$686.00 |
| \$110.00 | A.11 TOE WALL | 10 | CY | \$250.00 | \$2,500.00 |
| \$0.57 | A.12 FILTER CLOTH | 726 | SY | \$3.00 | \$2,178.00 |
| | A.13 MAINTENANCE | 1 | LS | \$2,000.00 | \$2,000.00 |
| | A.14 PUMP TRAP | 1 | LS | \$1,500.00 | \$1,500.00 |
| | A.15 CLEAN TRAP | 1 | LS | \$2,500.00 | \$2,500.00 |
| | A.16 CONVERT TRAP | 1 | LS | \$2,000.00 | \$2,000.00 |
| \$5.00 | A.17 BAFFLE | 98 | LF | \$15.00 | \$1,470.00 |
| | A.18 REMOVE BAFFLE | 98 | LF | \$3.00 | \$294.00 |
| | B. Sediment Trap #10 | | | \$76,611.00 | |
| | B.1 CORE TRENCH CUT TO WASTE | 1180 | CY | \$14.00 | \$16,520.00 |
| \$12.50 | B.2 CLAY BORROW CORE TRENCH BACKFILL | 990 | CY | \$32.00 | \$31,680.00 |
| | B.3 WIER WALL | 1 | EA | \$10,567.00 | \$10,567.00 |
| \$4.23 | B.4 6" PVC SCH 40 | 20 | LF | \$15.00 | \$300.00 |
| \$7.53 | B.5 6" PERFORATED PVC SCH 40 | 20 | LF | \$17.00 | \$340.00 |
| \$34.16 | B.6 6" X 6" T | 1 | EA | \$58.00 | \$58.00 |
| \$21.73 | B.7 6" CLEANOUT CAP | 3 | EA | \$34.00 | \$102.00 |
| | B.8 DRILL HOLE IN CAP | 1 | EA | \$40.00 | \$40.00 |
| | B.9 CONCRETE ANCHOR | 1 | EA | \$200.00 | \$200.00 |
| \$26.44 | B.10 # 2 GRAVEL | 30 | CY | \$40.00 | \$1,200.00 |
| \$110.00 | B.11 TOE WALL | 11 | CY | \$250.00 | \$2,750.00 |
| \$0.57 | B.12 FILTER CLOTH | 526 | SY | \$3.00 | \$1,578.00 |
| | B.13 MAINTENANCE | 1 | LS | \$2,000.00 | \$2,000.00 |
| | B.14 PUMP TRAP | 1 | LS | \$1,500.00 | \$1,500.00 |
| | B.15 CLEAN TRAP | 1 | LS | \$2,500.00 | \$2,500.00 |
| | B.16 CONVERT TRAP | 1 | LS | \$2,000.00 | \$2,000.00 |
| \$5.00 | B.17 BAFFLE | 182 | LF | \$15.00 | \$2,730.00 |
| | B.18 REMOVE BAFFLE | 182 | LF | \$3.00 | \$546.00 |
| | C. Sediment Trap #9 | | | \$76,039.00 | |
| | C.1 CORE TRENCH CUT TO WASTE | 930 | CY | \$14.00 | \$13,020.00 |
| \$12.50 | C.2 CLAY BORROW CORE TRENCH BACKFILL | 1070 | CY | \$32.00 | \$34,240.00 |
| | C.3 WIER WALL | 1 | EA | \$11,605.00 | \$11,605.00 |
| \$4.23 | C.4 6" PVC SCH 40 | 40 | LF | \$15.00 | \$600.00 |
| \$7.53 | C.5 6" PERFORATED PVC SCH 40 | 20 | LF | \$17.00 | \$340.00 |
| \$34.16 | C.6 6" X 6" T | 1 | EA | \$58.00 | \$58.00 |
| \$21.73 | C.7 6" CLEANOUT CAP | 3 | EA | \$34.00 | \$102.00 |
| | C.8 DRILL HOLE IN CAP | 1 | EA | \$40.00 | \$40.00 |
| | C.9 CONCRETE ANCHOR | 1 | EA | \$200.00 | \$200.00 |
| \$26.44 | C.10 # 2 GRAVEL | 5 | CY | \$40.00 | \$200.00 |
| \$110.00 | C.11 TOE WALL | 8 | CY | \$250.00 | \$2,000.00 |
| \$0.57 | C.12 FILTER CLOTH | 1014 | SY | \$3.00 | \$3,042.00 |
| | C.13 MAINTENANCE | 1 | LS | \$2,000.00 | \$2,000.00 |

| Material | Labor | Equip | Sub-C | Total Cost | Overhead |
|-------------|------------|------------|-------|-------------|------------|
| \$169.20 | \$145.26 | \$177.54 | | \$492.00 | \$108.00 |
| \$150.60 | \$57.69 | \$70.51 | | \$278.80 | \$61.20 |
| \$34.16 | \$6.03 | \$7.37 | | \$47.56 | \$10.44 |
| \$65.19 | \$8.30 | \$10.15 | | \$83.64 | \$18.36 |
| \$0.00 | \$14.76 | \$18.04 | | \$32.80 | \$7.20 |
| \$0.00 | \$73.80 | \$90.20 | | \$164.00 | \$36.00 |
| \$370.16 | \$86.56 | \$105.80 | | \$562.52 | \$123.48 |
| \$1,100.00 | \$427.50 | \$522.50 | | \$2,050.00 | \$450.00 |
| \$413.82 | \$617.46 | \$754.68 | | \$1,785.96 | \$392.04 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$0.00 | \$553.50 | \$676.50 | | \$1,230.00 | \$270.00 |
| \$0.00 | \$922.50 | \$1,127.50 | | \$2,050.00 | \$450.00 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$490.00 | \$321.93 | \$393.47 | | \$1,205.40 | \$264.60 |
| \$0.00 | \$108.49 | \$132.59 | | \$241.08 | \$52.92 |
| | | | | | |
| \$0.00 | \$6,095.88 | \$7,450.52 | | \$13,546.40 | \$2,973.60 |
| \$12,375.00 | \$6,121.17 | \$7,481.43 | | \$25,977.60 | \$5,702.40 |
| \$0.00 | \$3,899.22 | \$4,765.72 | | \$8,664.94 | \$1,902.06 |
| \$84.60 | \$72.63 | \$88.77 | | \$246.00 | \$54.00 |
| \$150.60 | \$57.69 | \$70.51 | | \$278.80 | \$61.20 |
| \$34.16 | \$6.03 | \$7.37 | | \$47.56 | \$10.44 |
| \$65.19 | \$8.30 | \$10.15 | | \$83.64 | \$18.36 |
| \$0.00 | \$14.76 | \$18.04 | | \$32.80 | \$7.20 |
| \$0.00 | \$73.80 | \$90.20 | | \$164.00 | \$36.00 |
| \$793.20 | \$85.86 | \$104.94 | | \$984.00 | \$216.00 |
| \$1,210.00 | \$470.25 | \$574.75 | | \$2,255.00 | \$495.00 |
| \$299.82 | \$447.36 | \$546.78 | | \$1,293.96 | \$284.04 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$0.00 | \$553.50 | \$676.50 | | \$1,230.00 | \$270.00 |
| \$0.00 | \$922.50 | \$1,127.50 | | \$2,050.00 | \$450.00 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |
| \$910.00 | \$597.87 | \$730.73 | | \$2,238.60 | \$491.40 |
| \$0.00 | \$201.47 | \$246.25 | | \$447.72 | \$98.28 |
| | | | | | |
| \$0.00 | \$4,804.38 | \$5,872.02 | | \$10,676.40 | \$2,343.60 |
| \$13,375.00 | \$6,615.81 | \$8,085.99 | | \$28,076.80 | \$6,163.20 |
| \$0.00 | \$4,282.25 | \$5,233.86 | | \$9,516.10 | \$2,088.90 |
| \$169.20 | \$145.26 | \$177.54 | | \$492.00 | \$108.00 |
| \$150.60 | \$57.69 | \$70.51 | | \$278.80 | \$61.20 |
| \$34.16 | \$6.03 | \$7.37 | | \$47.56 | \$10.44 |
| \$65.19 | \$8.30 | \$10.15 | | \$83.64 | \$18.36 |
| \$0.00 | \$14.76 | \$18.04 | | \$32.80 | \$7.20 |
| \$0.00 | \$73.80 | \$90.20 | | \$164.00 | \$36.00 |
| \$132.20 | \$14.31 | \$17.49 | | \$164.00 | \$36.00 |
| \$880.00 | \$342.00 | \$418.00 | | \$1,640.00 | \$360.00 |
| \$577.98 | \$862.41 | \$1,054.05 | | \$2,494.44 | \$547.56 |
| \$0.00 | \$738.00 | \$902.00 | | \$1,640.00 | \$360.00 |

| Item#: | Description | Qty | Measure | Unit Price | Total |
|------------|--------------------------------------|--------|---------|------------------------|----------------|
| \$110.00 | B. Toe Wall | 3 | CY | \$250.00 | \$750.00 |
| | C. Trenching | | | \$2,381.00 | |
| \$19.35 | C.1 Trench Bedding | 56 | TNS | \$28.00 | \$1,568.00 |
| | C.2 Trench Excavation | 45 | CY | \$5.00 | \$225.00 |
| \$0.57 | C.3 Filter Cloth | 196 | SY | \$3.00 | \$588.00 |
| | PHASE 3 | | | \$8,422.00 | |
| 1.5 | A. Pipe | | | \$7,447.00 | |
| \$1,003.62 | A.1 27" RCP END SECTION | 1 | EA | \$1,506.00 | \$1,506.00 |
| \$62.73 | A.2 27" C361 D-25 RCP PIPE | 32 | LF | \$95.00 | \$3,040.00 |
| \$4.23 | A.3 6" SCH 40 PVC PIPE | 20 | LF | \$7.00 | \$140.00 |
| \$7.53 | A.4 6" PERF SCH 40 PVC PIPE 1" HOLES | 20 | LF | \$12.00 | \$240.00 |
| \$19.40 | A.5 6" DWV 90 BEND | 1 | EA | \$30.00 | \$30.00 |
| \$21.73 | A.6 6" DWV CLEANOUT CAP | 1 | EA | \$33.00 | \$33.00 |
| \$14.55 | A.7 24" N-12 HDPE PIPE | 80 | LF | \$22.00 | \$1,760.00 |
| \$148.93 | A.8 24" METAL END SECTIONS | 2 | EA | \$224.00 | \$448.00 |
| \$110.00 | B. Toe Wall | 1 | CY | \$250.00 | \$250.00 |
| | C. Trenching | | | \$1,245.00 | |
| \$19.35 | C.1 Trench Bedding | 30 | TNS | \$28.00 | \$840.00 |
| | C.2 Trench Excavation | 27 | CY | \$5.00 | \$135.00 |
| \$0.57 | C.3 Filter Cloth | 90 | SY | \$3.00 | \$270.00 |
| 8 | Paving | | | \$10,959,199.00 | |
| | A. Stone Access Drives & Parking | | | \$6,973,234.00 | |
| \$27.00 | A.1 Phase 1 - 12" GAB | 33,562 | TNS | \$70.00 | \$2,349,340.00 |
| \$1.78 | A.2 Tensar TX140 Geogrid | 50,344 | SY | \$4.00 | \$201,376.00 |
| \$27.00 | A.3 Phase 2a - 12" GAB | 21,834 | TNS | \$70.00 | \$1,528,380.00 |
| \$1.78 | A.4 Tensar TX140 Geogrid | 32,752 | SY | \$4.00 | \$131,008.00 |
| \$27.00 | A.5 Phase 2b - 12" GAB | 18,916 | TNS | \$70.00 | \$1,324,120.00 |
| \$1.78 | A.6 Tensar TX140 Geogrid | 28,374 | SY | \$4.00 | \$113,496.00 |
| \$27.00 | A.7 Phase 2c - 12" GAB | 6,473 | TNS | \$70.00 | \$453,110.00 |
| \$1.78 | A.8 Tensar TX140 Geogrid | 9,710 | SY | \$4.00 | \$38,840.00 |
| \$27.00 | A.9 Phase 3 - 12" GAB | 10,968 | TNS | \$70.00 | \$767,760.00 |
| \$1.78 | A.10 Tensar TX140 Geogrid | 16,451 | SY | \$4.00 | \$65,804.00 |
| | B. Stone Equipment Laydown Areas | | | \$3,985,965.00 | |
| \$27.00 | B.1 Phase 1 - 6" GAB | 1,130 | TNS | \$70.00 | \$79,100.00 |
| \$27.00 | B.2 Phase 2a - 6" GAB | 15,162 | TNS | \$70.00 | \$1,061,340.00 |
| \$27.00 | B.3 Phase 2b - 6" GAB | 14,161 | TNS | \$70.00 | \$991,270.00 |
| \$27.00 | B.4 Phase 2c - 6" GAB | 13,836 | TNS | \$70.00 | \$968,520.00 |
| \$27.00 | B.5 Phase 3 - 6" GAB | 9,698 | TNS | \$70.00 | \$678,860.00 |
| | C. Paved Access Road (3,351 SY) | | | \$206,875.00 | |
| \$65.00 | C.1 2" Surface 9.5mm | 374 | TNS | \$115.00 | \$43,010.00 |
| \$65.00 | C.2 4" Base 19mm | 745 | TNS | \$115.00 | \$85,675.00 |

| Material | Labor | Equip | Sub-C | Total Cost | Overhead |
|--------------|--------------|--------------|-------|----------------|--------------|
| \$330.00 | \$128.25 | \$156.75 | | \$615.00 | \$135.00 |
| \$1,083.60 | \$90.97 | \$111.19 | | \$1,285.76 | \$282.24 |
| \$0.00 | \$83.03 | \$101.48 | | \$184.50 | \$40.50 |
| \$111.72 | \$166.70 | \$203.74 | | \$482.16 | \$105.84 |
| \$1,003.62 | \$104.09 | \$127.22 | | \$1,234.92 | \$271.08 |
| \$2,007.39 | \$218.44 | \$266.98 | | \$2,492.80 | \$547.20 |
| \$84.59 | \$13.60 | \$16.62 | | \$114.80 | \$25.20 |
| \$150.52 | \$20.83 | \$25.45 | | \$196.80 | \$43.20 |
| \$19.40 | \$2.34 | \$2.86 | | \$24.60 | \$5.40 |
| \$21.73 | \$2.40 | \$2.93 | | \$27.06 | \$5.94 |
| \$1,164.30 | \$125.50 | \$153.39 | | \$1,443.20 | \$316.80 |
| \$297.86 | \$31.28 | \$38.23 | | \$367.36 | \$80.64 |
| \$110.00 | \$42.75 | \$52.25 | | \$205.00 | \$45.00 |
| \$580.50 | \$48.74 | \$59.57 | | \$688.80 | \$151.20 |
| \$0.00 | \$49.82 | \$60.89 | | \$110.70 | \$24.30 |
| \$51.30 | \$76.55 | \$93.56 | | \$221.40 | \$48.60 |
| \$906,174.00 | \$459,128.16 | \$561,156.64 | | \$1,926,458.80 | \$422,881.20 |
| \$89,612.32 | \$33,982.20 | \$41,533.80 | | \$165,128.32 | \$36,247.68 |
| \$589,518.00 | \$298,689.12 | \$365,064.48 | | \$1,253,271.60 | \$275,108.40 |
| \$58,298.56 | \$22,107.60 | \$27,020.40 | | \$107,426.56 | \$23,581.44 |
| \$510,732.00 | \$258,770.88 | \$316,275.52 | | \$1,085,778.40 | \$238,341.60 |
| \$50,505.72 | \$19,152.45 | \$23,408.55 | | \$93,066.72 | \$20,429.28 |
| \$174,771.00 | \$88,550.64 | \$108,228.56 | | \$371,550.20 | \$81,559.80 |
| \$17,283.80 | \$6,554.25 | \$8,010.75 | | \$31,848.80 | \$6,991.20 |
| \$296,136.00 | \$150,042.24 | \$183,384.96 | | \$629,563.20 | \$138,196.80 |
| \$29,282.78 | \$11,104.43 | \$13,572.08 | | \$53,959.28 | \$11,844.72 |
| \$30,510.00 | \$15,458.40 | \$18,893.60 | | \$64,862.00 | \$14,238.00 |
| \$409,374.00 | \$207,416.16 | \$253,508.64 | | \$870,298.80 | \$191,041.20 |
| \$382,347.00 | \$193,722.48 | \$236,771.92 | | \$812,841.40 | \$178,428.60 |
| \$373,572.00 | \$189,276.48 | \$231,337.92 | | \$794,186.40 | \$174,333.60 |
| \$261,846.00 | \$132,668.64 | \$162,150.56 | | \$556,665.20 | \$122,194.80 |
| \$24,310.00 | \$4,931.19 | \$6,027.01 | | \$35,268.20 | \$7,741.80 |
| \$48,425.00 | \$9,822.83 | \$12,005.68 | | \$70,253.50 | \$15,421.50 |

| Item#: | Description | Qty | Measure | Unit Price | Total |
|--------------|-------------------------------|-----------------------|---------|--------------|------------------------|
| \$25.00 | C.3 6" GAB Subbase | 1,117 | TNS | \$70.00 | \$78,190.00 |
| 10 | Signs, Painting, Misc. | \$1,098,040.00 | | | |
| | A. Conspan | \$521,760.00 | | | |
| | A.1 Footing Cut | 1170 | CY | \$8.00 | \$9,360.00 |
| | A.2 Footing Backfill | 1010 | CY | \$14.00 | \$14,140.00 |
| \$5,000.00 | A.3 Pumping | 1 | LS | \$14,000.00 | \$14,000.00 |
| | A.4 Initial Backfill for Arch | 570 | CY | \$12.00 | \$6,840.00 |
| \$110.00 | A.5 Arch Footing | 130 | CY | \$900.00 | \$117,000.00 |
| \$110.00 | A.6 Wingwall Footing | 35 | CY | \$900.00 | \$31,500.00 |
| | A.7 Wingwall Grout | 1 | LS | \$14,400.00 | \$14,400.00 |
| | A.8 Temporary Stream Crossing | 1 | LS | \$40,000.00 | \$40,000.00 |
| | A.9 Install Arch | 12 | DAYS | \$6,840.00 | \$82,080.00 |
| | A.10 Install Wingwalls | 9 | DAYS | \$6,840.00 | \$61,560.00 |
| | A.11 Install Headwalls | 4 | DAYS | \$6,840.00 | \$27,360.00 |
| | A.12 Misc Crew Days | 3 | DAYS | \$6,840.00 | \$20,520.00 |
| | A.13 Remove Stream Crossing | 1 | LS | \$8,000.00 | \$8,000.00 |
| | A.14 Remove Arch | 1 | LS | \$75,000.00 | \$75,000.00 |
| | B. Signs | \$576,280.00 | | | |
| \$20.00 | B.1 Forrest Retention Area | 142 | EA | \$60.00 | \$8,520.00 |
| \$8.00 | B.2 4x4 Posts | 142 | EA | \$30.00 | \$4,260.00 |
| \$40,000.00 | C. Geotech | 1 | LS | \$110,000.00 | \$110,000.00 |
| \$150,000.00 | D. Stake-out | 1 | LS | \$175,000.00 | \$175,000.00 |
| | E. Washing Station | 1 | LS | \$70,000.00 | \$70,000.00 |
| \$22.00 | F.1 Guard Rails | 692 | LF | \$25.00 | \$17,300.00 |
| \$2,300.00 | F.2 MSHA Type C End Treatment | 4 | EA | \$2,800.00 | \$11,200.00 |
| \$173,000.00 | G. Bond | 1 | EA | \$180,000.00 | \$180,000.00 |
| | Sub-Total: | | | | \$18,464,480.00 |
| | 10% Profit | | | | \$2,051,609.00 |
| | Total: | | | | \$20,516,089.00 |

| Material | Labor | Equip | Sub-C | Total Cost | Overhead |
|----------------|----------------|----------------|-------------------------------------|-----------------|-----------------------|
| \$27,925.00 | \$16,285.86 | \$19,904.94 | | \$64,115.80 | \$14,074.20 |
| | | | | | |
| | | | | | |
| | | | | | |
| \$0.00 | \$3,453.84 | \$4,221.36 | | \$7,675.20 | \$1,684.80 |
| \$0.00 | \$5,217.66 | \$6,377.14 | | \$11,594.80 | \$2,545.20 |
| \$5,000.00 | \$2,916.00 | \$3,564.00 | | \$11,480.00 | \$2,520.00 |
| \$0.00 | \$2,523.96 | \$3,084.84 | | \$5,608.80 | \$1,231.20 |
| \$14,300.00 | \$36,738.00 | \$44,902.00 | | \$95,940.00 | \$21,060.00 |
| \$3,850.00 | \$9,891.00 | \$12,089.00 | | \$25,830.00 | \$5,670.00 |
| \$0.00 | \$5,313.60 | \$6,494.40 | | \$11,808.00 | \$2,592.00 |
| \$0.00 | \$14,760.00 | \$18,040.00 | | \$32,800.00 | \$7,200.00 |
| \$0.00 | \$30,287.52 | \$37,018.08 | | \$67,305.60 | \$14,774.40 |
| \$0.00 | \$22,715.64 | \$27,763.56 | | \$50,479.20 | \$11,080.80 |
| \$0.00 | \$10,095.84 | \$12,339.36 | | \$22,435.20 | \$4,924.80 |
| \$0.00 | \$7,571.88 | \$9,254.52 | | \$16,826.40 | \$3,693.60 |
| \$0.00 | \$2,952.00 | \$3,608.00 | | \$6,560.00 | \$1,440.00 |
| \$0.00 | \$27,675.00 | \$33,825.00 | | \$61,500.00 | \$13,500.00 |
| | | | | | |
| | | | | | |
| \$2,840.00 | \$1,865.88 | \$2,280.52 | | \$6,986.40 | \$1,533.60 |
| \$1,136.00 | \$1,060.74 | \$1,296.46 | | \$3,493.20 | \$766.80 |
| | | | \$40,000.00 | \$40,000.00 | \$70,000.00 |
| | | | \$150,000.00 | \$150,000.00 | \$25,000.00 |
| | | | | | |
| \$0.00 | \$25,830.00 | \$31,570.00 | | \$57,400.00 | \$12,600.00 |
| | | | \$15,224.00 | \$15,224.00 | \$2,076.00 |
| | | | \$9,200.00 | \$9,200.00 | \$2,000.00 |
| | | | | | |
| \$173,000.00 | \$0.00 | \$0.00 | | \$173,000.00 | \$7,000.00 |
| | | | | | |
| \$5,061,907.84 | \$4,084,423.09 | \$4,992,072.67 | \$697,302.00 | \$14,835,705.60 | \$3,628,774.40 |
| \$562,434.20 | \$453,824.79 | \$554,674.74 | \$77,478.00 | | \$403,197.16 |
| | | | Total Overhead & Profit: | | \$5,680,383.29 |

3. Contracting Plan

We have the staff, craft and equipment resources necessary to self-perform over 70% of critical scopes of work on this project. Our key staff worked in identical roles on multiple project with a similar scope of work, and have the self-performed experience to build this work.

Below is a list of all major scopes of work on the project. In addition, we have detailed the scopes of work that we intend to self-perform providing the most value to SHA. By self-performing the majority of the work, we can provide the following benefits to SHA:

- Improved control of safety, quality, schedule, and budget
- By constructing the critical path of the project, we have full control of maintaining the schedule
- Having our own crews of workers on-site gives us the ability to react to issues quickly
- The project is not paying subcontractor markups on scopes that we can self-perform ourselves

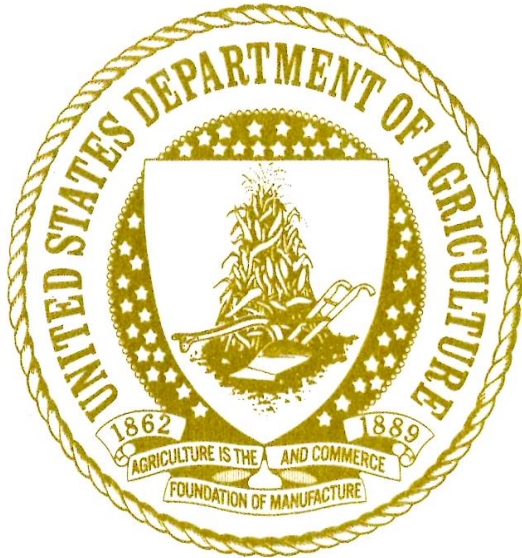
| Project Element | Typical Self-Perform Scope | Potential Subcontract Scope | Potential MBE / Local Participation Opportunity |
|---|----------------------------|-----------------------------|---|
| Preconstruction Services | • | | |
| Permitting | • | | |
| Survey | • | | |
| Erosion and Sediment Controls | • | | |
| Traffic Control | • | | • |
| Clearing and Removals | • | | |
| Excavation and Embankments | • | | |
| Hauling and Trucking | • | | |
| Storm Water Management, Bio-Swales, Bio-Retention Ponds | • | | |
| Precast Concrete | • | • | |
| Roadway Base | • | | |
| Asphalt Milling | • | • | |
| Asphalt Paving | • | | |
| Guardrail | | • | • |
| Pavement Markings | | • | • |
| Drainage Pipe and Structures | • | | |
| Landscaping and Planting | | • | • |
| Testing and Inspections | | • | • |

The subcontractor procurement process starts during the early stages of preconstruction with the creation of bid packages, prequalification of subcontractors and the identification of long-lead items. We believe it is critical to establish a detailed procurement plan with SHA at the onset of the project, and our plan is in full compliance with COMAR 21.05.10.05. Our subcontractor procurement plan is designed to ensure that capable, reputable and local subcontractors who are selected on a combination of qualifications and price are performing on the project. With input from SHA, we will

evaluate and score each subcontractor's proposal based on the evaluation criteria that is established by our collective team.

Our subcontractor selection criteria is based on both qualifications and competitive bid criteria. If several alternatives for qualified subcontractors or suppliers are available, we will implement our selection plan to pre-qualify and evaluate bids that will provide the best value to the project. SHA staff will be involved throughout the subcontractor selection process, including the prequalification stage, to ensure that all subcontractors meet SHA's qualification requirements. Subcontractor selection will be based on a combination of qualifications and price, and will be subject to agreement between GMTP and MD SHA based on project specific criteria.

F. Appendix



United States
Department of Agriculture

Certificate of Appreciation

Awarded to

Bubby Knott
Flat Iron Farm

*In recognition of his exemplary commitment
to land stewardship and selection as the
2014 Cooperator of the Year
in St. Mary's County, Maryland.*

Date

February 27, 2015

Machele Simmons, Acting NRCS Maryland State Conservationist

St. Mary's Soil Conservation District



2014

Cooperator of the Year Award

presented to

Bubby Knott

*For outstanding accomplishment in the conservation
of soil, water, and related resources*

February 27, 2015

County Engineers Association of Maryland

Small Project of the Year

The Officers and the Board of Directors of the County Engineers Association of Maryland are pleased to present this Award to

Great Mills Trading Post

For the

Cage Farm Wetland Creation Project

In recognition of an outstanding County Project that addresses the needs of the citizens, provides a cost effective solution and demonstrates innovative engineering and construction.

This Award presented this Nineteenth day of September, 2013.



Bruce E. Johnston, PE
President

J. Michael Warring, PE
Secretary

Matthew J. Allen, PE, PFOE
CEAM Awards Committee Chairman