



Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Expression of Interest  
 Architect/Engr

RECEIVED  
 08/12/21 13:18:58  
 WV Purchasing Division

<b>Proc Folder:</b> 915025		<b>Reason for Modification:</b>	
<b>Doc Description:</b> South Gate Road Slip Stabilization Design-Camp Dawson			
<b>Proc Type:</b> Central Purchase Order			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-07-28	2021-08-12 13:30	CEOI 0603 ADJ2200000003	1

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:** N/A

**Vendor Name :** Carpenter Marty Transportation, Inc.

**Address :**

**Street :** 814 Quarrier Street

**City :** Charleston

**State :** WV **Country :** USA **Zip :**25301

**Principal Contact :** Ali Sadeghian, PE

**Vendor Contact Phone:** (304) 989-3680 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**  
 David H Pauline  
 304-558-0067  
 david.h.pauline@wv.gov

**Vendor Signature X**  **FEIN#** 46-0918246 **DATE** 8-12-21

All offers subject to all terms and conditions contained in this solicitation

**ADDITIONAL INFORMATION**

The West Virginia Purchasing Division, for the agency, the West Virginia Army National Guard, Construction and Facilities Management Office, is soliciting Expressions of Interest from qualified firms to provide professional design services to develop construction documents to address the second South Gate Road Slip Stabilization, at Camp Dawson, WV, per the attached documentation.

INVOICE TO	SHIP TO
ADJUTANT GENERALS OFFICE 1707 COONSKIN DR  CHARLESTON WV 25311 US	CAMP DAWSON ARMY TRAINING SITE 240 ARMY RD  KINGWOOD WV 26537-1077 US

Line	Comm Ln Desc	Qty	Unit Issue
1	South Gate Road Slip Stabilization Design-Camp Dawson		

Comm Code	Manufacturer	Specification	Model #
81101508			

**Extended Description:**

Provide professional architectural and engineering design services per the attached documentation.

**SCHEDULE OF EVENTS**

<u>Line</u>	<u>Event</u>	<u>Event Date</u>
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# South Gate Road Slip Stabilization Design - Camp Dawson

Kingwood, WV

Expression of Interest

814 Quarrier Street  
Charleston, WV 25301  
304.989.3680  
[www.cmtran.com](http://www.cmtran.com)



## Our Firm

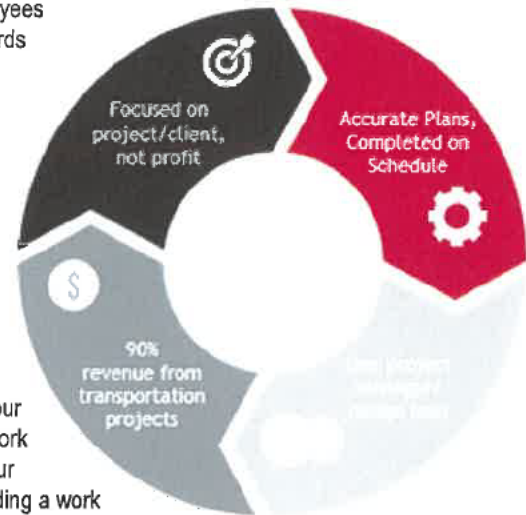
814 Quarrier Street Charleston, West Virginia 25301

304.989.3680

At Carpenter Marty Transportation (CM), our success is driven by employees that strive for excellence. Our company was founded to raise the standards in transportation engineering. We focus on exceeding expectations, not making a profit. By keeping this our core value, we have established and maintained strong working relationships with local municipalities, counties, and state transportation departments for more than 22 years.

Our team has extensive experience with local and state standards and are available to promptly respond to your needs. We are experts in bridge, roadway, and traffic design services.

**Operating Philosophy** CM's goal is to lead the industry in providing value-added civil engineering services for our clients. We do this by developing successful partnerships and ensuring that every member of our team provides exceptional customer service. We foster a client-centric work environment that encourages new ideas, innovations, and growth from our employees. We support a motivated, flexible, and focused team by providing a work environment that offers mutual respect, work/life balance, and continued professional growth opportunities. We want to be known as the best regarding our quality of work and as a business that truly cares for its employees and clients.



**History** CM was founded by Kevin Carpenter and Bill Marty. Kevin and Bill began working together in 2000 and quickly moved their way up to Directors of the Public Works Division at their former employer. Recognizing that infrastructure design was not that company's core business, Kevin and Bill acquired ownership of the division and began doing business as CM in January 2013. CM retained all employees and prequalifications, and continues to provide the same quality design services to our clients and project partners. CM is headquartered in Columbus, Ohio and has two additional offices in Cincinnati, Ohio and Charleston, West Virginia.

## Services

Access Management	Traffic Control Design
Operational Analysis	Pavement Design
Intersection Analysis & Design	Modern Roundabout Analysis & Design
Traffic Signal/Signal Systems Design	Safety Studies
Maintenance of Traffic Design	Lighting Design
Bike Path/Lane Design	Roadway Design
Drainage Design	Right-of-Way Design
Public Involvement	Aesthetic Design
3D Renderings/Graphic Representations	Bridge Load Ratings
Bridge Design (LFD & LRFD)	Bridge Inspections & Rehabilitation
Retaining Wall Design	Floodplain Coordination
Land Planning & Urban Design	Title Research
Project Inspection	Culvert Design/Inspection
ALTA, Boundary, & Topographic Surveying	Interchange Justification/Modification Studies
Traffic Impact/Access Studies	Slip Repair

South Gate Road Slip Stabilization Design -  
Camp Dawson  
State of West Virginia Dept. of Administration

2

**CARPENTER  
MARTY** transportation

## Qualifications of Staff



### Ali Sadeghian, MS, PE: Project Manager

#### Education

BS, Civil Engineering, 1984  
*Oklahoma State University*

MS, Civil Engineering, 1988  
*University of Kentucky*

WV PE: [REDACTED] 1993

OH PE: [REDACTED] 1997

#### Years of Experience

32

Has worked on the design and management of 150+ infrastructure projects

Ali Sadeghian manages all operations in CM's West Virginia office. Throughout his career, he has worked on the design and management of various projects including new and existing highway and roadway development. As the project manager, Ali will review and assist with the design work, as well as evaluate and process invoices throughout the duration of the project. Ali will also be a key player in coordinating project meetings with the Client's internal unit during the design and construction, including coordination with outside agencies, ensuring seamless communication with all project team members, stakeholders, and the Client.

#### Relevant Projects

- Anawalt Bypass Embankment Failure 160', Piling wall, *McDowell County*
- Shop Hollow Embankment Failure 52', Piling wall, *McDowell County*
- WV Route 83 Embankment Failure 68', Soil nails, *McDowell County*
- Davy Welch Road Embankment Failure 48', Soil nails, *McDowell County*



### Patrick Park II, MS, PE: Roadway Design Lead & MOT

#### Education

BS, Civil Engineering, 1998  
*West Virginia Institute of Technology*

MS, Civil Engineering, 2008  
*Marshall University*

WV PE: [REDACTED] 2003

VA PE: [REDACTED] 2006

#### Years of Experience

23

Has completed more 60+ roadway projects and 200+ bridge inspection projects

Patrick Park manages CM's roadway production in West Virginia, and is an expert in roadway and maintenance of traffic services. His project experience includes, but is not limited to, major freeway and interchange reconstruction/reconfigurations, rural roadway realignments, large-scale urban widening plans, and bridge rehabilitations. His maintenance of traffic experience includes creating detailed construction staging plans, vehicular and pedestrian detour plans, traffic control, temporary traffic signal plans, and temporary roadways. Patrick is also experienced with coordinating construction sequencing with state and local agencies to optimize traffic flow in and around project areas, as well as maintaining pedestrian and bicycle traffic and access. He has developed numerous detour routes along arterial roadways.

#### Relevant Projects

- WV Route 10, Retaining structures for roadway stabilization, *WVDOH*
- Thomas Buford Pugh Bridge, roadway stabilization, *WVDOH*
- RHL Boulevard Connector, roadway stabilization, *WVDOH*
- Bridge Street Bridge, roadway stabilization, *WVDOH*



### Kevin Carpenter, PE, PS: Right-of-Way Design Lead

#### Education

BS, Civil Engineering, 1993  
*The Ohio State University*

OH PE: [REDACTED] / 1997

WV PE: [REDACTED] / 2017

PA PS: [REDACTED] 2008

OH PS: [REDACTED] 2001

#### Years of Experience

28

Completed 200+ infrastructure projects throughout his career.

Kevin Carpenter specializes in roadway design, utility engineering, and right-of-way plan development. Having a background in both survey and roadway gives him a unique understanding of the design process and requirements of all aspects of a project. Kevin currently manages all field and office survey functions in Ohio, right-of-way design work, legal description preparation, and is responsible for project basemapping, which ultimately forms the foundation for all design work. He has worked with numerous public agencies involved in right-of-way plan development and is thoroughly familiar with courthouse research, boundary retracement, platting, and legal description preparation.

#### Relevant Projects

- CLE-222-28.10/28.19, *ODOT District 8*
- HAM-50-33.37/34.19, *ODOT District 8*
- LAW-217-2.97, *ODOT District 9*
- PIK-CR 21-1.36 (Sunfish Creek), *Pike County*



### Shane Kalinoski, PE: Structural Design Lead

#### Education

BS, Civil Engineering, 2004  
*The Ohio State University*

WV PE: [REDACTED] 2018

OH PE: [REDACTED] 2008

#### Years of Experience

17

Worked on the design of 80+ infrastructure projects.

Shane Kalinoski has experience in bridge and retaining wall design and oversees the design and plan production of structural projects for various clients. He has been with the CM team for the duration of his career. He has experience with the design of varying types of bridges, culverts, and retaining walls. Throughout his career, Shane has completed more than 10 slip repair projects and over 20 retaining wall projects. These projects include soldier pile walls with both timber and concrete lagging, plug shaft walls, cast-in-place concrete retaining walls, and MSE walls. Shane is responsible for coordinating all geotechnical information with the foundation consultant.

#### Relevant Projects

- CLE-222-28.10/28.19, *ODOT District 8*
- HAM-50-33.37/34.19, *ODOT District 8*
- LAW-217-2.97, *ODOT District 9*
- PIK-CR 21-1.36 (Sunfish Creek), *Pike County*



### Greg Johnson, PE: Structural Design

#### Education

BS, Civil Engineering, 1997  
*Ohio University*

OH PE [REDACTED] 2002

#### Years of Experience

24

Has designed 175+ bridge replacement and rehabilitation, retaining wall, and slip repair projects throughout his career.

Greg Johnson is an expert in various retaining wall systems and slide repairs. He has been with the CM team for more than 17 years. Greg has been the Project Manager on 13 landslide projects for ODOT, various counties, and FEMA. Wall types that have been designed to correct landslides include structural drilled shafts with plug piles, structural drilled shafts with continuous reinforced concrete caps, and soldier piles with wood and concrete lagging. He works seamlessly with the geotechnical engineer to provide all relative information for cost efficient solutions. Greg's other responsibilities include bridge and culvert rehabilitations, hydraulic analyses, constructability reviews, cost estimates, structure type studies, and load ratings.

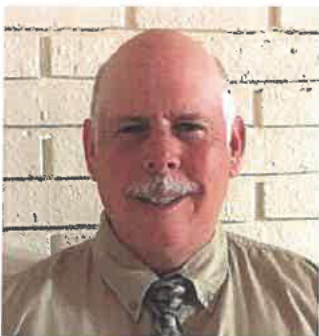
#### Relevant Projects

- PIK-CR 33-6.29 (Clines Chapel Road), *Pike County*
- ROS-CR 149-3.87, *Ross County*
- LAW-217-2.97, **ODOT District 9**
- PIK-CR 21-1.36 (Sunfish Creek), *Pike County*

## Geotechnical Engineering | NGE Environmental & Geotechnical Engineering Solutions



NGE is an award-winning engineering firm founded by a sibling team with 25+ years of experience. NGE pairs the personal touch of a family-owned business with highly-qualified employees who possess a deep knowledge of their discipline. NGE offers a unique blend of services including geotechnical engineering, in-house drilling crews, laboratory services, environmental compliance, drill cuttings management, remediation, waste management and construction inspection.



### John E. Nottingham, PE, PS: Geotechnical Engineering Lead

#### Education

BS, Civil Engineering, 1987  
*West Virginia University*

MS, Civil Engineering, 1995  
*West Virginia University*

OH PE [REDACTED] 2002

#### Years of Experience

33

John currently serves President & Principal Engineer for NGE. In this capacity, he has served on a variety of government and commercial design, and construction projects. John's experience includes direction and coordination of all geotechnical engineering activities. Duties on these projects have included foundation investigation report production, foundation and retaining wall design, fill embankment and cut slope design, slope stability analysis, pavement design, design of drainage systems, supervision of subsurface drilling programs, field activity coordination, laboratory data computation and processing, performance of field work, client relations, and supervision of technical and professional staff.

## Survey | E.L. Robinson Engineering (ELR)



ELR has been providing innovative engineering solutions since 1978. With more than 120 professionals, designers, and support personnel, ELR continues to build on its founding principles of quality engineering work with superior client service. ELR has been involved in the completion of a broad spectrum of complex major and mega transportation projects.



### Tom Rayburn, PS: Survey Lead

#### Education

AS, Mechanical Engineering, 1970  
West Virginia Inst. of Tech.

WV PS: [REDACTED]

#### Years of Experience

45

Tom Rayburn has more than 45 years of surveying and right-of-way plan development experience for WVDOH projects of all types and sizes. Tom manages the surveying/ROW plan development group in Charleston, West Virginia and oversees all operations, providing technical advisory services. A few notable surveying projects performed by ELR under the supervision of Tom include: Corridor H, Sections 6 & 7, Blennerhassett Bridge Project, I-79 Widening, GPS Control for the West Virginia Statewide Mapping and Addressing Board Project, 3D Laser Scan and Mapping of I-81, and 3D Laser Scanning of I-64/I-77 Retaining Wall for Monitoring.

## CM References

### Alanna Keller, PE

*Intra-Agency Engineer Coordinator*  
304.414.6899  
Alanna.J.Keller@wv.gov

### Robert Douglas, PE

*Regional Project Manager*  
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Robert.L.Douglas@wv.gov

### Tim Priddy, PE

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### Ahmed Mongi, PE

*Project Manager – Engineering Division*  
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Ahmed.N.Mongi@wv.gov

### Steve Jarrell

*Project Manager – Engineering Division*  
304.414.6452  
Steven.R.Jarrell@wv.gov

### Patrick Brennan, PE

*Project Manager – Engineering Division*  
304.414.6418  
Patrick.B.Brennan@wv.gov



## Staffing Plan

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CM has previously worked on numerous contracts with similar challenges. This type of project requires the management of varying disciplines and the ability to coordinate with multiple task managers. Successful completion of this agreement will require a diversified and adaptive team with substantial slip repair/embankment stabilization experience.

CM has formed a **multi-disciplined team** to complement and provide support to your staff throughout the duration of this contract. We have teamed with NGE, who will perform all geotechnical services. NGE has over 20 years of experience working on similar projects and has a significant amount of experience with the local soil types statewide, this vast knowledge includes the anisotropic strength properties of soil in the horizontal and vertical directions that will have a significant impact on the success of this project. We have also teamed with ELR, who will perform all survey services. With over 43 years of service and more than 120 professionals, designers, and support personnel, ELR continues to build on its founding principles of quality engineering work with superior client service.

At CM, we have partnered with numerous public agencies over the past 23 years. Our core service is infrastructure design, which includes slip repair/embankment stabilization. The CM team includes 19 registered professional engineers. As a company we have a balanced staff that consists of both younger design engineers and technicians, as well as experienced design engineers and technicians.

The CM team includes a talented support staff composed of discipline leads who are well-versed in delivering projects on time. This provides you assurance we will keep the same engineers committed to your contract throughout its entirety. **Mr. Ali Sadeghian**, a recent retiree of 30 years with the West Virginia Division of Highways, will serve as the project manager for our team. During his career at the WVDOH, he managed several emergency slide repair projects. Ali will also ensure plans are clear, concise and, most importantly, constructible. **Mr. Patrick Park** will lead our roadway design and maintenance of traffic for our team. **Mr. Shane Kalinoski** will lead structural design efforts and provide coordination with our geotechnical team. He will be joined by **Mr. Greg Johnson** who will provide support for the structural design. **Mr. Kevin Carpenter** will lead all right-of-way design services. **Mr. John Nottingham** will lead all geotechnical engineering services. **Mr. Tom Rayburn** will serve as the survey lead.

Our project team, which has extensive knowledge and has successfully completed several similar projects together, will provide you a **high degree of flexibility** in the design and will also enable us to fulfill any immediate need that may arise.

## Project Experience

### PIK-CR 50-3.32 (Watson Road) Pike County | Pike County, Ohio



#### Client Contact

Denny Salisbury, PE, PS, Pike County Engineer |  
740.947.4259

#### Project Type

- Slip Repair/Embankment Stabilization
- Survey
- Right-of-Way Plans
- Utility Coordination
- Maintenance of Traffic, Roadway Design
- Culvert Replacements
- Retaining Wall Design

CM was selected to provide slip repair/embankment stabilization on Watson Road with a total project length of 800'. The project is located at the 3.32 mile marker of Watson Road. This project corrected a landslide that required portions of the road to be closed. CM provided survey services, right-of-way plans, utility coordination, and construction plans for this site. A 612' long reinforced drilled shaft wall with precast lagging was designed for the road to be reopened. Railroad coordination was required due to its proximity. Construction plans developed by CM provided details for maintenance of traffic, roadway repairs, two replacement culverts, wall details, and all project related notes, estimated quantities, and construction cost estimate

**CM Project Manager:** Kevin Carpenter

### PIK-CR 66-4.36 (Germany Road) Pike County | Pike County, Ohio



#### Client Contact

Denny Salisbury, PE, PS, Pike County Engineer |  
740.947.4259

#### Project Type

- Emergency Landslide Remediation
- Drainage Improvements
- Traffic Control
- Maintenance of Traffic
- Retaining Wall Design
- Roadway Design

The Pike County Engineer's Office selected CM to provide engineering design services for this project. Germany Road is a two-lane minor rural collector located approximately five miles east of Piketon. The existing roadway was reduced to a one-lane, two-way configuration because of a slide that collapsed a portion of the roadway. The project involved the improvement of 4600' of the existing roadway, with approximately half of the project widening the existing pavement, and the remainder as full depth pavement replacement. The project included minor realignment of the existing roadway to move the proposed roadway away from the slide area and construction of four retaining walls with a combined length of 2870'. The project also included grading, drainage, traffic control, improved lane and shoulder widths, and superelevation correction.

**CM Project Manager:** Kevin Carpenter

## PIK-CR 33-6.29 (Clines Chapel Road) Pike County | Pike County, Ohio

### Client Contact

Denny Salisbury, PE, PS, Pike County Engineer |  
740.947.4259

### Project Type

- Landslide Remediation
- Retaining Wall Design
- Roadway Design

This project consisted of pavement repair, embankment reconstruction, and installation of a 105' drilled shaft and plug shaft wall on Clines Chapel Road (CR 33). The slope on the south side of the roadway had failed leaving exposed escarpment. The failure caused an existing corrugated metal pipe outflow to cut a drainageway down the slope. CM surveyed the site, provided roadway repair plans, and drilled shaft wall details. CM's subconsultant provided the geotechnical borings and the drilled shaft and plug pile design. One design challenge was providing details for the culvert to penetrate the wall. A cast-in-place concrete panel was designed to span horizontally between two of the drilled shafts. **CM Project Manager:** Greg Johnson

## PIK-CR 21-1.36 (Sunfish Creek) Pike County | Pike County, Ohio

### Client Contact

Denny Salisbury, PE, PS, Pike County Engineer |  
740.947.4259

### Project Type

- Emergency Landslide Repair
- Bridge Design
- Roadway Design
- Survey

CM was tasked by the Pike County Engineer to complete this emergency landslide repair project on CR 21 (Sunfish Creek). The project included reconstruction of 615' of pavement and installation of a 448' drilled shaft retaining wall on the west side of the roadway. The project also included field surveys, geotechnical investigations, and engineering design to correct the landslide. Post-construction BMP requirements were met by the use of vegetated slopes on the east side of CR 21. Less than 1 acre of new pavement was constructed outside of the existing right-of-way, so no treatment for water quantity was required.

**CM Project Manager:** Kevin Carpenter

## PIK-32-12.54 ODOT District 9 | Pike County, Ohio

### Client Contact

Tom Barnitz, PE, Project Manager | 740.947.4259

### Project Type

- Landslide Remediation
- Retaining Wall Design

As part of a District 6/District 9 General Engineering Services contract, CM completed this project which consisted of the installation of a 212' drilled shaft and plug shaft wall along the downslope side of the westbound shoulder of SR 32 near No Name Creek. The slip had created loss of embankment material extending along the roadway. Remediation of the landslide using a wall system was needed due to the proximity and to erosion of No Name Creek. ODOT staff completed the field survey, geotechnical borings, and design of the wall system. CM completed the construction plans which consisted of the maintenance of traffic, roadway remediation, and drilled shaft wall details. **CM Project Manager:** Tony Grieshop

## PIK-CR 66-2.12 ER Pike County | Pike County, Ohio

### Client Contact

Denny Salisbury, PE, PS, Pike County Engineer |  
740.947.4259

### Project Type

- Emergency Landslide Remediation

CM was tasked by the Pike County Engineer to complete this emergency remediation of an existing 100' long landslide on the uphill side of CR 66. The slide occurred within a few feet of an existing cut soil slope above the roadway, which was sloped at approximately 1(H):1(V). As a result of geotechnical investigations, it was determined that removal of the existing pavement was not necessary, and the existing slope was laid back above the proposed ditch line at a slope of 2.4(H):1(V). The project limits regraded approximately 275' of the roadside. **CM Project Manager:** Kevin Carpenter

## ROS-CR 149-3.87 Ross County | Ross County, Ohio

### Client Contact

Charles Ortman, PE, PS, Ross County Engineer |  
740.702.3130

### Project Type

- Emergency Slide Repair
- Plan Coordination

CM was tasked by the Ross County Engineer to facilitate the completion of the repair to Spargursville Road (CR 149) near mile marker 3.87 due to a landslide. The work included preparing plan details and coordinating approval of the plans with the Ross County Engineer's Office. A secant wall with plug shafts was utilized to stabilize the landslide. The wall is approximately 112' long. The road was detoured during construction, and required guardrail to be placed in front of the wall.

**CM Project Manager:** Greg Johnson

## CLE-133-0.40 ODOT District 8 | Clermont County, Ohio

### Client Contact

Joe Smithson, Project Manager | 513.933.6707

### Project Type

- Emergency Slide Repair
- Retaining Wall Design

This project involved the emergency full depth replacement of 0.10 mile of SR 113 and the construction of a reinforced drilled shaft retaining wall to prevent future landslides. The project location was damaged due to heavy rainfall and required the road to be closed. The route is designated a rural major collector roadway which carried significant traffic. It was necessary to perform engineering on an accelerated schedule to facilitate quick construction to repair and reopen the roadway. CM was selected to provide field surveys to identify existing topographic features, locate the existing right-of-way, and prepare construction plans and a cost estimate to facilitate ODOT's sale of the project for construction. The wall consisted of a 225' long reinforced drilled shaft wall with wood lagging. The final plans consisted of typical sections, full maintenance of traffic, retaining wall, and other necessary details. **CM Project Manager:** Kevin Carpenter

## CLE-222-28.10/28.19 ODOT District 8 | Clermont County, Ohio

### Client Contact

Joe Smithson, Project Manager | 513.933.6707

### Project Type

- Emergency Slide Repair
- Maintenance of Traffic
- Right-of-Way
- Survey
- Retaining Wall Design

This project involved the emergency full depth replacement of 0.09 mile of SR 222 and the construction of two reinforced drilled shaft retaining wall to prevent future landslides. The project location was damaged due to heavy rainfall and required the road to be closed. The route is designated a rural major collector roadway which carried significant traffic. It was necessary to perform engineering on an accelerated schedule to facilitate quick construction to repair and reopen the roadway. CM was selected to provide field surveys to identify existing topographic features, locate the existing right-of-way, and prepare construction plans and a cost estimate to facilitate ODOT's sale of the project for construction. The first wall consisted of a 173.5' long reinforced drilled shaft wall with plug shafts. The second wall consisted of a 306' long reinforced drilled shaft wall with wood lagging. The final plans consisted of typical sections, full maintenance of traffic, retaining wall, and other necessary details.

**CM Project Manager:** Kevin Carpenter

## HAM-50-33.37/34.19 ODOT District 8 | Clermont County, Ohio

### Client Contact

Joe Smithson, Project Manager | 513.933.6707

### Project Type

- Emergency Slide Repair
- Retaining Wall Design
- Right-of-Way Survey

This project involved the emergency improvement project of US 50 involved the milling and resurfacing of 0.06 mile of pavement, full depth replacement of 0.06 mile of pavement, and the construction of two reinforced drilled shaft retaining walls to prevent future landslides. The project location was damaged due to heavy rainfall and required the road to be closed. The route is designated a rural major collector roadway which carried significant traffic. It was necessary to perform engineering on an accelerated schedule to facilitate quick construction to repair and reopen the roadway. CM was selected to provide field surveys to identify existing topographic features, locate the existing right-of-way and, prepare construction plans and a cost estimate to facilitate ODOT's sale of the project for construction. The first wall consisted of a 294' long reinforced drilled shaft wall with precast concrete lagging. The second wall consisted of a 300' long reinforced drilled shaft wall with plug shafts. The final plans consisted of typical sections, full maintenance of traffic, retaining wall, and other necessary details.

**CM Project Manager:** Kevin Carpenter

## LAW-217-2.97 ODOT District 9 | Lawrence County, Ohio

### Client Contact

Dave Beekman, Design Engineer | 740.774.885

### Project Type

- Emergency Road Realignment
- Intersection Improvement
- Maintenance of Traffic
- Right-of-Way Roadway Design
- Survey

As a task order on a General Engineering Services contract with ODOT District 9, CM was tasked with an emergency project due to a slope failure which required the roadway to be closed. The emergency roadway realignment project involved the relocation of 1,040' of SR 217. CM provided all survey, design, maintenance of traffic, and right-of-way services required for this project. The project included the elimination of a switchback curve by providing a new alignment. The new alignment included straighter horizontal alignment, a significantly steeper grade (18% profile grade) to avoid future slide and maintenance issues, as well as several design exceptions (degree of curve, stopping sight distance, grade, and grade breaks). The project also included intersection repairs at TR 247 and CR 61 and detouring traffic during construction. **CM Project Manager:** Kevin Carpenter

## Middle Fork Bridge West Virginia Division of Highways | Kanawha County, West Virginia



### Client Contact

Tracy Brown, PE, Project Manager | 304.558.3775

### Project Type

- Bridge Design
- Piling Retaining Wall
- Right-of-Way Plans
- Temporary Detour
- Hydraulic Analysis
- Environmental Permits

The goal and objective of this project was to prepare contract plans, and related documents for the replacement of the existing Middle Fork Bridge. The bridge carries CR 15 over Middle Fork of Davis Creek in Kanawha County. The proposed structure is a 54' long precast box beam bridge. The existing bridge and the abutments are shown to be removed, and the new proposed bridge will be built in the same location. One of the objectives of this project was to stabilize the roadway shoulder along CR 15 in the southeast corner of the project. In order to accomplish this, CM proposed a design using a piling wall. CM recommended an HP Steel soldier piling wall with concrete lagging provide slope stability. A total of 48' feet of pile and lagging wall was designed for this project. CM also completed the final hydraulic analysis of the existing creek conditions and approved configuration of the proposed bridge. Traffic will be maintained on a two-lane downstream temporary structure during construction. CM performed all bridge, roadway, right-of-way, maintenance of traffic, and environmental permitting services for this project.

**CM Project Manager:** Ali Sadeghian

## The Jug Structure West Virginia Division of Highways | Tyler County, West Virginia



### Client Contact

Tim Priddy, PE, Project Manager | 304.414.6474

### Project Type

- Water Crossing Design
- Right-of-Way Plans
- Gabion Basket Retaining Wall
- Hydraulic Analysis
- Environmental Permits

The goal and objective of this project was to prepare contract plans, and related documents for the replacement of the existing Jug Structure. This structure carries CR 46/1 over Middle Island Creek in Tyler County and provides access to a WVDNR hunting area. The proposed structure is a 177.5' long low water crossing. Part of the objectives for this project was to prevent a large cut into the hillside leading on to the Jug just below an existing business. However, to accomplish this it meant a large fill was going to be needed on the eastern side of the project. This fill would ultimately encroach into the ordinary high water of Middle Island Creek. To meet this objective, CM recommended using gabion baskets filled with large stones to provide slope stability while eliminating the potential of encroachment into the ordinary high water. A total of 68 linear feet of gabion basket retaining wall was designed for this project. CM completed the final hydraulic analysis of the existing creek conditions and approved configuration of the proposed low water crossing. CM preformed all bridge, roadway, right-of-way, maintenance of traffic, and environmental permitting services for this project. **CM Project Manager:** Ali Sadeghian

## Pot Branch Culvert West Virginia Division of Highways | Kanawha County, West Virginia



### Client Contact

Tracy Brown, PE, Project Manager | 304.558.3775

### Project Type

- Culvert Design
- Temporary Detour
- Piling Retaining Wall
- Hydraulic Analysis
- Right-of-Way Plans
- Environmental Permits

The goal and objective of this project was to prepare contract plans, and related documents for the replacement of the existing Pot Branch Bridge and to provide a better access to private residences along this county route. The existing bridge carries CR 13/14 over Pot Branch Creek in Kanawha County and is the main access road to several residences. CM proposed replacing the existing single span bridge with a 14' by 6' precast concrete box culvert. The existing bridge and abutments will be removed, and a new box culvert is proposed to be built in the same location. During the design of this project it was determined that in place of traditional culvert wingwalls, HP Steel soldier piling walls would serve a dual purpose. The retaining walls would not only direct the current creek to flow through the box culvert, but also provide stability to the existing roadway along the creek. A total of 130' of pile and lagging walls were designed for this project. In addition to design of the culvert and piling walls CM completed the final hydraulic analysis of the existing creek conditions, and provided a configuration of the precast concrete box culvert that maximize the flow through the culvert. Traffic will be maintained on a two-lane upstream temporary structure during construction. CM preformed all culvert design, roadway, right-of-way, maintenance of traffic, and environmental permitting services for this project. **CM Project Manager:** Ali Sadeghian

## Project Understanding & Approach

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This solicitation of interest involves providing professional engineering design services to develop construction plans and related documents to address a slip at the South Gate Road entrance of Camp Dawson.

The project consists of stabilizing approximately 200' roadway that is currently slipping into Cheat River. The road being impacted by the slip is currently an entrance into Camp Dawson and is used by the West Virginia Army National Guard (WVARNG). The scope of this project is very similar to numerous projects that CM has completed in the past. Many of our past projects have had challenges similar to this project. Your office needs an engineering firm that not only has the experience with similar types of projects, but also one that can direct the project at an acceptable pace through the design process. CM understands the award, execution, and completion of this contract will be contingent upon receiving the necessary funding. Based on Geotechnical investigation we will determine why this section on road to be particularly landslide-susceptible.

## Technical Approach

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CM recommends performing a field scope meeting with all interested parties and several members of our design team, including our project manager and geotechnical lead. This field meeting will be based upon your availability and should occur prior to the actual scope of work meeting. This will allow all parties the opportunity to discuss project specifics and identify design red flags to ensure our team has a thorough understanding of your expectations.

Once a complete and concise scope of work is prepared. ELR will perform a complete topographic survey of the project limits will be performed. This portion of work will include property/deed research, establishment of the existing centerline of the roadway, and utility location and verification.

During the design process the existing horizontal alignment will be maintained as is but the vertical profile may be revised to maximize roadside drainage while minimizing possible impacts to utilities and trying to limit earthwork costs. Also during the design phase upfront coordination with the WVARNG will be required for maintenance of traffic design that will be used during the construction phase. This will ensure that the WVARNG will still have access to their facilities while repairs are being completed. Finally, after the completion of the construction plans CM will provide a final construction cost estimate.

CM understands that a large portion of this project will be the geotechnical investigation and related design work. CM and NGE, will work together to provide our designers with the site parameters to provide an efficient design of practical stabilization methods for the roadway. Our team will recommend the number, depth, and locations for borings required to develop the final geotechnical design information, including laboratory strength testing for the preferred remedial approach of the slip. Also included would be a preliminary slope stability analysis of the hillside adjacent to South Gate Road.

NGE will provide seismic refraction testing that will determine the top of bedrock surface in inaccessible areas of the upslope section. With the preliminary boring information and the results of the seismic refraction testing of the existing slope at the time of failure, NGE will present preliminary slope repair alternatives consisting of either a grading solution, which will require the removal of overburden soils above the roadway, or structural solution with the installation of a drilled shaft and lagging wall.

The final geotechnical report will include stability analyses of the configuration of the selected repair alternative, along with axial capacity and/or lateral load analyses of any required drilled shafts that will be incorporated into the final design. Determining the site-specific shear strength properties of the overburden soil will also help CM develop an economic solution for the slip remediation.

## Project Management

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Project management is the process for overseeing a focused, time-constricted, goal-oriented effort. It involves the allocation of resources, coordination of activities, and monitoring performance. Our project managers do not tell team members what to do, but rather identify the action that must be taken in order to meet the project's goals and create an environment that allows the design team to collaborate and develop the best project plan possible. Our project managers are intimately involved with each project, so they are aware of any challenges or issues that could possibly delay or create deviations from the scope of services. Our firm places tremendous value on open communication between team members and the client. This exchange allows the client to be involved in the process as much as preferred or necessary.

## Quality Assurance

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At CM, we follow quality assurance procedures that emphasize independent constructibility reviews. Our team systematically monitors and objectively evaluates our internal plan development process to ensure our quality, efficiency, and effectiveness. Our quality assurance program focuses on the entire project development process, not solely on plan reviews.

CM places a premium on meeting and often accelerating project schedules and deadlines, and accomplishes this by keeping in close contact with the client throughout plan development. This allows for minimal review by the client as they are familiar with design concepts, challenges, and details. In addition, our team holds weekly project meetings so that all team members are aware of upcoming deadlines and plan development objectives. Progress and milestone updates are submitted to the client with monthly invoices.

At a minimum, CM assigns three individuals to design, check, and review construction plan sets prior to each submittal. In addition, independent constructability reviews are performed. This assures that errors will be caught prior to submission. Our team's design experience and history of success enhances our quality assurance program. We strive to detail accurate, readable construction plans with clear and concise notes, details, and quantities.



## Cost Control

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We understand that cost containment is not only reducing contract costs on our end, but also limiting your time spent in the administration and management of the project. We strive to keep our costs to a minimum and reduce your time investment, which frees your staff to work on other pressing matters. Our current overhead rate is 151.35%. This lower rate allows us to provide the same amount of consulting hours and high-quality work at a lower cost when compared to other similarly sized engineering firms. This is possible due to our commitment to keeping our employees highly utilized and our costs at a minimum.

We use several practices to help minimize our costs:

- Our staff is well-trained and experienced. We have a balanced staff of engineers and technicians. When appropriate, we utilize senior staff for challenging issues and make use of junior designers or technicians for typical tasks. Our team uses the latest policies, procedures, software and standards and regularly attend training which leads to strong working knowledge and efficient use of time
- We have developed several in-house design programs and computer applications that significantly reduce design hours.
- Video conference calling can be utilized for project meetings to eliminate direct and indirect costs associated with travel time.

We have always had success controlling costs. Many clients have returned to us based solely on that fact. We do repeat services for many smaller clients with tight budgets, where cost controls are an absolute must.

Contract negotiation for professional services should not be a complicated matter. We pride ourselves on the fact that the majority of our cost proposals are agreed upon with little or no negotiations. We have never been removed from a project due to failure to agree upon a reasonable solution.

**Reduce Project Delivery Time** We recommend the use of limited reviews. We have done this successfully on several previous projects. Project development can be streamlined by evaluating how many interim submissions are required. We will work independently, when practical, limit your involvement, expedite schedules, and reduce project costs.