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Header 1

List View

- General Information**
- Contact
- Default Values
- Discount
- Document Information
- Clarification Request

Procurement Folder: 1918355

Procurement Type: Central Contract - Fixed Amt

Vendor ID:

Legal Name: TERRACON CONSULTANTS INC

Alias/DBA:

Total Bid: \$0.00

Response Date:

Response Time:

Responded By User ID:

First Name:

Last Name:

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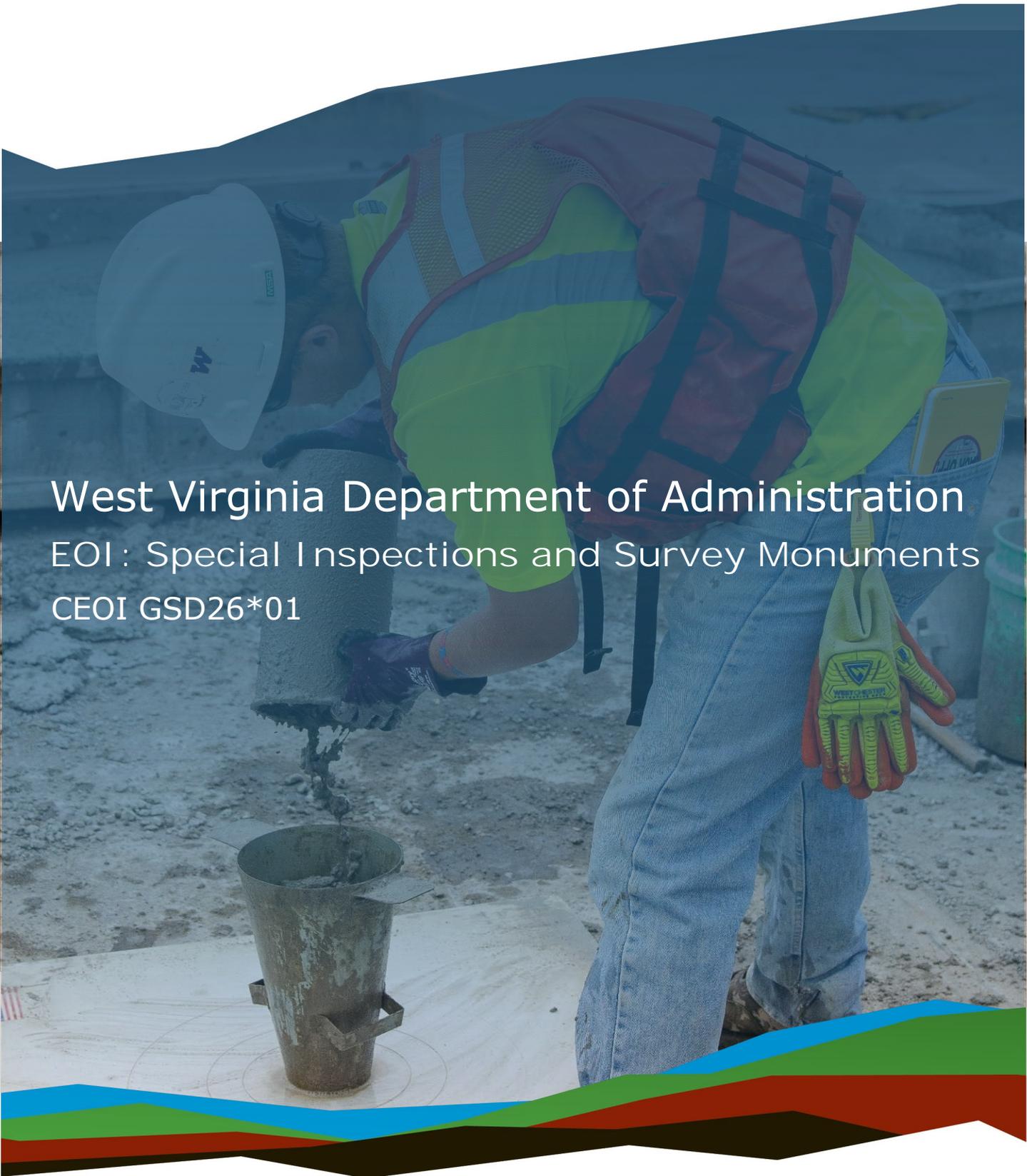
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Agency EOI: Special Inspections and Survey Monuments	0.00000	JOB	0.000000	0.00

Comm Code	Manufacturer	Specification	Model #
81101703			

Commodity Line Comments:

Extended Description:

Per attached specifications



West Virginia Department of Administration
EOI : Special Inspections and Survey Monuments
CEOI GSD26*01

912 Morris Street
Charleston, WV 25301
P (304) 344-0821



+

 **Terracon**

Nationwide
Terracon.com

- Environmental
- Facilities
- Geotechnical
- Materials



912 Morris Street
Charleston, WV 25301
P (304) 344-0821
F (304) 342-4711
Terracon.com

March 18, 2026

West Virginia Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, WV 25305

Attn: Mr. David Pauline
E: david.h.pauline@wv.gov

Re: Special Inspections and
Survey Monuments
West Virginia Capitol Complex

Dear Mr. Pauline:

Terracon Consultants appreciates the opportunity to provide to you for review this Statement of Qualifications in response to your notice soliciting expressions of interest to provide special inspections for various projects, as needed, and to perform installation of survey monuments at various locations on the West Virginia Capitol Complex.

For more than 60 years, Terracon Consultants, Inc. (formerly H.C. Nutting Company) has had the privilege of supporting the State of West Virginia with geotechnical engineering and special inspection services for numerous projects across the Capitol Complex, including Buildings 5, 6, and 7, as well as a wide range of improvement projects over the decades.

Terracon's Charleston office is strategically located just one mile west of the Capitol Complex at the corner of Piedmont Road and Morris Street, enabling rapid response to client needs as they arise. Our approach to Special Inspection services emphasizes assigning highly qualified engineering technicians to perform inspections as required throughout the project. Field and laboratory testing and observation will be completed in accordance with project specifications, applicable industry standards, and our extensive experience on similar assignments. Terracon is confident that our responsiveness, technical expertise, and commitment to quality will deliver a level of service that exceeds expectations.

I am enclosing one (1) hard copy of our Statement of Qualifications, which outlines our capabilities, representative project experience, and the resumes of key professionals who will support this project. Should you have any questions or need additional information, please do not hesitate to contact me. at (304) 344-0821.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in blue ink, appearing to read "John R. Barclay".

John R. Barclay, P.G.
Principal, Operations Manager

1. Company Overview
2. Qualifications
3. Organizational Chart
4. Key Resumes
5. Relevant Project Examples
6. References
7. Attachments

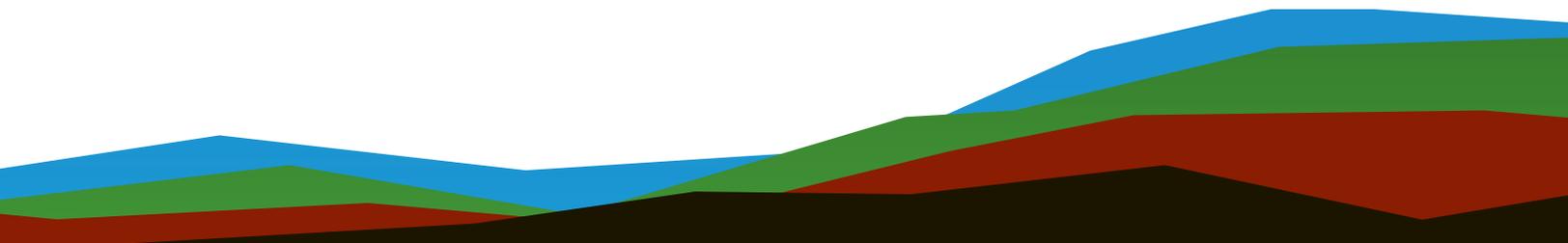
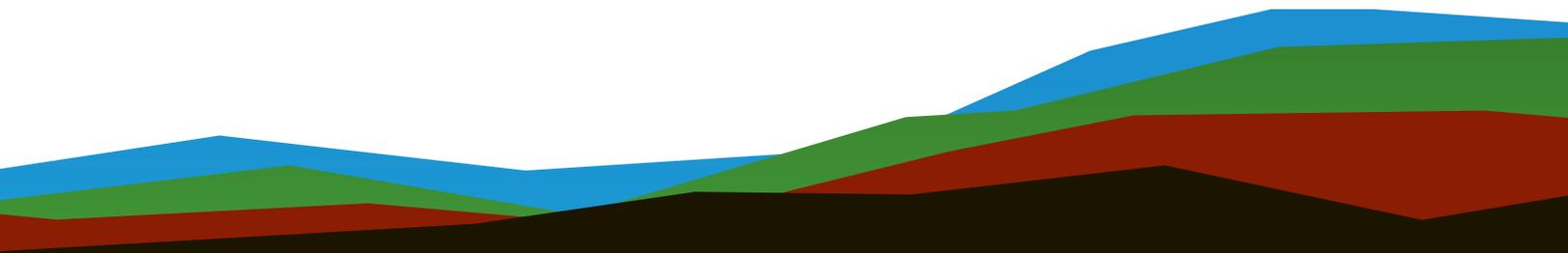


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1. Company Overview

Terracon Overview



PROFILE

Wherever you are on your project journey, Terracon's employee-owners are ready to meet you where you are and help you reach your goal. Since our founding in 1965, Terracon has grown and evolved to become a thriving, employee-owned, multidiscipline engineering consulting firm. Our more than 5,500 curious minds include engineers, scientists, architects, facilities experts, and field professionals focused on solving engineering and technical challenges from more than 175 locations nationwide. On-time and real-time data-driven insights, provided by our talented employee-owners, create an unmatched client experience that spans the lifecycle of any project from earth to sky.

Terracon consistently ranks as a top 25 design firm by *Engineering News-Record*. Our successful growth has included organic expansion and innovation and acquiring more than 60 firms with specialized capabilities. A focused and uncompromising dedication to safety has been integral to how we support our employees, clients, and communities.

Throughout the life of your project, we won't just point the way – we'll go with you. From site selection to the design and construction to maintaining the structure's life, we'll help you achieve success through engineering and scientific expertise, a passion for problem-solving, and a drive to explore.

Terracon will partner with [Chapman Technical Group](#) to deliver comprehensive Survey Monument services, ensuring seamless coordination and execution of all specialty survey components.

ENR Rankings 2023

#1	Asbestos and Lead Abatement
#11	Top 100 Pure Designers
#20	Top 500 Design Firms
#44	Top 150 Global Design Firms
#63	Top 200 Environmental Firms

Terracon Overview

TERRACON SERVICES

Environmental

Negotiating the complexities of environmental issues can be challenging and time-consuming. Terracon relies upon demonstrated experience and knowledge of local conditions and regulations to deliver solutions that are timely, practical, and make good business sense.

- Due Diligence + Transactional Support
- Site Investigation and Closure
- Remedial Design and Implementation
- Brownfields + Site Redevelopment
- Asbestos and Industrial Hygiene Consulting
- Disaster Response
- Environmental Planning and Permitting
- Landscape Architecture, Planning, and Design
- Regulatory Compliance
- Solid Waste Planning and Design

Facilities

Facility owners, managers, and investors face many technical and financial performance challenges when achieving a maximum return on their building investments. Terracon is a valuable partner to restore, enhance, and increase your building performance, reducing potential risks and liabilities. Terracon's licensed architects and engineers provide the following Facilities services:

- Building Enclosure Consulting and Testing
- Building Enclosure Commissioning
- Structural Consulting
- Mechanical, Electrical, Plumbing (MEP)/
Energy Consulting, Commissioning/
Retro-Commissioning
- Facilities Asset Management Consulting
- Construction Management
- Construction Risk
- ADA and Accessibility Consulting

Terracon Overview

Geotechnical

Designing and constructing reliable foundations and infrastructure requires a thorough understanding of soil, rock, and groundwater conditions. Through Terracon's nationwide network of geotechnical professionals, access to historical subsurface exploration data from thousands of locations across the country, and GIS-enabled geology mapping, we can accurately anticipate ground conditions and develop the right work plan to explore a site. Our innovative technologies and collaborative approach allow us to provide practical design recommendations.

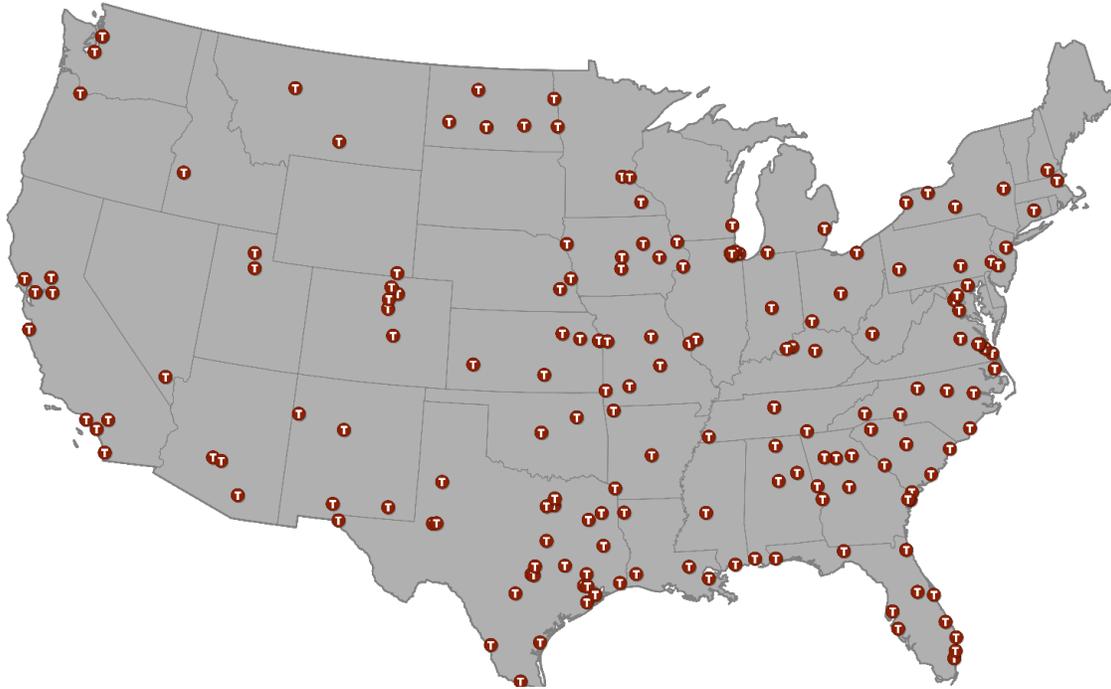
- Stage1 Site Considerations
- Site Characterization (Subsurface Exploration, In-Situ Testing, and Geophysics)
- Geotechnical Engineering and Rock Mechanics
- Laboratory Testing
- Geostructural Design and Instrumentation
- Pavement Management
- Collaborative Reporting/Decision Making
- Engineering Consultation During Construction

Materials

Proper selection, quality, workmanship, and performance of construction materials are vital in ensuring that today's buildings and infrastructure perform adequately over long periods. We work with clients to minimize material replacements, reduce the likelihood of deterioration, avoid potential failures, and investigate and evaluate construction materials-related problems and failures when they do occur.

- Construction Quality Assurance/
Quality Control
- Construction/Special Inspection
- Materials Engineering
- Field and Laboratory Testing and Analysis
- Construction Observation and Monitoring
- Pavement Consulting and Engineering
- Structural Steel and Nondestructive
Testing

Terracon Overview



Locations

Alabama

Birmingham
Huntsville
Mobile

Arizona

Avondale
Phoenix
Phoenix-EPG
Tucson

Arkansas

Little Rock
Rogers

California

Colton
Concord
East Bay
Lodi
Los Angeles
Monterey - Burlison
Orange County
Palm Desert
Sacramento
San Diego
Sonoma County -
Norcal Geophysical
Consultants

Colorado

Colorado Springs
Denver
Fort Collins
Fort Collins EXPL SVCS
Greeley
Longmont

Connecticut

Hartford

District of Columbia

Washington, D.C.

Florida

Brevard
Fort Lauderdale
Jacksonville
Miami
Pensacola
Port St. Lucie
Sarasota
Tallahassee
Tampa
West Palm Beach-DET
Winter Park

Georgia

Athens
Atlanta
Atlanta North
Columbus-GEC
LaGrange-GEC
Macon-GEC
Savannah

Idaho

Boise

Illinois

Chicago
Chicago-FAC
Downers Grove -SMA
Glendale Heights
Hartford-SMA

Indiana

Indianapolis

Iowa

Ames
Bettendorf
Cedar Falls
Cedar Rapids
Des Moines
Sioux City

Kansas

Garden City
Lenexa
Manhattan
Olathe-Corporate
Topeka
Wichita

Kentucky

Lexington
Louisville
Louisville EXPL SVCS

Louisiana

Baton Rouge
Lake Charles
New Orleans
Shreveport

Maryland

Baltimore Metro

Michigan

Detroit
Niles

Minnesota

Minneapolis
Rochester
St. Paul

Mississippi

Biloxi
Jackson

Missouri

Columbia
Joplin
Lee's Summit
Rolla
Springfield
St. Louis

Montana

Billings
Great Falls

Nebraska

Lincoln
Omaha

Nevada

Las Vegas
Las Vegas-EPG

New Hampshire

Manchester

New Jersey

New Jersey North
Philadelphia East

New Mexico

Albuquerque
Carlsbad
Gallup
Las Cruces

New York

Albany-Dente
Buffalo
Ithaca
Rochester-~~MAVAX~~
Cirde

North Carolina

Asheville
Charlotte
Elizabeth City
Greensboro
Greenville
Raleigh
Wilmington

North Dakota

Bismarck
Dickinson
Fargo
Grand Forks
Jamestown
Minot

Ohio

Cincinnati
Cleveland
Columbus

Oklahoma

Oklahoma City
Tulsa

Oregon

Portland

Pennsylvania

Harrisburg-S&L
Philadelphia West
Pittsburgh-S&L

South Carolina

Bluffton
Charleston
Columbia
Greenville/Spartanburg
Myrtle Beach

Tennessee

Chattanooga
Memphis
Nashville

Texas

Austin
Austin-FAC
Beaumont
College Station
Conroe
Corpus Christi
DFW Metro
El Paso
Fort Worth
Freeport
Frisco
Houston
Houston N. Loop
Laredo
League City
Longview
Lubbock
Lufkin
Midland
Midland-Sport
Pharr
Round Rock
San Antonio
Texarkana
Tyler
Waco

Utah

Ogden
Salt Lake City
Salt Lake City-EPG

Virginia

DC Metro South
DC Metro West
Newport News-TAM
Richmond-TAM
Virginia Beach-GET
Williamsburg-GET
Williamsburg-TAM

Washington

Seattle
Seattle-Lynnwood
Tacoma

West Virginia

Charleston

Wisconsin

Milwaukee

Wyoming

Cheyenne

Terracon Overview

Safety

Safety is one of Terracon's core values and our commitment to an "Incident and Injury-Free (IIF)" philosophy is one of the pillars of our culture. Successful execution and delivery include the need to work safely and keep our employees and the public safe **every** day. Terracon is very much a safety-oriented company. We strive to build health and safety into all aspects of our business and the thinking of our employees. The culture is continued further in our everyday work culture, with all meetings beginning with an IIF moment and safety discussion.

What is Incident and Injury-Free (IIF)?

IIF is about care and concern for people. It is our personal and organizational commitment at all levels of the company to everyone going home safe to their family **every** day. It is where safety is held as a core value as well as an operational priority. Working safely is an inseparable part of working correctly, just as much as other operational priorities, in particular quality, budget, and schedule. IIF is our commitment to our people, whom we value for who they are and what they do.

Conducting our work safely means conducting our work in the only acceptable way. Incidents, injuries, and accidents will not be viewed as problems to make go away, but as opportunities to strengthen IIF. IIF is about developing a mindset intolerant of any incidents or injuries no matter how minor or infrequent.

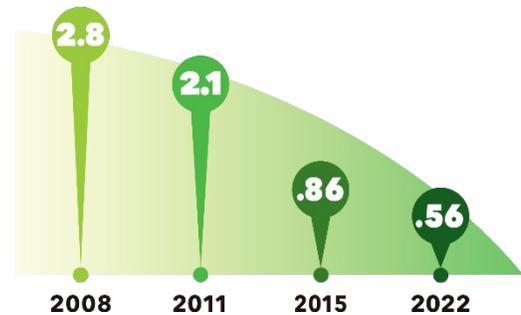
Our Rules to Live By

IIF is built upon *Our Rules to Live By*, the foundation of Terracon's IIF culture. These give employees clear, specific ways to stay safe on the job, covering essential aspects of safety including personal protective equipment (PPE), equipment and tools, working at heights and depths, motorized vehicle safety, and reporting of injuries. We regularly follow and discuss *Our Rules to Live By* in our offices and on job sites to ensure everyone is following these fundamental rules. Our focus on pre-task planning also serves to reinforce this message **every** day.

We cannot just tell someone to "be safe." We can request that our employees follow *Our Rules to Live By*. These rules include pre-task planning for each task **every** day, as well as following the safe work practices they have been trained to follow to complete work at a task level. *Our Rules to Live By* have made a measurable difference in keeping our employees safe and in helping us preserve the trust and business with our clients.

Terracon's safety program incorporates the IIF™ Incident and Injury-Free™ approach to safety trademarked and provided by JMJ Associates.

TRIR



Terracon's Total Recordable Incident Rate (TRIR)* has decreased more than 80 percent in our safety journey. This is accompanying an increase of 2,000 employees, demonstrating Terracon's unwavering commitment to build safety and wellbeing into all aspects of our business. Our clients can be assured Terracon employees have a high level of safety awareness extending to every single project and job-site so it is safe for your staff, property owners, innocent bystanders, and our staff.

***Terracon uses the standard TRIR calculation of number of OSHA-recordable incidents x 200,000 divided by total employee hours worked.**

Terracon Overview

Why Terracon?

Saving our clients time and money through tailored services that meet their objectives: It's a commitment we've put into practice since our inception more than 55 years ago. Our clients rely on our expertise to meet objectives through the following key principles:

Responsive. Acting quickly to meet your deadlines, our employee-owners are always available to you. With convenient locations across the country, we're able to continually support and adapt to our client's fluctuating needs.

Resourceful. Applying new processes, methodologies, and techniques allows us to take a proactive approach to overcome project challenges and deliver your projects better and faster. With our nationwide network of offices, we can initiate services easily on one or multiple projects simultaneously.

Reliable. With vast experience working in local conditions, Terracon is a dependable partner throughout the life of your project. We deliver practical solutions while avoiding delays, surprises, and costly mistakes down the road.

COMPANY OVERVIEW



Established in 1984, Chapman Technical Group has steadily grown into a diverse firm of professionals, many of whom were educated in West Virginia colleges and universities. We have achieved an outstanding reputation for developing high-quality projects, while meeting schedules and budgets.

In 2013, Chapman Technical Group was acquired by the Lexington, Kentucky based A/E firm of GRW, allowing us to provide a wider range of services while expanding our resources. Now, in addition to our offices in St. Albans and Buckhannon, West Virginia, as part of the GRW family, we also work in Kentucky, Ohio, Tennessee, and Indiana.

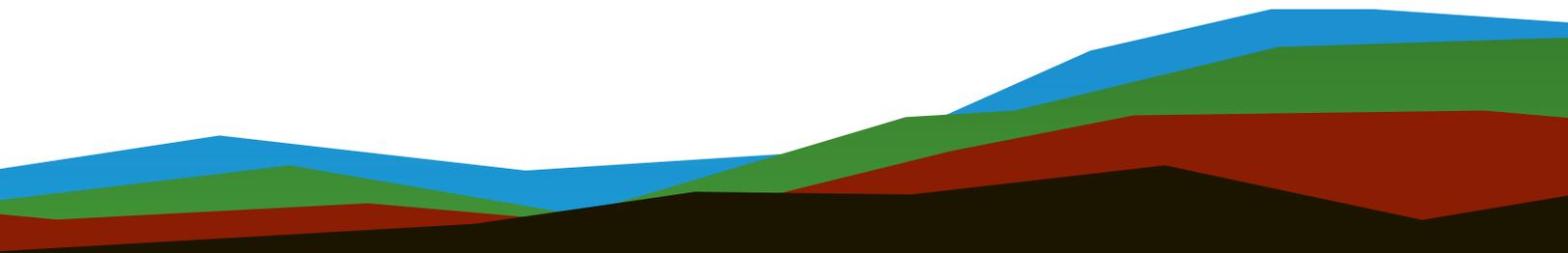
Our architectural group not only designs new buildings from the ground up, but also specializes in renovations and historic restoration projects.

Our award-winning landscape architects provide master planning, as well as detailed site design for parks and public spaces projects.

In addition to our building studio, our engineering support staff gives us the ability to meet almost any challenge a project may present. All of our mechanical, electrical, plumbing engineering is provided in-house, and our civil engineers work with our landscape architects to provide site designs that are functional while achieving a high level of aesthetics.

Water and sewer system design is accomplished by our environmental engineers, and when on-site wastewater treatment is required, we can do it.

Working with our airport group, we can provide full airport design services, from runway and lighting design, to hangars and terminal buildings.



2. Qualifications

Methods and Approach

Terracon's Construction Materials Testing and Special Inspections services combine specialized technical expertise with local jurisdictional knowledge and relationships. This ensures proper fabrication, installation, and placement of structural components and other construction materials requiring inspection under the International Building Code (IBC) Section 1704. Our construction inspectors work closely with you, your designer, local building official, contractors, engineer of record, and other stakeholders to facilitate communication, review specifications to identify any aspects, not in compliance with project requirements, and solve problems – or prevent them – to keep the project on budget and schedule.

Our expertise includes all types of work for construction where special inspections are required by IBC Section 1704.

Terracon's local accredited laboratory is fully equipped with construction materials testing equipment and operates under our Corporate Construction Materials Laboratory Quality System Manual (QSM). Our Quality Management System was established using ASTM E329 - Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction and AASHTO R18 - Establishing and Implementing a Quality System for Construction Materials Testing Laboratories as the primary guides. Other guides include:

- ASTM D3740 – Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
- ASTM C1077 – Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
- ASTM D3666 – Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Bituminous

Terracon's QSM and laboratory procedures have been audited by independent outside agencies. Our laboratories have obtained AASHTO accreditation for concrete and aggregate testing through inspection by the Cement and Concrete Reference Laboratory (CCRL) and for soils and asphalt through AASHTO resource (formerly AMRL).

On-Site Laboratory Capability

Due to the magnitude and complexity of this project, we propose to set up one of our on-site certified laboratories equipped with soil and concrete testing equipment. Our on-site lab will enable us to be more responsive and cost-effective with travel and testing services. We will also be able to utilize this for office/administrative space so that on-site technicians can compile data and issue reports from the field.

Building For the Future

The employee-owners of Terracon are committed to doing their part to protect and prolong the earth's limited resources. Sustainability is an integral part of our corporate culture. We have a long track record of providing services with consideration for their long-term effects, such as supporting the redevelopment of impacted properties and developing soil management strategies that reduce the environmental disturbances of planned site development activities. We design, build, and maintain projects that withstand the test of time - saving time and money as well as lives and habitats. Leading an industry based on the safety and well-being of all stakeholders, we understand that this must be done sustainably to ensure a sound future for all.

Materials Overview

"Terracon has delivered their services with a high degree of competency and professionalism. They consistently satisfy both time and budget constraints, and I find them to be very responsive to the needs of their clients. Based on my experience with Terracon, I would recommend them to both public and private sector clients seeking quality assurance inspections, construction materials testing and geotechnical services."

*- Jeffrey Fetzko, Senior Supervising Construction Engineer
Parsons Brinckerhoff*

Materials Services

As an owner, contractor, or engineer, your building or infrastructure projects' performance, durability, and safety are non-negotiable. Proper selection, quality, and workmanship of the building materials are essential to achieve these goals – and so is a trusted, reliable partner to provide materials consulting, testing, and inspection throughout design and construction.

Working with Terracon gives you access to the largest network of materials testing laboratories in the country and construction materials experts coast-to-coast who will work with you to minimize material replacements, reduce the likelihood of deterioration, avoid potential failures, and investigate and evaluate materials-related problems and failures when they do occur so you can move forward quickly and confidently with solutions.



Why Terracon?

Our local knowledge and resources, combined with the technical support available from our national network of offices, means Terracon will respond quickly to your construction needs and schedules no matter how often they change. We deliver innovative solutions and alternatives that target your long-term performance objectives while considering cost consequences. Terracon's proprietary data management system generates real-time test results of critical information, informing you of all test results and moving your project forward.

Our materials testing services include:

- Construction Quality Assurance/Quality Control
- Laboratory Testing Services
- Materials Engineering
- Structural Steel and Nondestructive Testing
- Special Inspection Services
 - Fabrication
 - Structural steel
 - Concrete
 - Masonry
 - Soils
 - Wood construction
 - Pile and pier foundations
 - Sprayed fire-resistive materials
 - Fire-resistant penetrations and joints
 - Exterior Insulation and Finish System (EIFS)
 - Mastic and intumescent fire-resistant coatings
 - Other specialty items/requirements

Why work with us?

Benefits of Terracon's Materials Services include:

- 24-hour report turnaround for non-conformance items and failing tests
- Custom report delivery that can be shared with multiple entities
- Real-time reporting that keeps you and your project team informed, saving you time and money

Construction Quality Assurance/Quality Control

Quality assurance/quality control (QA/QC) consulting reduces uncertainty, maximizes quality, and confirms plans and specifications requirements throughout your project. Testing and QA/QC fees represent a small fraction of total construction expense but offer great value, reducing project costs by preserving schedule and identifying materials or construction defects early to quickly resolve them. Choosing Terracon QA/QC professionals as your dedicated owner's representative helps you mitigate risks and prevents issues down the road – giving you peace of mind now and in the future.



Our multidiscipline QA/QC capabilities give you unparalleled access to our materials, geotechnical, environmental, and facilities resources to address various issues immediately. Our responsiveness extends to our reporting: we turn around deviation reports within 24 hours, so you have the information you need to make decisions quickly, and construction remains on schedule.

Identifying materials or construction defects early preserves your project schedule and reduces cost.

Our on-site monitoring and testing are complemented by a national network of accredited materials testing laboratories, with subject matter experts who can consult on a range of specialty materials. We also provide QA/QC services at the fabrication shop before materials ship to the site, saving significant cost and time as issues are identified before leaving the shop.

Our QA/QC services encompass:

- QA/QC plans and specifications preparation and/or review
- QA/QC construction monitoring and testing
- Statistical evaluation and verification of construction materials and testing processes
- Third-party review of testing processes and results
- Sample identification, protection, chain-of-custody, storage, and disposition
- Data recording, identification, security, checking, routing, filing, and disposition
- Contractor work activities field documentation
- Construction materials submittal review

“Terracon has consistently been an outstanding performer, and their highly experienced staff has a keen understanding of the design and construction process and the goals and objectives of the lead designer, contractor, and owner.”

*Jim Klemz
Parsons Transportation Group*

Materials Special Inspections

Special inspections are necessary to complete your construction project and provide a safe structure for the public. Although interpretation and enforcement of International Building Code (IBC) requirements can vary dramatically from one municipality to another, creating potential pitfalls in making sure that your structure meets safety and quality expectations.

Terracon's Special Inspection services combine specialized technical expertise with local jurisdictional knowledge and relationships to ensure the proper fabrication, installation, and placement of structural components and other construction materials that require inspection under the IBC Section 1704.

Our construction inspectors work closely with the owner, designer, local building officials, contractors, engineer of record, and other stakeholders to facilitate communication, review specifications to identify any aspects that are not in compliance with local code requirements, and solve or even prevent problems, so your project stays on budget and schedule.

What Sets Us Apart?

We work with your design team throughout the entire design process, providing feedback for the statement and schedule of special inspections and interpreting local code requirements to avoid costly changes during construction. During the construction phase, you benefit from our ability to communicate with the designer to understand expectations and evaluate the drawings to be sure your project meets jurisdictional requirements.

- Our approach encompasses everything you need for a successful testing and inspection program:
- Well-defined scope for testing & inspection (T&I) to minimize costly change orders
- T&I plan for distribution to parties involved, keeping everyone informed
- Terracon certifies T&I personnel and ability to staff for required workload
- Consistent and constant communication between all parties, including:
 - Preconstruction T&I meeting
 - Additional milestone meetings before the start of key construction phases
 - Understand local building code requirements and invite local officials to meetings as requested

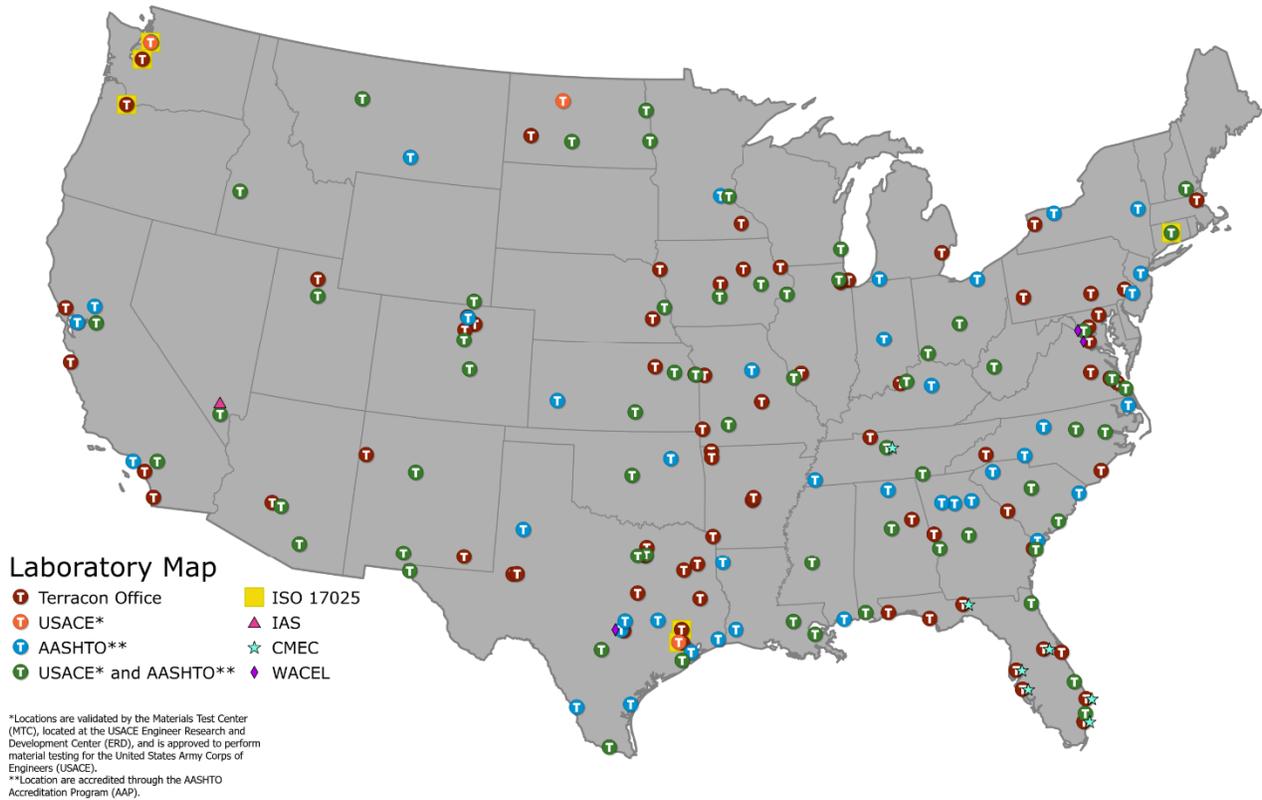
Our expertise includes all types of work for construction where special inspections are required by IBC 2009 Section 1704:

- Special Inspection Services
 - Fabrication
 - Structural steel
 - Concrete
 - Masonry
 - Soils
 - Wood construction
 - Pile and pier foundations
 - Sprayed fire-resistive materials
 - Fire-resistant penetrations and joints
 - Exterior Insulation and Finish System (EIFS)
 - Mastic and intumescent fire-resistant coatings
 - Other specialty items/requirements



Terracon provides its special inspection services to both public- and private-sector clients.

Materials Laboratory Testing and Analysis



Meeting your needs is our priority. Terracon delivers a unique combination of laboratory testing experience, capabilities, and resources to each laboratory and analysis materials testing project locally, regionally, and nationally.

Delivering Consulting Solutions

From the soil you plan to build on to the structural steel coming to the job site, the masonry used to build the walls, and the asphalt being placed on roadways and parking lots, Terracon delivers quality construction materials testing for these. What makes Terracon unique? Our technical professionals go beyond uncovering materials problems, partnering with you to offer solutions that meet project specifications and work within budget and time constraints.

Working Safely

Safety is one of Terracon’s core values. We strive to build safety and well-being into all aspects of our business and are committed to everyone going home safely to their family daily. Our materials testing professionals keep safety in mind when conducting evaluation and analysis.

Materials Laboratory Testing and Analysis

Terracon maintains one of the nation's largest networks of accredited and validated laboratories. This allows us to process large volumes of test specimens quickly, reducing risk of delays to your critical project schedule. And, with a local presence, we have in-depth experience with the materials and specifications of numerous local, state, and federal agencies.

Soil Testing

Laboratory tests are performed to define soil properties and identify those soils that do not conform to project specifications. For moisture content, strength, and stability, the early identification of issues helps avoid future problems for our clients and allows for correcting problems both before and during construction. Tests include laboratory compaction characteristics of soil, plasticity index, gradation, organic content, classification, swell pressure, unconfined compressive strength, and corrosion index testing.

Advanced Soils Testing

In addition to routine index property testing, Terracon laboratories are also equipped to perform the following specialized soil tests:

- Shear Testing
- Consolidation
- Swell
- Hydraulic Conductivity
- Thermal Resistivity

Concrete and Masonry

New criteria for concrete and masonry construction are evolving continually. Terracon routinely performs design mixes for concrete, mortar, and grout to satisfy the project specifications. Compression and flexural tests are typically performed on hardened concrete cylinders and beams, mortar and grout cubes, and masonry units. Petrographic analysis, drying shrinkage of Portland cement concrete mixes, chloride ion content, rapid chloride ion permeability, freeze-thaw durability, and efflorescence tests can also be performed.

Concrete mix design is the process by which concrete performance properties and mixture proportions are established. Terracon laboratories are experienced at finding the right combination of cementitious materials and aggregates to meet today's rigorous specifications and yield a workable, economic mix to meet your project needs. With Terracon's nationwide network of laboratories, our experienced professionals have a vast knowledge of regional standards, materials, and aggregate sources.



Terracon's laboratories conduct a wide variety of quality construction materials testing.

Materials Laboratory Testing and Analysis

Asphalt

Modern construction practices involving asphalt require consideration of such factors as durability, adaptability to fast-track construction, and proper performance under specialized applications. Asphalt concrete mixes can be designed using local materials that best-fit roadway and airport needs. The optimum mix design is determined through Superpave, Marshall, or Hveem test methods and laboratory testing of aggregate properties, extraction, and gradation.

The evaluation of in-place materials is fundamental to decisions regarding the necessity to replace or repair pavement layers. Core samples can be taken to determine the thickness and density of the asphalt concrete and base course materials and to evaluate subgrade properties. Nondestructive nuclear density gauge tests can be performed rapidly for statistical analysis at numerous locations. Recommendations regarding the need for under-drainage or subgrade improvement can be developed. Areas that require patching before placing overlays, and the potential for recycling the in-place pavement system into a new pavement system can also be studied.

With Terracon's nationwide network of laboratories, our experienced professionals perform designs for various projects meeting the Federal Highway Administration, U.S. Army Corps of Engineers, Federal Aviation Administration, and State Departments of Transportation requirements.

Our laboratories are equipped to perform hot mix asphalt designs in accordance with Asphalt Institute (AI) procedures. We offer designs performed by Superpave, Marshall, and Hveem methods. Designs may utilize conventional binders, performance-graded binders, polymers, and recycled materials: recycled asphalt pavement (RAP) and recycled asphalt shingles (RAS). Our QMS meets the intent of various AASHTO Accreditation Program (AAP) and ASTM subfield-specific Standard Practices including ASTM D3666, Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials; ASTM E329, Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; AASHTO R18, Standard Practice for Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories.



Terracon laboratories are staffed with approximately 250 full-time, dedicated, certified laboratory managers and technicians supported by numerous professional engineers who specialize in hot mix asphalt designs and testing.

Materials Laboratory Testing and Analysis

Aggregates

Aggregate quality is established and monitored by performing various laboratory tests such as gradation analysis, specific gravity, absorption, soundness, freeze-thaw, abrasion, deleterious substances, and acid solubility.

The construction industry requires durable aggregates for many construction building applications, which must meet strict quality testing standards and criteria. Terracon has a nationwide network of laboratories that specialize in determining the durability of aggregates for these applications. Our full range of independent concrete and aggregate testing services can help ensure both the quality of your aggregate and the long-term performance of your project. A few applications may include the following:

- Portland cement concrete structures (buildings, bridges, pavement, lightweight aggregate applications, art/decorative/sound barriers, and many other
 - hardscape applications)
- Pavement construction (aggregate road base,
 - hot mix asphalt)
- Sports athletic structures (running track and athletic field synthetic turf substrate and drains)
- Earthwork and foundations (structural embankments, dam applications, and rammed aggregate piers)
- Masonry construction (mortar, grout, CMU, and modular blocks)



Strict regulations, specifications, and quality standards exist for aggregates used in concrete. Terracon specializes in advanced aggregate testing to make sure your products adhere to the required guidelines.

Rock Mechanics Testing

Laboratory rock mechanics testing is where science intersects with quality, safety, and performance. At Terracon, our full-time and dedicated laboratory professionals combine expertise, sophisticated testing equipment, and a rigorous quality management system to deliver accurate, precise, timely results – and the confidence that comes with them.

Our laboratories are equipped to perform various tests while following strict internal guidelines to deliver the most thorough and reliable data possible. We continually apply new technologies to improve and expedite our services to solve your project challenges in a timely, reliable, and cost-effective manner. Our laboratories have state-of-the-art test equipment that provides triaxial and direct shear strength, tensile strength, petrographic, and other rock mechanics test data to meet testing needs for even the most complex structures.



Terracon laboratories are equipped with state-of-the-art test equipment capable of providing triaxial and direct shear strength, tensile strength, petrographic, and other rock mechanics test data to meet testing needs for even the most complex structures.

Corrosivity Testing

Materials Laboratory Testing and Analysis

Terracon's chemistry lab staff have extensive knowledge in Water Soluble Chemical Testing and Acid Soluble Chemical Testing, including combined and suite testing. We routinely perform tests on samples from various regions around the country. These tests include pH analysis, water-soluble sulfates, total salts, chlorides, resistivity, and Red-Ox. Terracon is equipped to perform the following tests:

- Soil Chemistry – sodium, sulfate, solubility, chloride, gypsum, pH, resistivity analysis – ASTM/AASHTO (miller box), DOT corrosion analysis
- Concrete – potential reactivity, chloride, and cement content
- Soil Fertility Tests – agronomy reports

Petrographic Analysis

Petrographic examination can determine properties of minerals, including expansion potential and dissolvable characteristics that can lead to acid mine drainage and abrasive qualities likely to result in excessive bit wear. Examination methods may include stereomicroscopy, polarized light microscopy, reflected light microscopy, and thin-section examination. These may be augmented by X-ray diffraction and fluorescence methods.

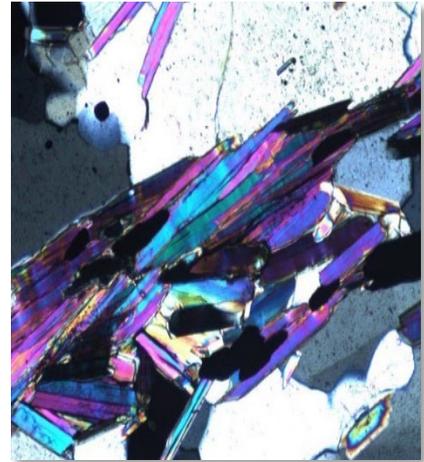
- ASTM C295 – Standard Guide for Petrographic Examination of Aggregates for Concrete
- ASTM C457 – Standard Test Method for Microscopic Determination of Parameters of the Air-Void System in Hardened Concrete
- ASTM C856 – Standard Practice for Petrographic Examination of Hardened Concrete

Specialized Laboratory Testing

Terracon's Laboratory Services Group possesses in-depth knowledge and experience evaluating additional construction materials for specialty applications, including metals, spray-applied fire-resistive materials (SFRM), soil, rock aggregate chemical testing, and load and tensile testing properties of materials used in construction.

Our unique and versatile approach to laboratory testing allows us to tailor a specific laboratory testing program to suit your needs and project requirements.

Having the ability to know what is happening on your project site in real-time means you and your project team are always well-informed. Portals and platforms display information on a visually intuitive and interactive dashboard, allowing project stakeholders to view data almost instantaneously. This insight into the project throughout each day makes it easier than ever to resolve issues on the spot instead of waiting for the report to be delivered at the end of the project or after the field team has left the site. With data at your fingertips, real-time delivery gives you access to information from anywhere to make decisions faster, ultimately saving you time and money.

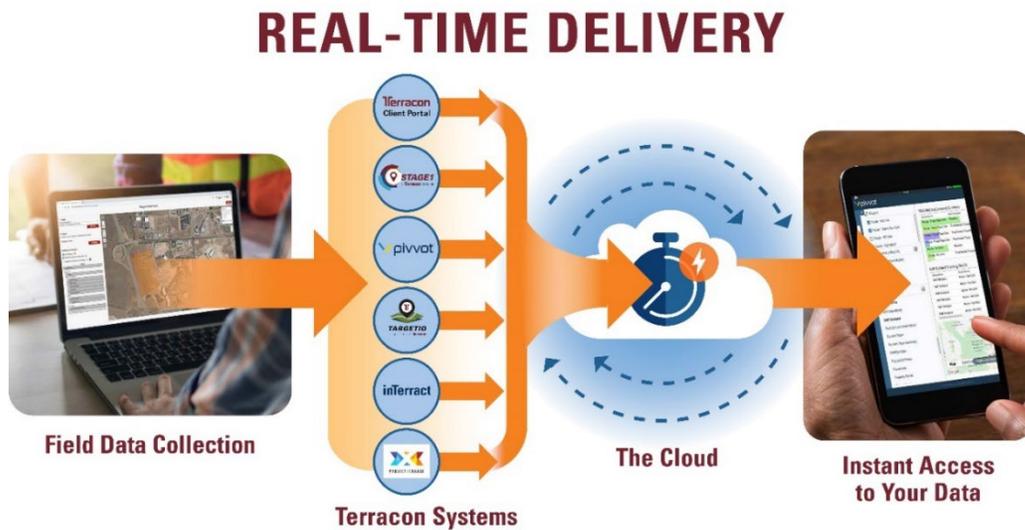


Petrographic examination can be used in conjunction with other laboratory tests to evaluate rock weathering and drilling/ripping behavior. Petrographic analysis provides reassurance and confirmation materials meet specific requirements.

Additionally, this analysis provides confidence in knowing materials will perform as expected while reducing project delays and future costly repairs.

Real-Time Delivery

Real-time delivery keeps your data alive. We can send and receive data through mobile devices and sensors embedded in everyday objects. These platforms take information from what used to be a verbal conversation, and a field report sent days after the data was collected to immediate access to crucial information, including test status, progress, and outcomes from anywhere and at any time.



We have worked to seamlessly integrate real-time delivery into our systems and platforms to help streamline your projects. When information is integrated into a Terracon internal system, the information populates throughout each system and maximizes the power and accessibility of your data for brilliant, timely decision-making. We customize your client portal based on priorities, risk management needs, and project scope. Before your portal is activated, we assemble a client kick-off meeting to engage with your team and conduct training on how they can use the portal to access and filter data, retrieve or share reports and other information, and collaborate with our team in real time. We provide access to whoever can retrieve the data in the different formats needed.

Real-time delivery also enhances project quality control and efficiency. Our innovative and proprietary tools allow you to see if an area is or is not ready for construction and expose any outstanding deviations. Real-time delivery uses data to help decrease the number of design changes needed and enable more of a collaborative decision-making approach. Hence, you make informed decisions earlier in the site development process, which leads to significant savings over the project's lifespan.

Delivering sustainable and safe infrastructure is essential to economic growth and stability and a priority for your bottom line. Whether it is a design/build project, construction engineering inspection work, or inspector staff augmentation, Terracon's transportation construction inspection services will be delivered on time and bring the strong value you need.

Materials Quality Management Program

Terracon's Quality Program Overview

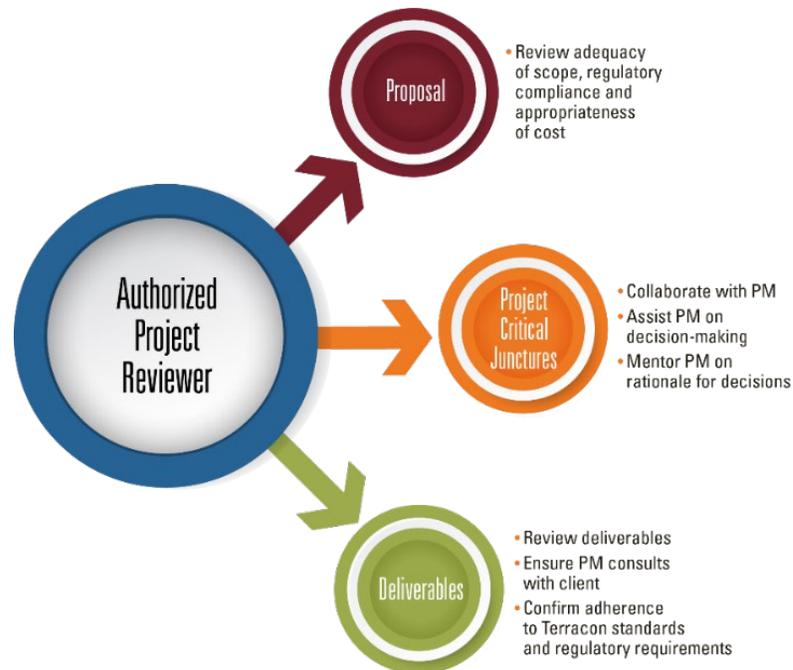
With tens of thousands of projects each year of all sizes, large and small, Terracon offers clients various services, requiring us to have processes in place and roles and responsibilities assigned to provide a high level of service and quality for each project.

Terracon projects are staffed by well-qualified professionals performing a variety of required tasks. Each person is responsible for understanding the essential project goals and client needs. Through training, evaluation, and external certifications and licensing, as appropriate, our staff demonstrates they are qualified and adequately experienced to perform assigned tasks consistent with applicable standards, regulations, policies, and procedures.

In addition to individual responsibilities, collaborative project review is a crucial component of Terracon's quality program. The level and extent of review depend on the deliverable or task. Field and laboratory data, calculations, opinions, recommendations, and conclusions are reviewed by a second set of eyes for quality control. Laboratory processes are also subject to internal quality systems to ensure data accuracy, as noted in Terracon's Quality Management System (QMS).

Project managers, Authorized Project Reviewers (APRs), and the necessary project management and technical expertise collaborate to achieve quality objectives at critical project junctures. Depending on size and complexity, some projects may be subject to additional oversight and expert review. Project execution is confirmed through the project manager's and APR's signatures on project deliverables.

Instead of relying solely on post-review discoveries in a reactive mode, the project manager and APR collaborate throughout the project to make proactive decisions together.



Materials Quality Management Program

Materials Projects Quality Program Management



Each Terracon office providing materials services is required to establish, implement, and maintain a quality system in its operation. The QMS Manual for Materials provides in-depth and standard procedures, forms, and documentation as well as filing guidance and processes. Our quality system meets the requirements of the American Society of Testing and Materials (ASTM) and the AASHTO Accreditation Program (AAP).

- Successful implementation of the QMS system means the following measurable objectives are being met:
- Implement and maintain a viable calibration and/or standardization system for pertinent laboratory and field equipment, traceable to National Institute of Standards and Technology (NIST) standards. Equipment calibrations, standardizations, checks, and maintenance will be completed with corresponding documentation within 30 days of the due date.* (*Note: Calibration of equipment on projects following the Quality Assurance for Nuclear Facilities Requirements (NQA-1) must be completed by the due date as there is no allowance to exceed the stated frequencies)
- Ensure test results are accurate and reproducible independent of the laboratory or field technician performing them. Terracon's operations will participate in applicable proficiency sample programs for each material group and/or test performed in-house. Operations will respond to any proficiency rating over two standard deviations from the mean with appropriate corrective action(s) within 60 days of the final report.
- Implement and maintain a training/evaluation program that allows employees to become and remain proficient in test procedures, equipment operation, and other specific job-related duties. Terracon personnel will receive initial training and evaluation of competency internally. No employee will be allowed to perform a specific test without direct supervision until competency has been confirmed and documented in Terracon University.
- Ensure Terracon's operations comply with the policies, procedures, and requirements of the QMS. Each Terracon operation will participate in applicable audits at the required frequency. All audit nonconformance items will have appropriate Corrective Action Response(s) (CAR's) completed within 60 days of the final audit report date.

Materials Quality Management Program

Project Quality Manual (PQM)

Terracon's PQM details the specific project quality responsibilities established as part of Terracon's Quality Program. The manual focuses on the following six major components:

1. Personnel Roles and Responsibilities
2. Project Types
3. Project Quality Processes
4. Appointment and Review of APRs at Varying Levels
5. APR Continuing Education
6. Operations and Project Review Program Compliance

The information contained in the manual assists Terracon's offices in easily implementing and maintaining our quality system and creating a high level of consistency in our materials operation across the company.

Implementation

Every materials project is assigned a senior qualified professional who oversees the execution of the work and reviews all deliverables. This senior professional manages the technical operations of the laboratory as well as quality control and personnel records documenting qualifications, training, competency, and laboratory and field-testing equipment calibration efforts.

For our laboratory testing, data is reviewed by qualified professionals. Our laboratories are audited regularly for conformance to our relevant scope of accreditation and validation. All personnel who perform laboratory and field sampling and testing have current, relevant training and certifications to perform the work safely and correctly.

Laboratory Certifications

Terracon's laboratories operate under our Corporate Construction Materials Laboratory Quality Management System (QMS). Our QMS was established using AASHTO R18 – Standard Recommended Practice for Establishing and Implementing a Quality System for Construction Materials Testing Laboratories as the primary guide.

In addition, the following standards were used as well:

- ASTM E329 – Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
- ASTM D3740 – Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and rock as used in Engineering Design and Construction
- ASTM C1077 – Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
- ASTM D3666 – Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials

Materials Quality Management Program

Technician Certifications

Terracon encourages our materials personnel to obtain relevant certifications from recognized industry organizations, which include:

- National Institute for Certification in Engineering Technologies (NICET)
- International Code Council (ICC)
- American Concrete Institute (ACI)
- American Welding Society (AWS)
- American Society for Nondestructive Testing (ASNT)
- State and local agencies

Terracon currently owns, operates, and maintains more than 140 Construction Materials Laboratories, serving all 50 states.

NICET and ACI certification help document Engineering Technician knowledge and training using the current version of ASTM and AAP/AASHTO testing procedures. ICC and AWS certification programs help document inspector knowledge and capabilities for the ICC and the AWS welding code. NDE internal certification helps to document knowledge and training in nondestructive testing for structural steel and other metals.

Sampling Procedures

For samples about materials, Terracon uses our proprietary in-house database program, Construction Materials Engineering and Laboratory Management System (CMELMS), to manage and track field and laboratory reports, material samples, and test results.

Equipment Calibration

Test-performing equipment requires periodic maintenance; most require calibration, verification, or checking at regular intervals. The laboratory manager is typically responsible for overseeing equipment calibration, but the responsibility may be delegated. Each Terracon office must maintain its equipment inventory in the Terracon Inventory Control and Calibration System (TICCS), an electronic database. TICCS provides a centralized equipment inventory, calibration, and maintenance tracking system for field and laboratory testing equipment.

Each piece of equipment to be calibrated has a unique identification number assigned in TICCS. An electronic record identifies the piece of equipment, the individual who performed the calibration, the standard calibration procedure or internal procedure used for calibration, the standards and equipment used for the calibration, the results of the calibration, and the date the calibration was performed.

Corrective Action Process

Every Terracon laboratory is audited on an annual basis. Samples tested that are out of specification are noted on a deviation log, and deviations are reported to the field supervisor for correction. Deviation logs and correction resolutions are reviewed, tracked, and reported regularly.

Materials Structural Steel and Nondestructive Testing Services

Determining the quality and integrity of projects' steel and welding without damaging or altering the material's performance is critical for our clients in keeping their building investment and the public safe. Terracon's trained Nondestructive Testing (NDT) team and equipment are essential resources for owners as most of our NDT equipment is fully portable, allowing examination to easily be performed at the fabrication facility or project site to deliver results quickly, avoiding costly delays.

Our testing methods and equipment are subject to the guidelines of our internal Quality Management System (QMS) and industry accreditation entities. Combined with the expertise and specialized training of our materials and laboratory professionals, you receive the accurate, precise results you need, and when needed, to save time and money in making intelligent decisions.

Our steel professionals are trained according to steel industry standards and certified by the American Welding Society (AWS), International Code Council (ICC), and American Society for Nondestructive Testing (ASNT), as well as in-house compliance standards that specify minimum requirements for certification and testing of Level I, II, and III nondestructive testing professionals.

Structural steel observation and testing require specialized equipment and team members trained in accepted operating procedures. Testing and observation can occur during or after the erection process for welded, bolted connections or between precast elements and the structural frame. Structural steel components can also be tested in the fabrication shop before delivery to the site for conformance to material specifications, dimensional accuracy, and fabrication/welding procedures, saving time and potentially significant costs due to rework and reshipping.

Our structural steel and nondestructive testing services include:

- Field erection observations testing
- Magnetic particle examination
- Visual examination
- Ultrasonic examination
- Phased Array Ultrasonic examination
- Third-party vendor/supplier audits
- On-site testing services
- Welding procedures/welder qualifications
- Fabrication shop monitoring/inspection
- Seismic weld inspections



Testing and observation can occur during or after the erection process for connections that are welded, bolted, or between precast elements and the structural frame.



Structural steel components can also be tested in the fabrication shop.

"Terracon's efficient inspections, testing procedures, and coordination to address deviations allowed the fabrication shops to facilitate numerous same-day corrections. This high level of detail and commitment was critical to the project's success."

*Gregg Johnson
Senior Project Manager
Hammes Co. Sports Development
(U.S. Bank Stadium, Minneapolis, MN)*

Firestop Inspection Services

Firestop is a critical component of fire protection engineering and is required by building codes for nearly all commercial and industrial construction. A third-party firestop inspector is mandatory per the International Building Code (IBC) for all construction. Our International Firestop Council (IFC) Premier-level firestop inspectors explore ways to keep you and your investment safe from the spread of flames, deadly gases, and toxic smoke.

Terracon is Your Best Resource

Providing you with value beyond the standard scope of work is vital to us regarding firestop inspections. Our IFC premier-level firestop inspectors are certified to teach general contractors and municipalities about lifesaving firestop measures, including quality control and due diligence. You can be confident that this additional certification will keep your construction projects up to code and as safe as possible.



Our experience goes beyond just performing inspections. We are also engineers and can recognize potential design flaws or concerns, missed conditions or poor installations, and inadequate paperwork as we inspect. This ability allows us to act quickly and provide practical solutions and real-time results that help avoid delays, surprises, and costly mistakes. We simplify complex issues and provide cost-effective solutions, regardless of a project's size or scope.

What do firestop inspectors do during their inspections?

Our highly qualified inspectors establish whether materials are installed as per the Underwriters Laboratory (UL) system and approved submittals. The Firestop inspector's responsibilities include:

- Plans, system, and condition reviews
- Observation and confirmation that systems are correctly installed and match the appropriate conditions listed in the system either through on-site installation oversight or through "destructive" testing (dissecting a small percentage of installed systems and testing to determine if they have been fitted correctly)
- Awareness of and abidance by the most stringent codes (whether specification book or code)
- Annotate deviations, notify the architect, and mediate resolutions between the architect, contractor, and the firestop materials manufacturer

Who Can Oversee Firestop Compliance?



Not every firm can provide firestop inspection services, although Terracon can. Only an independent, approved agency with firestop inspection experience, training, and certifications through the IFC or equivalent can oversee compliance. Terracon is one of the few approved IFC agencies and employs IFC Premier-level inspectors and other experts throughout the United States. We have access to preemptive knowledge of upcoming codes, regulations, and materials that help you plan to keep people and their investments safe.

Pavement Testing and Analysis Services

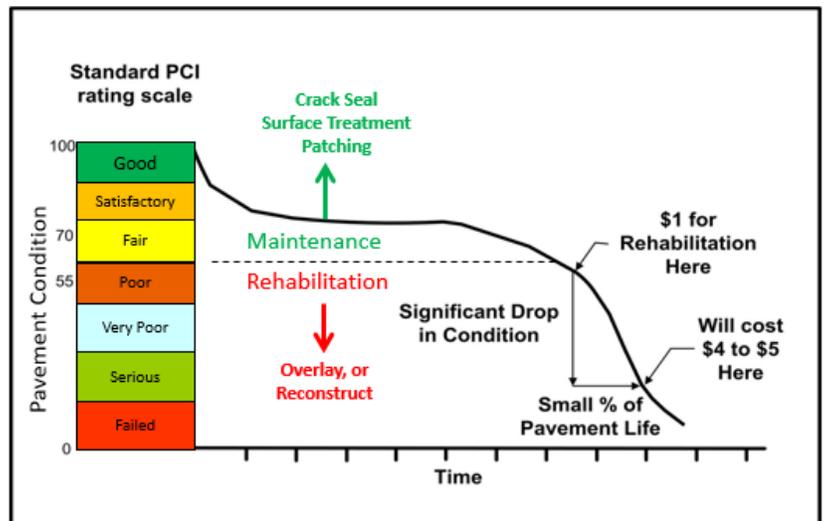
Waiting too long to begin a low-cost maintenance program can prove costly. Terracon partners with you to explore how to balance your pavement needs and priorities to save you time and money. Our comprehensive pavement testing and management services include design for new pavements, as well as evaluation and maintenance recommendations for existing pavements.

From the beginning to the end, we can handle each phase of your maintenance program. No need to subcontract services. We gather and assess data early to establish the right rehabilitation plan for you. Our pavement testing and analysis practitioners prioritize a budget plan unique to your schedule and available funds.

We know pavement maintenance often creates frustration about how much to do and what to do first. Seeking a contractor to repair without performing an engineering evaluation to gather data on existing pavement thickness and subgrade conditions frequently leads to costly change orders. Terracon will collaborate with you to proactively establish a pavement management program tailored to meet your short-term and long-term needs that are sensitive to your budget and schedule needs. Our materials testing and analysis includes a Pavement Condition Index (PCI) survey, a standardized rating of pavement distress types and severities on a scale from 0 to 100. This detailed survey helps clients with large pavement portfolios determine where each pavement ranks in the life cycle. The PCI ratings and distress types, along with site characterization – such as coring, subgrade sampling, and testing – can be conducted by our in-house geotechnical experts, enabling Terracon professionals to help you make sound pavement decisions based on detailed, factual analysis. We present various options and estimated costs to maximize pavement dollars, and we stay involved through construction to assure you receive quality pavement.

Depth and Breadth of Expertise

Strategically located throughout the United States, Terracon’s materials testing, and field practitioners possess a breadth of pavement knowledge and understanding of local materials and geology critical for addressing onsite field deviations for applying correct treatments. Our QMS meets the intent of various ASTM subfield specific Standard Practices to include C1077, D3666, and D3740. In addition, Terracon’s Accessibility Group (TAG) helps ensure recommendations for any parking lot work are accessible and ADA-compliant.



A life cycle plan of this nature offers the opportunity to bring more than a 1,000% return on investment (ROI).

Materials Forensic Testing and Analysis

A variety of building materials are used in construction today. When you hire Terracon, you get a team of professionals with expertise, and specialized knowledge of material properties and their breakdown when subjected to the natural environment. Through our testing and analysis experts' intricate examination and practices, you receive value encompassing enhanced quality, cost efficiencies, and safety.

Terracon's national network of validated and accredited laboratories allows our professionals to deliver timely testing results. We apply new processes, methodologies, and techniques to solve project challenges. Our laboratories are equipped to perform a wide variety of tests while following strict internal guidelines to deliver the most thorough and reliable data possible. Our top priority is delivering expert consulting and analysis services.

Terracon's forensic testing and analysis capabilities are diverse, with the ability to test complex and specialized properties that other firms cannot. Our experts can determine how the chemical effects of acids, salts, alkalis, and the iron oxide may compromise your project and identify potential problems that may develop over the structure's service life. Through modern programming and analysis tools, we measure behavior under existing, expected, or hypothetical conditions to determine the most probable root cause of observed performance or the probabilistic analysis to make informed decisions to mitigate your risks. Forensic testing services may include:

Through testing and characterizing a metal's microstructure, chemical and mechanical properties, we can determine whether it is suitable for application or conforms to a required drawing or specification.

Chemical Testing

Chemical testing of concrete, soils and building materials help to identify potential reaction to normal environmental conditions. We look for possible areas of degradation and corrosion that might compromise the reliability and maintainability, resulting in integrity and failure. We also examine product regulatory compliance and safety requirements. Chemical testing aids in reducing cost and maintenance as well as long-term product performance.

Petrographic Analysis

Petrographic analysis is a proven way to investigate possible construction or material defects thoroughly. Terracon owns specialty petrographic equipment though how we use it sets us apart. Terracon's petrographic specialists determine why materials fail to perform as anticipated, relying on forensic information discovered.

We provide petrographic concrete and rock analysis testing services on dams, concrete pavements, parking garages, water/wastewater treatment plants, sewers, and tunnels specifically to identify defects and/or deterioration, the degree of material damage, and verify the use of the proper materials as well proper techniques used. Petrographic examination can be used with additional laboratory testing to predict rock weathering behavior and define drilling characteristics and minerals likely to result in excessive bit wear.

Materials Forensic Testing and Analysis

Metallurgy

Metallurgical analysis also looks at the physical and chemical properties and behaviors of metals and metallic elements, so you can prevent failure and strengthen results. The analysis detects flaws, makes sure its composition is correct, and identifies the metal's makeup and type of alloy component. For example, we analyze welds for the strength, hardness, ductility, or other material properties required for their intended application per your specification or standard quality procedures before that part, component, equipment, or production lot, is put into service.

Seamless Constructed Delivery Service

WHAT IS SEAMLESS CONSTRUCTED DELIVERY?

Seamless Constructed Delivery is how we perform our construction materials testing and inspection services daily. We continuously apply new processes, methodologies, and techniques to solve project challenges and meet your needs. Guided by our employee owners' experience and technical capabilities, we have spent decades adapting our project delivery process, as Seamless Constructed Delivery, into four main components: Responsiveness, Performance, Quality, and Delivery.



RESPONSIVENESS

Before the Project

Communication

Communication is essential to successful project delivery. Our communication and coordination begin when we learn about the project and continue through project delivery. Expectations are established to anticipate needs and quickly respond, especially during critical junctures and milestones in the construction schedule.

At the proposal and project setup phase, our professionals explore the needs of a project so that all parties concur on the following:

- budgets,
- scope of work,
- scheduling needs,
- safety requirements,
- communication channels and frequency, and
- understanding of challenges.

By understanding these items deeply, we can anticipate the project team's needs and proactively develop solutions that will help keep your project moving forward.

Budgeting

Developed by Terracon professionals, our Pricing enables our project managers, estimators, and subject matter experts to work together on delivering consistent pricing, improving manpower forecasting, and driving on-time project delivery of our deliverables. The pricing tool is pre-loaded with all rates and laboratory costs, allowing our project managers to develop an accurate budget via a simple schedule and quantities.

During the Project

Project Initiation

The first and most important task is to have a kick-off meeting with all critical staff and you. All staff will be informed of safety concerns and mitigations, scope, schedule, available budget, and communication protocols at this meeting. Safety discussions do not stop at the kick-off meeting. They continue daily through our pre-task planning discussions. Our *Incident and Injury-Free^{TM1} (IIFTM)* safety culture is strong and woven into all tasks we conduct inside the office, our laboratories, and on jobsites. Safety awareness and injury prevention helps keep everyone safe.

Seamless Constructed Delivery Service

Behind the scenes, our project managers have set up the project in our proprietary project management and delivery system. Project specifications, manpower needs, budgets, and report distribution lists are set up and ready to dispatch our field personnel to the project site with all the appropriate information and data collection reports.



Dispatching

Terracon has a robust system that only allows certified field staff to be dispatched to your job site for the day’s testing needs. When our dispatchers or project managers receive a call from a contractor or client, the system can automatically ensure that we appropriately assign certified personnel for the work. The inspector will receive a calendar invite with all the appropriate information needed to perform the task.

Subconsultant Utilization

We prioritize building the best team internally and externally to deliver a successful project. A successful project also incorporates experienced and effective leadership. We aim to create a collaborative team to deliver a successful project while positively impacting our communities and partners.

Occasionally, we may need to partner with outside subconsultants to meet specific project requirements. We hold our subcontractors to the same standards as ourselves, including safety and quality. In addition, we have an exceptional record of meeting and exceeding diverse business supplier goals on various project sizes. We take great pride in promoting diverse business participation whenever possible. We partner with small, minority, and/or woman-owned business team members we know and trust.

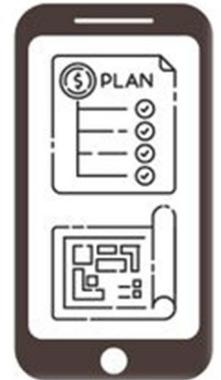


PERFORMANCE

The day begins with our technicians and inspectors reviewing the weather forecast and confirming with several project team contacts that the day’s activities are on schedule, which significantly helps to reduce unnecessary trips to project sites. Once staff members have verified all planned activities, vehicles are loaded and ready to proceed safely. Upon arriving on-site, our technicians carefully review slated activities and traffic patterns to identify parking places to park and verify that our pre-task planning remains current. When safely parked, we notify your site representative that we are on site and ready to perform our work.

Seamless Constructed Delivery Service

Our technicians utilize the latest technology in performing their work. We utilize one of our applications on our mobile devices to collect data from our day's activities. These enhanced and robust applications allow us to collect and enter our test and inspection data daily and submit the information digitally. Beyond simplifying the data collection process, the apps offer more advantages. Our applications are tied to our phone's GPS, which references the plan set in our systems. This means our technicians can see where they are standing on the plans when on site. Utilizing our mobile device's GPS eliminates misplaced tests in the field and geolocates all testing and inspection data within our deliverables. This geographic information greatly enhances methods for us to deliver data to you.



Our seamless data collection apps offer the following advantages:

- Form-based data collection – no missing information or lost papers
- Safe-Right procedures embedded in the forms
- Geographic information embedded in the report
- Pictures taken on-site are automatically tied to the report
- Dramatically reduced report turn-around times as complete reports can be submitted in the field
- Technicians always know where they are on the plan – no misplaced tests
- Test standards embedded in the forms
- Site maps embedded in the forms



Technology is an excellent tool; however, our tools are only as good as those using them and none so vital as our technicians' communication in the field. Our field personnel know the importance of reporting deviations and failed tests as quickly as possible to limit the amount of non-conforming material placed. We also make it a point to coordinate with site leaders before leaving the job site for the day. In this way, we do not miss unplanned site operations that may need attention. You can count on our field personnel to proactively communicate with you.



QUALITY

Quality Leadership and Training

We engage and collaborate with a cross-functional matrix of management roles at the executive, senior, and operations levels and with service line leaders to spearhead certain aspects of our quality program. This structure provides specific quality leadership and processes to address the unique challenges of each service we provide.

Seamless Constructed Delivery Service

Quality oversight includes the selection, vetting, approval, and ongoing evaluation of qualified Authorized Project Reviewers (APRs), who oversee every project's quality. We regularly evaluate our quality program components at the company and office levels through committees staffed by executive-level managers and service line leaders to balance operational perspectives with specific service line considerations. Each committee reviews representative project work samples associated with each individual project reviewer to assess the reviewer's effectiveness.

Through training, evaluation, and external certifications and licensing, our staff demonstrates that they are qualified and experienced to perform assigned tasks consistent with applicable standards, regulations, policies, and procedures.

Role of the APRs and SMEs

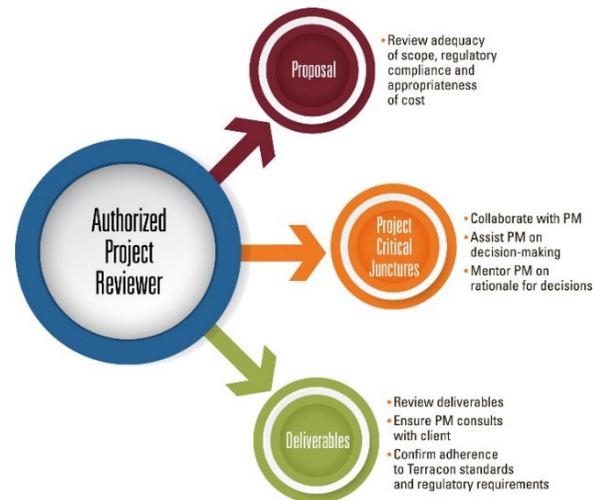
Project managers, APRs, and the necessary project management and technical expertise collaborate to achieve quality objectives at critical project junctures. Depending on size and complexity, some projects may be subject to additional oversight and expert review.

Without exception, every project is assigned an APR who collaborates with the project manager on quality and technical objectives for the project's duration. The APR is engaged at the proposal stage and remains on the project through execution and closeout.

The APR plays a leading role in our quality program, highlighted by the following four primary areas of project responsibility:

- **Quality Oversight:** The APR reviews the proposal and is involved at the kick-off meeting and at significant milestones, stages, and critical junctures providing direction and insight to guide the project to its completion.
- **Coaching:** The APR coaches and advises the project manager on various aspects of the project emphasizing quality, risk, on-time delivery, budget, the scope of work, and other client expectations.
- **Risk Management:** The APR guides the project team to assess properly project-specific risk.
- **Safety Awareness:** The APR raises awareness at the project level by communicating with the team to focus attention on their own personal safety and the safety of all project team members.

It is true that every once in a while, the technical needs of an aspect of a project can exceed the skills of our Project Manager. When this situation arises, Terracon has pre-identified and organized into categories our subject matter experts (SME). These SME's are available at a moment's notice to assist in resolving any project issue or challenge.



Seamless Constructed Delivery Service

Technical Training



Having industry-specific training is critical to providing quality services on our projects. Our field personnel includes professional engineers and geologists, engineering technicians, and construction inspectors who hold certifications with national agencies such as the American Concrete Institute (ACI), International Code Council (ICC), National Institute for Certification in Engineering Technologies (NICET), American Welding Society (AWS), Post-Tensioning Institute (PTI), Occupational Safety & Health Administration (OSHA) as well as many state-specific certifications and site-specific training requirements.

In addition to external training, Terracon encourages, supports, and provides training and continuing education for all our employees. Terracon University is an internal training and education resource providing many relevant areas of study and formats for learning including live virtual sessions to recorded video training. We offer safety, engineering, project delivery, industry applications, client development, marketing, and personal and professional development courses. We can track each employee's learning path and ensure if job-related certificates and licenses are required, they receive information about renewals promptly.

Training is not just limited to technicians and inspectors, though. Training is also required for our project managers. Each project manager at Terracon must pass a rigorous five-part training course before managing a single project. Training courses focus on budget and projections, schedule management, and proactive communications. A Terracon project manager always knows where he or she stands within the budget and the percent completion of the project. We will proactively share this information with you regularly based on your preferences.

Laboratory Accreditations

Our laboratories are fully equipped with geotechnical and construction materials testing equipment and operate under our Corporate Construction Materials Laboratory Quality System Manual (QSM). Our Quality Management System was established using ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspections and AASHTO R18 - Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories as the primary guide. Other guides include:

- ASTM D3740 – Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
- ASTM C1077 – Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
- ASTM D3666 – Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials



Terracon's QMS and laboratory procedures have been audited by independent outside agencies. Our laboratories meet the criteria of the AASHTO Accreditation Program (AAP) for concrete and aggregate testing through inspection by the Cement and Concrete Reference Laboratory (CCRL) and for soils and asphalt through AASHTO resource. In addition, many of our laboratories are also USACE validated.

Seamless Constructed Delivery Service



DELIVERY

On-time project and data delivery is an essential goal of Terracon and what we strive for on every project. Our Seamless Constructed Delivery system results from that goal and so much more. To better serve you, Terracon has developed multiple methods to get you the information you need on time. Our delivery and data systems can be combined to deliver the experience and knowledge you need to make your project successful.

Deviation Log

The deviation log lists non-conforming items our field or laboratory personnel noted during an observation or test. The purpose of the log is to document the decisions made and actions taken by the contractor to address non-compliant structural components. Our employee-owners strive to help the project team identify potential deviations before they happen. If the contractor can quickly address an item, adding an item to the log may not be necessary. Our field personnel will communicate any discrepancies found at the time of inspection. Timely communication is critical during this process.

Our proprietary project delivery system can report and track non-conforming items on the same day. Items on the deviation log will remain open until all parties agree on an official resolution. We understand the importance of tracking and communicating these items as soon as possible so your projects can continue progressing with minimal delay, saving you time and money.

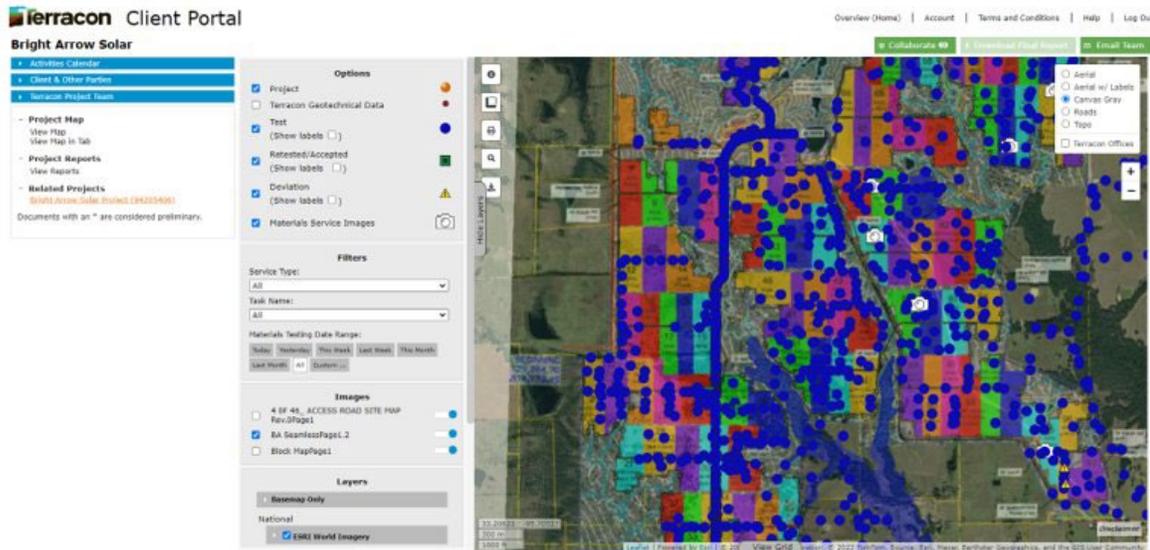
Consulting

Although we have developed many methods for you to receive and review your information, none of these technologies and tools are as important as simply conversing about your test result or report. All information in the world written in a report does little good if you don't know what it means or how to utilize it, which is why we call first whenever there may be concern about a report's contents. At Terracon, we don't just report it and forget it. We strive to be your partner working together through the entire process—planning and solutions.

Seamless Constructed Delivery Service

Email

Our automated quality system automatically submits reports to your chosen email address as soon as our Project Manager or Approved Project Reviewer (APR) completes their review. We know how important it is for you to have timely report availability notifications and to have reports “in hand” as soon as possible.



Compass



Terracon Compass is Terracon’s latest client interfacing tool and elevates how we do business. Within Terracon Compass, you can access your projects and their associated data, including environmental and geotechnical projects.

When you open a materials project within Terracon Compass, you will see your materials tests and observations placed on a map. This geographic reference allows you to find your information by the “where”, rather than the “when.” Other features of Terracon Compass include:

- Filters for Date Performed, Service Type, and Test Result Status
- Deviation or Non-Conformance Summary: Image overlays to reference multiple plan pages to your test results
- Map layer options: Test results are inserted into Terracon Compass as soon as the report has been reviewed and distributed. It becomes easier than ever to view and close deviations with an option to display within a map while also showing them in a table format.

Seamless Constructed Delivery Service

TARGETID

TARGETID is our premier materials testing data delivery service. With actual CAD drawings inserted into our GIS system, you can interact with your information like never before.

With real-time capabilities, you see the moment the field test or inspection begins, meaning you will always have the most up-to-date information. TARGETID also offers almost unlimited flexibility with items to map, statistical tools to keep on your dashboard, and filtering by elevations in high rises and significant cuts and fills. The flexibility and intuitive capabilities of TARGETID are ideal for “big data” projects and will most assuredly make your construction manager’s life much more straightforward.



iTraMS



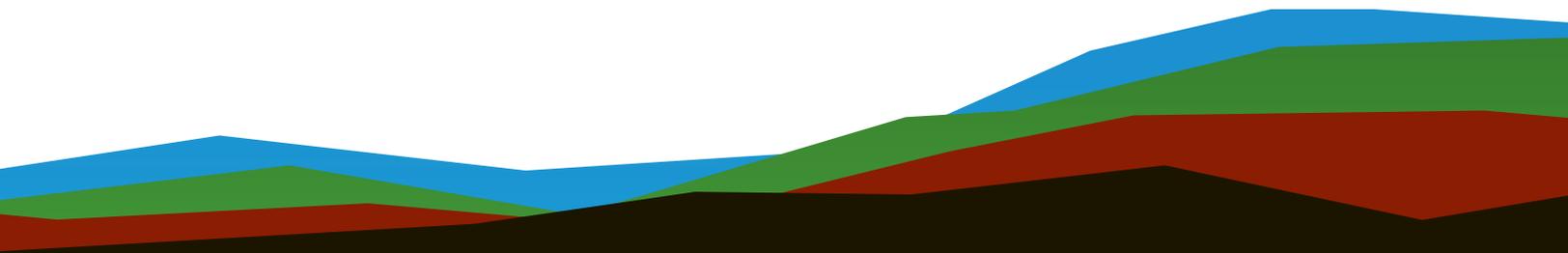
iTraMS is a tool specially designed to work with multi-team alternative delivery projects. A completely customizable database, all quality team members can use the system. iTraMS is best described as a web-based database with the ability to have automated workflows outside of the

immediate quality team. With ten customizable filters and the ability to track every test and inspection from dispatch through final acceptance, iTraMS offers transparency into the quality process where other systems lack. With the addition of trend chart graphing and statistical analysis, iTraMS is the tool you need on your project to provide maximum collaboration and visibility into the materials testing process.

Project Specific Delivery

Every project is different, and although you may appreciate and utilize any of our delivery methods above, your project may require additional steps. Rest assured, Terracon will do whatever it takes to ensure your data and reports are filed where and how they must be for your project. Whether this includes porting pdf files into a file management system or entering raw results into a separate quality system, we will deliver the information when and how you need it. We also actively work with many third-party program management system providers and are always developing new and easier ways to move our information into your project’s system.

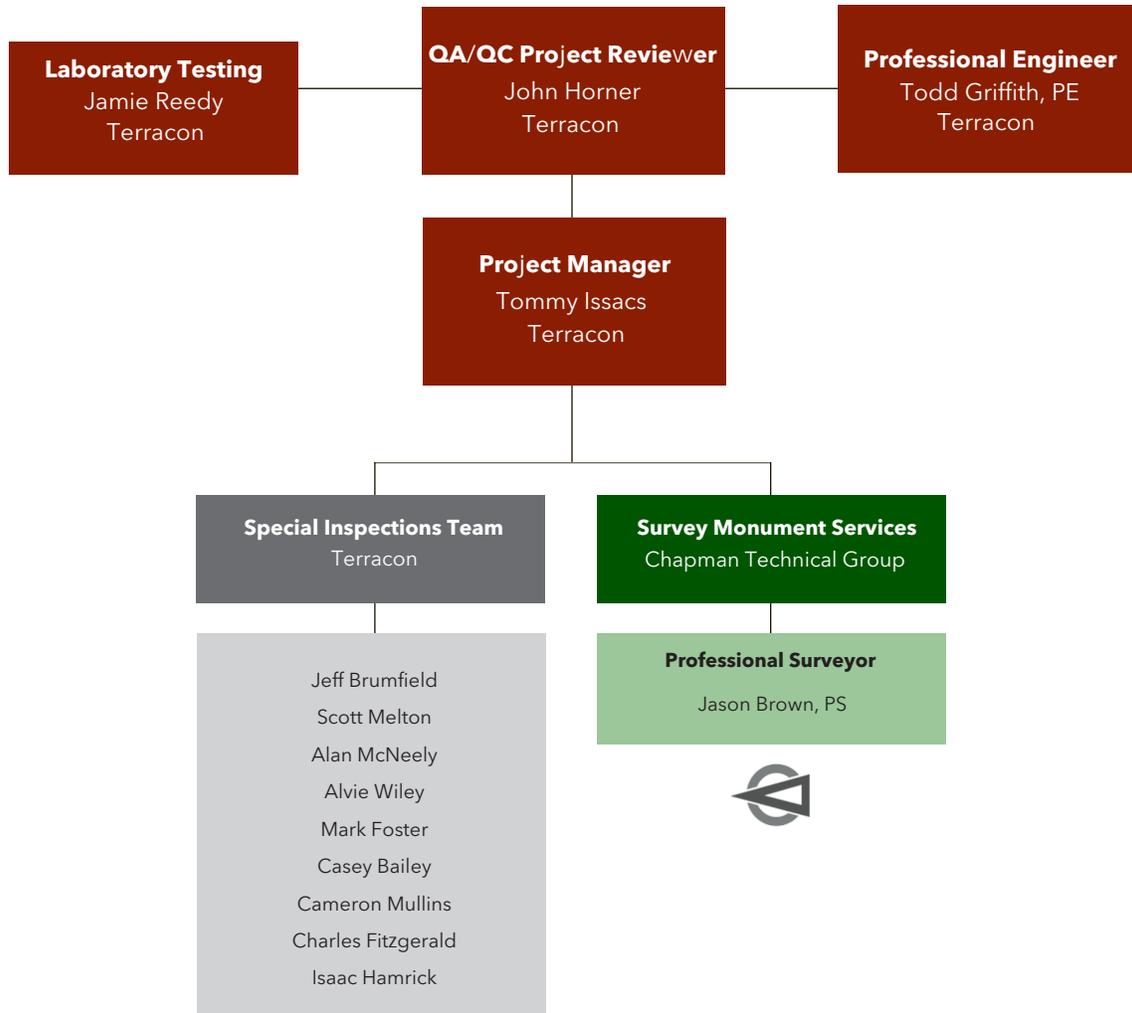
¹Terracon’s safety program incorporates the IIF™ Incident and Injury-Free™ approach to safety trademarked and provided by JMJ Associates.

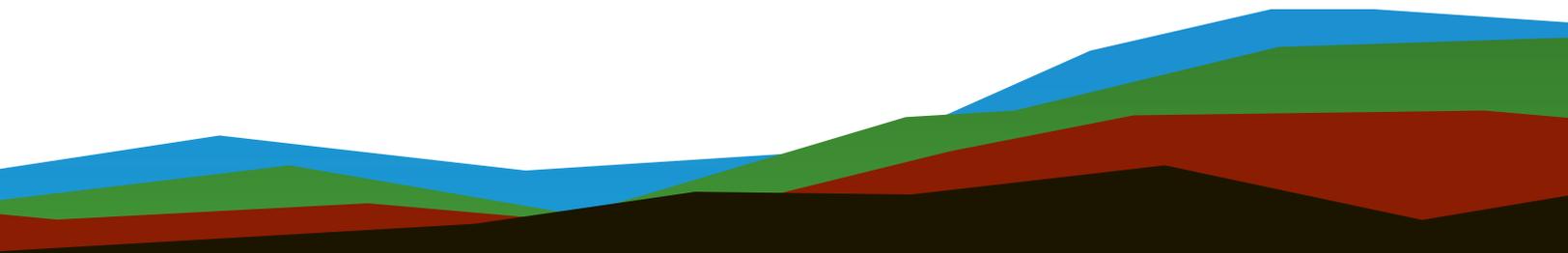


3. Organizational Chart

Staffing Plan

Terracon provides services on thousands of projects each year. Our culture, systems, and structure enable us to excel at both small and large projects. By combining our national resources with specific local area expertise, we consistently overcome obstacles and deliver the results our clients expect.





4. Key Resumes

Todd Griffith, P.E.

Senior Associate, Department Manager, Geotechnical Services

PROFESSIONAL EXPERIENCE

Mr. Griffith currently serves as the Geotechnical Department Manager in Terracon's Charleston, West Virginia office. He is responsible for operational oversight of field and engineering activities in the Geotechnical (GEO) Department, mentoring staff, and management and analysis of geotechnical projects. He has over 17 years of geotechnical engineering experience working with public agencies such as WVDOH and USACE, working on projects involving site and subsurface investigations, design and construction of new or modified bridge foundations, cut slope analysis and design, fill slope analysis and design, the elevation and design of earth retainage structures (i.e., earthen dams, MSE walls, reinforced soil slopes), laboratory testing, and stream bank erosion mitigation.

He is proficient in the use of commercial software such as Sleep/W and Slope/W, SLIDE, Settle 3, ReSSA 3.0, MSEW+, gINT Version 8, and DigiPro 2. He has worked on numerous projects and variety of clients in different areas including transportation, landslide remediation, landfill, power generation and transmission, oil and gas transmission, retail/commercial developments, local and state infrastructure, and retaining walls in multiple states.

PROJECT EXPERIENCE

Tri-State Airport Landslide Remediation - Huntington, WV

Mr. Griffith provided engineering expertise and project management for remediation of a large landslide near the western edge of the safety area of the main runway of the airport. The slope failure was approximately 140 feet in height and 300 feet wide. The project included subsurface investigation and laboratory testing to aid in the design of the remediated slope as well as to aid in determination of the probable causes of the slope failure. It was determined that a combination of improper drainage at the toe of the slope, unauthorized earthwork at the crest of the slope, and removal of trees and vegetation from the face of the slope contributed to causing the landslide. Based on slope stability analyses performed by Mr. Griffith, the remediated design included removal of all failed material and excavation into the underlying bedrock and the slope design consisted of placement of a rock drainage layer and separation fabric, moisture conditioning of the excavated material and replacement as structural fill to a 2.5H:1V slope. During construction, Mr. Griffith oversaw the excavation and placement of fill material to the designed specifications.

Tri-State Airport Taxiway A Stability - Huntington, WV

Mr. Griffith directed work and developed monitoring plans for potential slope movement on Taxiway A of the Huntington Tri-State Airport. Several years after the taxiway was extended and re-routed, large cracks indicating possible adjacent slope movement were observed. Inclinometers were installed and monitored for 7 months to aid in determination of ground movement at the top of the slope. Prepared a geotechnical engineering report providing information on the subsurface condition of the fill slope as well as the inclinometer data.

US Route 35 Public Private Partnership - Putnam & Mason Counties, WV* Served as the project manager and lead geotechnical engineer for the designbuild team for the final section of US Route 35 for the West Virginia Department

EDUCATION

M.S., Civil Engineering, Geotechnical Specialization, Virginia Tech, 2005
B.S., Civil Engineering, West Virginia University, 2004

REGISTRATIONS/ CERTIFICATIONS

Professional Engineer
West Virginia #18217
Pennsylvania #79360
Kentucky #27791
Maryland #40119
Ohio #78282
Virginia #64858

American Red Cross for Adult First Aid CPR AED
OSHA 30-Hour Construction

AFFILIATIONS

Member of American Society of Civil Engineers (ASCE)
Member of American Council of Engineering Companies of WV (ACEC-WV) Geotechnical Committee

WORK HISTORY

Terracon Consultants, Inc.
Geotechnical Department Manager, Charleston, West Virginia, 2021-Present
Project Engineer: 2010-2013
Staff Engineer: 2006-2009

Triad Engineering,
Geotechnical Department Manager, St. Albans, West Virginia, 2019-2021

TRC Engineers, Office Practice Lead - Geotechnical Engineering, Charleston, West Virginia, 2013-2019

US Army Corps of Engineers - Huntington District, Soils Engineering Section, 2009-2010

** Work performed prior to joining Terracon*

Todd Griffith, P.E. (continued)

of Highways. Mr. Griffith developed and oversaw the subsurface investigation for the 14.7-mile section of highway, including two bridges. Design work included cut slope design in marginal rock and soil, fill slope design, reinforced soil slope abutment design, and foundation design for the bridges. Engineering during construction included observation of subgrade for large diameter pipes, observing soil and rock material for usefulness in reinforced soil slope designs, and coming up with solutions to obstructions in geogrid layout for the reinforced soil slope abutments.

West Virginia Division of Highway District 10 & District 2 Landslide Repair Projects*

Served as the geotechnical project engineer and provided engineering analysis and pile and lagging retaining wall design for the eighteen (18) FEMA funded roadway slide repair projects. Mr. Griffith developed and oversaw the execution of the subsurface investigations, as well as the development of the construction documents for each of the projects.

WVDOT Bridge Street Bridge Replacement - Taylor County, WV

Served as the project manager for all geotechnical aspects of this bridge replacement project. In addition to the project management role, Mr. Griffith also performed other activities for this project. His duties included oversight during drilling and sampling, analysis of soil and bedrock conditions, development of foundation recommendations, slope stability analyses of the riverbanks at each abutment, MSE wall external stability calculations and analyses for MSE wall global slope stability.

Laurel Branch Reinforced Soil Slope Design, West Virginia Route 10 Relocation – Logan County, WV

Mr. Griffith designed an approximate 140 feet tall, 600 feet long 0.75H:1V reinforced slope for a valley fill at the Laurel Branch section of the Relocated WV Route 10 project in Logan County, WV. The reinforced soil slope was divided into 5 designed sections as the valley fill placed for the roadway extended from no fill at the beginning of the project, to 160 feet deep, and back to no fill on the other side of the valley. Design of the slope included subgrade preparation and benching requirements, required geogrid strength, spacing, and length, as well as slope facing recommendations. Design was performed using the ReSSA 3.0 computer program.

Rum Creek Connector Reinforced Soil Slope Design, West Virginia Route 10 Relocation - Logan County, WV

Mr. Griffith designed an approximate 300 feet long, 40 feet high reinforced soil slope for the bridge approach of the Rum Creek Connector of the relocated WV Route 10 project. The project was originally to consist of a 2H:1V unreinforced slope which required removal of several structures within the footprint of the embankment. It was later determined that it would be more cost effective to leave the structures in place and construct the bridge approach embankment as a reinforced soil slope with a slope of 0.75H:1V. Design for this slope also included subgrade preparation and benching recommendations, geogrid strength, spacing, and length requirements, as well as facing recommendations. Design was performed using the ReSSA 3.0 computer programs.

Natural Gas Power Plant - Follansbee, Brooke County, WV*

Served as the project manager and lead geotechnical engineer for the subsurface investigation and development of geotechnical recommendations for the proposed natural gas power plant. The development included analysis of foundation types based on the subsurface profile which included up to 200 feet of existing fill placed by contractors for the WVDOH during construction of a nearby highway. Additional challenges included concurrent environmental and geotechnical sampling, mining and mine spoil from the nearby Pittsburgh coal seam, and potential settlement of existing and proposed new structural fill.

John L. Horner, II

Department Manager, Materials Services

PROFESSIONAL EXPERIENCE

Mr. Horner has been the Materials Department Manager in the Charleston, WV office for over nine years. He was previously a Project Manager at Terracon's Columbus, Ohio office for 10 years. Mr. Horner has over 43 years of field inspection and testing experience. His current management responsibilities include personnel supervision, scheduling, technical review, report and proposal writing, quality control, client development, and client relations. He has managed the steel department in both field projects and laboratory materials testing, weld procedures, and welder qualifications.

Mr. Horner has managed the quality control testing on industrial, financial, restaurant, and commercial retail projects. He has also served as a lead technician on projects and has performed the following duties:

Structure Welding and Bolting

Mr. Horner has project experience performing weld and bolt inspections and nondestructive testing on projects which includes high and mid-rise structures, educational facilities, commercial/retail/industrial developments, power generation, steel mill facilities, heavy industrial projects, bridges, roadway, above-ground mining facility projects, and airport hanger expansions in Ohio.

Asphalt

Mr. Horner is experienced in quality control testing of asphalt compaction on private projects.

Augercast Pile Inspections

Mr. Horner has experience inspecting the installation of auger cast piles, including performing flow tests, fabricating cubes, calculating volumes and elevations, reinforcing steel inspections, identifying plumbness, and calculating percentages.

Foundation Observations

Mr. Horner has performed observations and testing to determine the suitability of proposed bearing soils for various types of footings. Such work includes both visual observations and physical valuation, including use of pocket penetrometers to classify soil types and cone penetrometers to estimate bearing capacities to compare such soils with site specific geotechnical recommendations.

Mr. Horner is experienced with the observation of reinforcing steel placement for footings and walls, and determination of the proper size, type, and spacing of these items.

Concrete

Mr. Horner's field experience includes testing freshly mixed concrete for Slump, Unit Weight/Yield, and Air Entrainment, as well as the fabrication of test cylinders.

Soils/Soil Remediation

Mr. Horner has extensive experience performing quality control testing of soil compaction on projects of varying size, and working primarily with traditional sands, silts, and clays, along with expansive silts and clays. He is trained and experienced in the determination of the in-place density of material utilizing Troxler and Humboldt nuclear density/moisture gauges and performing field roller pass evaluation and performed one-point field compaction procedures. Mr. Horner is trained and experienced in the various methods of moisture determination, as well as material identification by visual appearance and texture.

EDUCATION

Associates of Science, Civil Engineering, Shawnee State College, 1983

REGISTRATIONS/ CERTIFICATIONS

Certified Welding Inspector, AWS, 1989

American Standards of Nondestructive Testing Level II – Ultrasonic, Liquid Penetrate, Magnetic Particle Visual Technician, 2004

Terracon SNT-TC1A NDT Level II (VT, PT, MT UT)

OSHA 10-hour Construction Safety

American Concrete Institute – Level I Concrete Technician

Nuclear Density Gauge Safety Training/Operation

WVDOH Certified Aggregate

AFFILIATIONS

American Institution of Steel Construction

American Welding Society

Ohio Structural Steel and Architectural Metals

WORK HISTORY

Terracon Consultants, Inc., Materials Department Manager, 2017-Present; Project Manager, 2007-2017

H.C. Nutting – A Terracon Company, Senior Steel Inspector, 1998-2007

Materials Jointing Consultants, Structural Steel Inspector/Field Technician, 1987-1998

Professional Services Industries Structural Steel Inspector/Field Technician 1983-1987

Laboratory Testing

Mr. Horner is experienced in preparing concrete cylinders and performing compression testing of concrete cylinders and rock cores, as well as sodium sulfate soundness testing. He has performed various standard and modified proctor compaction test, sieve and hydrometer analyses, relative density, moisture content, and classification of soils.

PROJECT EXPERIENCE

Bridge and Roadway Improvements

State Route 40, Cambridge, OH - Performed visual and nondestructive testing inspection of bridge pins.

Interstate 470, Wheeling, WV - Performed visual and NDT inspection of bridge pins.

State Route 50, Chillicothe, OH - Performed visual and NDT inspection of bridge pins.

Commercial/Retail/Industrial

AK Steel, Middletown and Mansfield, OH; Ashland, KY - Annual inspections of the structural integrity of both iron and steel ladles and slagpots. Annual inspection and testing of all crane hooks and lifting devices.

Go Ethanol Plant, Lima, OH - Performed project management duties and visual, as well as NDT inspections of welds.

Griffen Wheel, Groveport, OH - Annual inspections and testing of the structural integrity of ladles.

Building Structures

Bureau of Workers' Compensation High Rise, Columbus, OH - Performed visual and NDT inspection of welds and bolt torque testing of structural high strength bolts per project requirements.

Nationwide Hockey Arena, Columbus, OH - Performed visual and NDT inspections of welds and supervised technicians performing NDT and structural bolt inspections.

Columbus Convention Center, Columbus, OH - Performed visual and NDT inspections of welds and bolt torque testing of structural high strength bolts.

Kenyon College Athletic Facility, Mount Vernon, OH - Performed visual and NDT inspections of welded truss members.

Educational Facilities

Wellston Elementary and High Schools, Wellston, OH - Project manager on the Ferro Scanning of reinforcing steel in CMU block walls.

Newark City Schools, Newark, OH - Performed structural steel inspection and NDT testing on schools.

OSU Fisher College of Business, Columbus, OH - Performed structural steel inspections and NDT testing of both welds and bolted connections

Airport Facilities

Columbus International Airport, Columbus, OH - Performed structural steel inspections on three terminal additions.

Rickenbacker Airport, Groveport, OH - Provided project management and inspection/testing services for the structural steel hanger renovations.

Dam Improvement Projects

LAWCO Lake, Lawrence County, OH - Monitored the expansion of the Lawco Lake Dam. Performed compaction tests, reinforcing steel verification, and performed concrete testing.

Above Ground Mining Facilities

Innman Coal, Peytona, WV - Performed visual inspection and NDT testing of slurry line welds on a new slurry pump system.

Bandmill Coal Company, Logan, WV - Performed visual inspection and NDT testing of slurry line welds on a new slurry pump system.

Manfork Coal Company, Whitesville, WV - Performed visual inspection and NDT testing of slurry line welds on a new slurry pump system.

Power Generating Facilities

AEP Power Generating Plant, Brilliant, OH - Provided project management and inspection/testing serviced for Cardinal Unit 3 cooling tower shell integrity investigation project.

AEP 345 kV Power Lines, Columbus, OH - Provided project management and visual inspection, as well as NDT testing for the 345 kV power pole support arm structures.

Tommy G. Isaacs

Project Manager, Materials Services

PROFESSIONAL EXPERIENCE

Mr. Isaacs serves as a project manager in materials services, and has over 35 years of experience in construction materials testing. He has managed the quality control testing on industrial, financial, restaurant, commercial retail, and highways projects and has performed the following duties:

Asphalt

Mr. Isaacs is experienced in quality control testing of asphalt compaction on private and highways projects. He has served as QA technician on FAA projects involving P-401 testing for determination of PWL.

Augercast Pile Inspections

Mr. Isaacs has experience inspecting the installation of auger cast piles, including performing flow tests, fabricating cubes, calculating volumes and elevations, reinforcing steel inspections, identifying plumbness, and calculating percentages.

Foundation Observations

Mr. Isaacs has performed observations and testing to determine the suitability of proposed bearing soils for various types of footings. Such work includes both visual observations and physical evaluation including use of pocket penetrometers to classify soil types and cone penetrometers to estimate bearing capacities to compare such soils with site specific geotechnical recommendations.

Mr. Isaacs is experienced with the observation of reinforcing steel placement for footings and walls, and determination of the proper size, type, and spacing of these items.

Concrete

Mr. Isaacs' field experience includes testing freshly mixed concrete for Slump, Unit Weight/Yield, and Air Entrainment, as well as the fabrication of test cylinders. He has extensive experience with concrete placement, testing of concrete, and various construction techniques.

Soils/Soil Remediation

Mr. Isaacs has extensive experience performing quality control testing of soil compaction on projects of varying size, and working primarily with traditional sands, silts, and clays along with expansive silts and clays. He is trained and experienced in the determination of the in-place density of material utilizing Troxler and Humboldt nuclear density/moisture gauges and performing field roller pass evaluations as per the WVDOH roller pass method, and has extensive experience with the WVDOT one-point field compaction procedures. Mr. Isaacs is trained and experienced in the various methods of moisture determination as well as material identification by visual appearance and texture.

He has experience with mechanical soil stabilization, undercutting and fill operations including stone/rip-rap applications as well as various grades of geotextiles. He also has experience with the placement of under drains for various types of building projects, and has performed observations and testing during operations for chemical stabilization of silts and clays.

Laboratory Testing

Mr. Isaacs is experienced in preparing concrete cylinders and performing Compression Testing of Concrete Cylinders and Rock cores, and Sodium Sulfate Soundness testing. He has performed numerous Standard and Modified Proctor Compaction tests, Sieve and Hydrometer Analyses, Relative Density, Moisture Content, and Classification of Soils.

PROJECT EXPERIENCE

Liberty One Methanol Plant Relocation (Institute, WV)

EDUCATION

Herbert Hoover High School,
Class of 1987

REGISTRATIONS/ CERTIFICATIONS

WVDOH Transportation
Engineering Technician
Certification Program, Level III
WVDOH Certified Aggregate
Sampling Inspector
WVDOH Certified PCC Inspector
WVDOH Certified Aggregate and
Soil Compaction Inspector
OSHA 10-hour Construction
Safety and Health
OSHA 30-hour Construction
Safety and Health
Nuclear Radiation Safety
ACI Level 1 Field Technician
A+ CompTIA Certified
EMS Safety, First Aid/CPR/AED

AFFILIATIONS

Contractors' Association of WV

WORK HISTORY

Terracon Consultants, Inc.,
Charleston, WV, 1990-Present

Served as Project Manager of quality control services, including: concrete, foundation observations, soils and soils remediation.

BB&T Branch Bank (Huntington, WV)

Served as Project Manager of quality control services during the construction of new branch bank. Tasks included: inspection and testing of soils, structural concrete, asphalt, and soil cement stabilization.

Chemour Methanol Tank Foundation (Belle, WV)

Served as Project Manager of quality control services during the construction of new methanol tank foundation. Tasks included structural concrete and reinforcing steel inspection.

Teays Valley Church of God (Scott Depot, WV)

Served as Project Manager of quality control services during the construction of new church. Tasks included structural concrete and reinforcing steel inspection.

BB&T Branch Bank (Summersville, WV)

Served as Project Manager of quality control services during the construction of an addition to the branch bank. Tasks included: inspection and testing of foundations observations, reinforcing steel inspection, structural concrete, and light gage metal framing connections.

Chelyan Bridge and Route 60 Connector (Chelyan, WV)

Lead quality control technician for the observation and inspection (per WVDOH specifications) of soils and concrete for the Route 60 connection and retaining wall.

Jeffrey G. Brumfield

Senior Project Manager, Materials Services

PROFESSIONAL EXPERIENCE

Mr. Brumfield serves as a project manager in materials services and has over 25 years of experience in construction materials testing. He has managed the quality control testing on industrial, financial, restaurant, commercial retail, and highways projects. He has also served as lead technician on projects and has performed the following duties:

Asphalt

Mr. Brumfield is experienced in Quality Control testing of Asphalt compaction on Private, WVDOH, and FAA projects. Mr. Brumfield also has experience in laboratory testing.

Augercast Pile Inspections

Identification of equipment (size and type), identification of specific locations, identifying plumbness, pump calibration, calculating volumes and elevations, reinforcing steel inspections, calculating percentages. Quality control tests including performing flow tests and fabrication of cubes for compressive testing

Concrete

Mr. Brumfield's field experience includes testing/sampling freshly mixed concrete for Slump, Unit Weight/Yield, and Air Entrainment, as well as the fabrication of test cylinders. He has extensive experience with concrete placement, testing of concrete, and various construction techniques.

Mr. Brumfield has extensive experience in drilling and obtaining a variety of different diameter concrete core specimens both vertically and horizontally.

Mr. Brumfield has extensive field experience in performing floor flatness and floor levelness testing using a FACE Dipstick Profiler as per ASTM E 1155.

Mr. Brumfield also has experience in providing skilled QA/QC plans for sampling freshly mixed concrete as per WVDOH Standard Specifications and MP's.

Laboratory Testing

Mr. Brumfield has extensive experience in our in-house laboratory including, but not limited to, Modified and Standard Proctors, Atterberg Limits, Sieve Analysis, Moisture Content Determination, and Compressive Strength Testing of Cylinders, Cubes, Cores, Grout Prisms, Shotcrete, and Flexural Strength Beams. He has also performed Hydrometer Analyses, Unconfined Compression Tests on Soil and Rock, Specific Gravity Analysis, PH Analysis, Slake Durability Analysis, CBR's and Classification of Soils.

Mr. Brumfield has extensive experience in calibrating concrete air-meters, and verifying calibration of a skidmore for high strength testing, and jam and ram for anchor pull testing.

Soils

Mr. Brumfield is proficient in quality control testing of soil compaction on private & WVDOH Projects. He is trained and experienced in the determination of the in-place density of material utilizing Troxler, Humboldt, and Instrotek Nuclear Density/Moisture Gauges, Sand Cone Method, One-Point Proctors, WVDOH Roller Pass Method, Proofroll Tests and Footing Inspections, using a cone and pocket penetrometer. Mr. Brumfield is trained and experienced in the various methods of moisture content determination as well as material identification by visual appearance and texture.

Mr. Brumfield also has experience in providing skilled QA/QC plans for aggregate and soil compaction as per WVDOH Standard Specifications and MP's

EDUCATION

Certificate of Diploma Harts High School, 2000

Associate's Degree, Bridge Valley Technical College

REGISTRATIONS/ CERTIFICATIONS

Transportation Engineering Technician Certification (TRET) Level IV

WVDOH Certified Aggregate Sampling Inspector

WVDOH Certified PCC Inspector

WVDOH Certified Aggregate and Soil Compaction Inspector

WVDOH Asphalt Field and Compaction Technician

OSHA 10-Hour Construction Safety & Health

OSHA 30-Hour Construction Safety & Health

Nuclear Radiation Safety

ACI Level 1 Field Technician

SSTC High Strength Bolting of Steel Structures

American Heart Association, First Aid/CPR/AED

WORK HISTORY

Terracon Consultants, Inc., 2001-Present

PROJECT EXPERIENCE

New Creek Dam Site 14 Reconstruction

Lead Technician for New Creek Dam Site 14 Reconstruction; worked for Heeter's Construction as lead QC inspector/technician for placement of aggregate, soils, structural concrete, grout and Roller Compacted Concrete (RCC). Provided on-site laboratory testing for aggregate/sand sieve analysis, moisture contents for on-site batch plant, and compressive strength testing on RCC compressive strength test samples.

Kureha Facility at DuPont

Worked for CHM2 Hill as Owner's lead QA/QC inspector/technician for installation of auger cast piles, placement of reinforcement steel and several mass concrete placements.

AEP John Amos Power Plant, FGD Upgrade - Winfield, WV

Worked for American Electric Power as lead QA/QC inspector/technician for installation of over 6,000 auger cast piles, placement of reinforcement and over 25,000 cubic yards of structural concrete.

AEP Kyger Creek Power Plant FGD Project - Cheshire, OH

Worked for American Electric Power as lead QA/QC inspector/technician for installation of over 4,500 auger cast piles and placement of reinforcement. Supervisor for twelve field technicians during the placement of 8,300 cubic yards of concrete placed for the smoke stack foundation, and several other mass concrete placements.

Blennerhassett Bridge - Washington, WV

Provided quality control testing during various deck pours, performed overlay bond testing, and served as technician supervisor for all facets of construction during quality control testing.

TransCanada Pipeline Group, Various Locations, WV

Provided QA inspection on several pipeline slide remediations.

Marshall University, Arthur Weisburg Family Engineering School-Huntington, WV

Worked for Marshall University as QA/QC inspector/technician for installation of auger cast piles, placement of reinforcement, concrete/grout placements, floor flatness and floor levelness testing, fireproofing, and high-strength bolt testing.

O'Reilly's Auto Parts/AutoZone Retail Stores/Wal-Mart Fueling Stations/Family Dollars and Dollar General

Performed Floor Flatness and Floor Levelness Testing on several retail stores throughout WV, OH, and KY.

Dry Branch Bridge-Charleston, WV

Worked for Orders Construction Company as QC technician, performed quality control testing on the first ever Self Consolidated Concrete (SCC) placement for the West Virginia Department of Highways.

Prince Bridge-Prince, WV

Worked for Orders Construction Company as QC technician, performed quality control testing on the first ever Class H-IC placement for the West Virginia Department of Highways.

Scott Melton

Project Manager, Materials Services

PROFESSIONAL EXPERIENCE

Mr. Melton serves as Project Manager for the Construction Materials Engineering and Testing group located in our Charleston, West Virginia office. Mr. Melton is a retired Master Sergeant from the US Air Force with over 22 years as an Engineering Assistant. He has over 25 years of CMET related experience including serving as Superintendent of the US Air Force, Airfield Pavements Evaluation Section, during which his team performed structural evaluations and pavement condition surveys on airfields around the world. Mr. Melton performed over 50 structural evaluations using the Dynatest Heavy Weight Deflectometer and the Corp of Engineers PCASE program including an emergency evaluation of the runway at Tule AB, Greenland, following a major flood.

He currently manages 15 field, laboratory and project management personnel as well as being the Project Manager variety of CMET projects, including Willow Island Phase I construction, WVDOH projects and several commercial and industrial projects. Mr. Melton has served as the primary project manager during the construction of Phase I of the Willow Island Hydroelectric project, working closely with the the Ruhl team to ensure that all the required testing was completed and reports made available.

Aside from being the Project Manager responsible for oversight of daily Construction Services operations and primary client contact for his projects, his duties include oversight of scheduling, budget establishment and maintenance, and review of field records and reports. Mr. Melton continues to routinely perform technical field functions as well, by augmenting the technician group when needed to meet project demands.

PROJECT EXPERIENCE

Materials testing and inspection related:

- AMP Willow Island Phase I Construction – Willow Island Locks – Served as Project Manager in support of establishing the onsite USACE Certified lab. Technical support for Technicians assigned to the project as well as primary contact with the Ruhl construction team
- AEP Mountaineer Plant – New Haven, WV – served as lead technician during a 1200 cubic yard pour for a new coal stacker pad. Also has assisted with other tasks during construction of a new urea tank.
- I-64/I-77 Bridge in Charleston, WV – Lead technician for a night pour during application of Latex Concrete overlay.
- I-64 Overpass – Milton, WV – Quality control testing of concrete and soil.

EDUCATION

AS Construction Technology, 1999, Community College of the Air Force
USACOE – Pavements
Computer Assisted Structural Engineering (PCASE)
USACOE – Micro Paver, Pavements Management and Inspection
Air Force Institute of Technology – Airfield Pavement Maintenance and Rehabilitation
Air Force Institute of Technology – Airfield Pavement Construction Inspection
Air Force Institute of Technology – Roof Design and Management
Air Force Institute of Technology – Computer Aided Design and Drafting Systems Course
Air Force Construction Materials Testing Course
Air Force Engineering Assistance Specialist Course
Air Force Construction Surveying Course

REGISTRATIONS/ CERTIFICATIONS

Nuclear Radiation Safety Certification
OSHA 30-Hour Occupational Safety and Health Supervisor
American Concrete Institute Concrete Field Testing Technician – Grade I
WVDOH Certified PCC Inspector
WVDOH Certified Compaction Inspector

WORK HISTORY

Terracon Consultants, Inc., 2008-Present
Jarret Construction Services, Construction Project Manager, 2006-2008
Integrated Construction Services, Project Manager, 2003-2006
United States Air Force Master Sergeant; Retired: Engineering Technician, 1985-2003

Alan J. McNeely

Assistant Project Manager, Materials Services

PROFESSIONAL EXPERIENCE

Mr. McNeely serves as Assistant Project Manager and has nine years of experience in construction materials testing. He has performed the following:

Asphalt

Mr. McNeely is experienced in Quality Control testing of Asphalt compaction on private and highways projects.

Foundation Observations

As a field technician, Mr. McNeely has routinely performed observations and testing to determine the suitability of proposed bearing soils for various types of footings. Such work includes both visual observations and physical evaluation including use of pocket penetrometers to classify soil types and cone penetrometers to estimate bearing capacities to compare such soils with site specific geotechnical recommendations.

Mr. McNeely is experienced with the observation of reinforcing steel placement for footings and walls, and determination of the proper size, type, and spacing of these items.

Concrete

Mr. McNeely's field experience includes testing freshly mixed concrete for Slump, Unit Weight/Yield, and Air Entrainment, as well as the fabrication of test cylinders. He has extensive experience with concrete placement, testing of concrete, and various construction techniques.

Soils and Soils Remediation

As a field technician, Mr. McNeely is routinely assigned to quality control testing of soil compaction on projects of varying size, and working primarily with traditional sands, silts, and clays along with expansive silts and clays. He is trained and experienced in the determination of the in-place density of material utilizing Troxler and Humboldt nuclear density/moisture gauges and performing field roller pass evaluations as per the WVDOH roller pass method, and has extensive experience with the WVDOT one-point field compaction procedures. Mr. McNeely is trained and experienced in the various methods of moisture determination as well as material identification by visual appearance and texture.

Laboratory Testing

Mr. McNeely is experienced in preparing concrete cylinders and performing Compression Testing of Concrete Cylinders and Rock cores. He has performed numerous Standard and Modified Proctor Compaction tests, Sieve and Hydrometer Analyses, Relative Density, Moisture Content, and Classification of Soils.

PROJECT EXPERIENCE

BB&T Branch Bank, Huntington, WV

Served as technician during construction of the new bank. Task have included inspection and testing of soils, structural concrete and asphalt. (*Asphalt, Concrete, Foundation Observations, Soils Compaction*)

Teays Valley Church of God, Scott Depot, WV

Served as technician during construction of the new church. Task have included inspection and testing of reinforcing steel, and structural concrete .

Marathon Petroleum Big Sandy Asphalt Terminal, Catlettsburg, KY

Served as lead asphalt quality control technician during the repair and resurfacing of the Parking lot and loading area at the terminal.

EDUCATION

Certificate of Diploma
Riverside High School, 2011

Associate's Degree, Bridge Valley
Technical College

REGISTRATIONS/ CERTIFICATIONS

WVDOH Certified Aggregate
Sampling Inspector

WVDOH Certified PCC Inspector

WVDOH Certified Aggregate
and Soil Compaction Inspector

WVDOH Asphalt Field and
Compaction Technician

OSHA 10-Hour Construction
Safety & Health

OSHA 30-Hour Construction
Safety & Health

ACI Level 1 Field Technician

Nuclear Radiation Safety

First Aid/CPR/AED Certified

WORK HISTORY

Terracon Consultants, Inc.,
2017-Present

Alan J. McNeely (continued)

Various Location in WV

Served as QC testing technician for Concrete Placements.

Pineville-Logan County Line Project, Pineville, WV

Served as a QC testing technician on placement of aggregate and concrete placements.

Grapevine Slide, Matewan, WV

Served as a QC testing technician on placement of aggregate, concrete and soil placements.

Grantsville Main Street, Grantsville, WV

Served as a QC testing technician on placement of aggregate, concrete and soil placements.

Piedmont-Scary Guardrail, Teays Valley, WV

Served as a QC testing technician on placement of concrete.

Alvie Wiley

Level II Inspector

Field Technician III, Materials Services

PROFESSIONAL EXPERIENCE

Mr. Wiley serves as a CMT Technician III and a TRET Level II Inspector and has 11 years of experience in construction materials testing and construction inspection. Mr. Wiley is extremely knowledgeable of the WVDOH specifications and has been heavily involved in field inspections to ensure adherence to the plans and specifications for structures, embankments, storm sewers, sidewalks, hot mix, and foundations. He has performed the following duties:

Foundation Observations

As a field technician, Mr. Wiley has routinely performed observations and testing to determine the suitability of proposed bearing soils for various types of footings. Such work includes both visual observations and physical evaluation including use of pocket penetrometers to classify soil types and cone penetrometers to estimate bearing capacities to compare such soils with site specific geotechnical recommendations.

Mr. Wiley is experienced with the observation of reinforcing steel placement for footings and walls, and determination of the proper size, type, and spacing of these items.

Concrete

Mr. Wiley field experience includes testing freshly mixed concrete for Slump, Unit Weight/Yield, and Air Entrainment, as well as the fabrication of test cylinders. He has extensive experience with concrete placement, testing of concrete, and various construction techniques.

Soils and Soils Remediation

As a field technician, Mr. Wiley is routinely assigned to quality control testing of soil compaction on projects of varying size. He is trained and experienced in the determination of the in-place density of material utilizing Troxler and Instrotek nuclear density/moisture gauges, and performing field roller pass evaluations as per the WVDOH roller pass method, and has extensive experience with the WVDOT one-point field compaction procedures.

PROJECT EXPERIENCE

Scott Miller Hill Bypass, Spencer, WV – Mr. Wiley served as a construction inspector and performed various duties during the construction project which included inspection of multiple aspects of earthwork construction and inspection of construction of concrete bridge structure. Mr. Wiley prepared reports using AWP and is familiar with WVDOH forms and procedures.

WV 2 Parkersburg – St. Marys Road, Wood Co., WV – Mr. Wiley served as a construction inspector and performed various duties during the grade and drain construction project which included inspection of multiple aspects of earthwork construction and drainage structures. Mr. Wiley prepared reports using AWP.

Various WVDOH Projects – Mr. Wiley has served as QC testing technician for hundreds of WVDOH construction projects throughout his career.

EDUCATION

Certificate of Diploma
Chapmanville High School,
2006

REGISTRATIONS/ CERTIFICATIONS

WVTRET Level II

WVDOH Certified Aggregate
Sampling Inspector

WVDOH Certified Aggregate
and Soil Compaction Inspector

WVDOH Asphalt Field and
Compaction Technician

WVDOH PCC Inspector

OSHA 30-Hour Construction
Safety & Health

Nuclear Radiation Safety

ACI Level 1 Field Technician

First Aid/CPR/AED

WORK HISTORY

Terracon Consultants, Inc.,
2025-Present

AMT Engineering,
2024-2025

Terracon Consultants, Inc.
2018-2024

Martin Engineering
2017-2018

Terracon Consultants, Inc.
2014-2018

Jamie D. Reedy

Laboratory Manager

PROFESSIONAL EXPERIENCE

Mr. Reedy serves as the Laboratory Manager of the Charleston, WV office. He was previously a CMT Technician IV and has over 14 years of experience in construction materials testing.

Asphalt

Mr. Reedy is experienced in Quality Control testing of Asphalt compaction on private, airport, and highways projects. He has served as a QA technician on FAA projects involving P-401 testing for determination of PWL.

Foundation Observations

As a field technician, Mr. Reedy has routinely performed observations and testing to determine the suitability of proposed bearing soils for various types of footings. Such work includes both physical observations and physical evaluation, including use of pocket penetrometers to classify soil types, and cone penetrometers to estimate bearing capacities to compare such soils with site-specific geotechnical recommendations.

Mr. Reedy is experienced with the observation of reinforcing steel placement for footings and walls, and determination of the proper size, type, and spacing of these items.

Concrete

Mr. Reedy's field experience includes testing freshly mixed concrete for slump, unit weight/yield, and air entrainment, as well as the fabrication of test cylinders. He has extensive experience with concrete placement, testing, and various construction techniques.

Soils/Soil Remediation

As a field technician, Mr. Reedy is routinely assigned to quality control testing of soil compaction on projects of varying size, working primarily with traditional sands, silts, and clays, and expansive silts and clays. He is trained and experienced in the determination of the in-place density of material utilizing Troxler and Humboldt nuclear density/moisture gauges and performing field roller pass evaluations per WVDOH guidelines, and has extensive experience with WVDOT one point field compaction procedures. Mr. Reedy is trained and experienced in the various methods of moisture determination, as well as material identification by visual appearance and texture.

He has extensive experience with mechanical and soil stabilization during undercutting and fill operations, including stone/rip-rap applications, as well as various grades of geotextiles. He also has experience with the placement of under drains for various types of building projects, and has performed observations and testing during operations for chemical stabilization of silts and clays.

PROJECT EXPERIENCE

Nitro Bridge Project, Nitro, WV

Lead supervisor for laboratory testing of soils and aggregate samples procured by field exploration crews. Contaminated samples were tested in-house using extra precautionary techniques.

Elkins/Randolph Regional Airport, Elkins, WV

Lead technician on several runway/taxiway rehabilitation and realignment projects. Responsible for all phases of the projects, including soils, concrete, and pavement.

REGISTRATIONS/ CERTIFICATIONS

ACI Laboratory Technician I

ACI Level I Field Technician

ACI Strength Testing Technician

ACI Aggregate Testing Technician

OSHA 10-hour Construction Safety and Health

OSHA 30-hour Construction Safety and Health

Nuclear Radiation Safety

SSTC High Strength Bolting of Steel Structures

WVDOH Certified Aggregate Sampling Inspector

WVDOH Certified PCC Inspector

WVDOH Certified Compaction Inspector

WVDOH Asphalt Field and Compaction Technician

WVDOH Asphalt Plant Technician

WVDOH Aggregate Technician

AFFILIATIONS

American Association of State Highway and Transportation Officials (AASHTO)

WV Department of Highways

WORK HISTORY

Terracon Consultants, Inc.
Charleston, West Virginia,
2012-Present

Jamie D. Reedy (continued)

Huff Elementary School, Gilbert, WV

Lead and primary technician during construction of the school. Tasks included inspection and testing of soils, structural concrete, and structural masonry.

AEP John Amos Power Plant, Various Projects, Winfield, WV

Tri-State Airport, Huntington, WV

Lead technician on the taxiway realignment project. Responsible for soils, asphalt, and concrete testing and observation, in accordance with FAA guidelines and project specifications.



Jason Brown, P.S. Professional Surveyor

Years of Experience: 30
Years with Chapman: 22

Education

A.S., Land Surveying, 2002
Glennville State College, WV

Registration

Professional Surveyor: WV,
KY, VA, PA

Experience

Jason leads the Chapman Technical Group survey team and is experienced in topographical and boundary surveys, as well as flood plain mapping, ALTA surveys, and construction layout. Jason also coordinates aerial mapping and LiDAR services with GRW, the parent company of Chapman Technical Group. Jason has completed projects for a variety of industries including airport layout and obstruction projects.

Highways

Established control, site surveying, topographic surveying, courthouse research, drawing production, Right-of-Way Questionnaires, bore hole stakeout, and all surveying associated with the initial and final design of WV highways.

Site Development

Experienced in all types of surveying associated with site development, to include control, topographic boundaries, research, and drawing production. Projects include military complexes, public housing, commercial development, industrial and institutional complexes, churches, resorts and public facilities throughout the state.

Schools

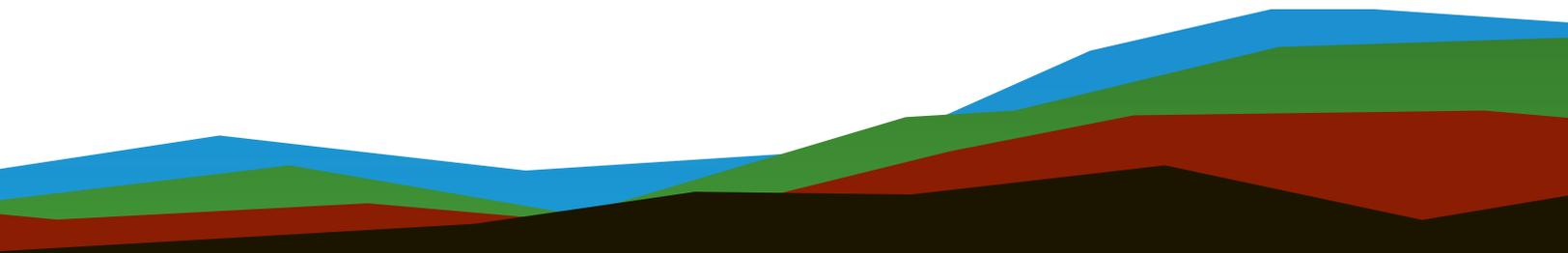
Associated surveying for new schools, additions, athletic fields, and sidewalks projects.

Parks and Recreation

Associated surveying for projects including swimming pools, bathhouses, cabins and support facilities for the West Virginia Division of Natural Resources and similar facilities for county and municipal park systems.

Water/Wastewater/Stormwater Systems

Associated surveying for the design of water systems, sanitary sewer systems, and stormwater systems, including treatment facilities for both private and public systems throughout the state. Also, field experience in the inventory and collection of attribute data using GPS equipment for uploading to GIS databases.

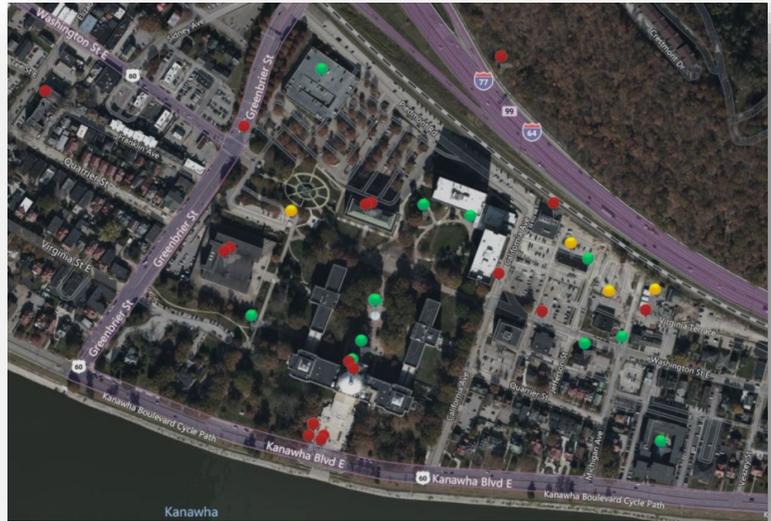


5. Relevant Project Examples

Local Experience

LOCAL PROJECT EXPERIENCE

We have completed hundreds of Materials Testing, Geotechnical, Environmental, and Geophysical projects throughout the West Virginia region, specifically the West Virginia Capitol Complex. We have diligently tracked data on subsurface conditions and project findings for all these projects and routinely utilize this information to benefit our clients' strategic decision-making. We understand the unique geological and environmental issues relevant to key regions. Our experts are familiar with navigating various local, state, and federal regulations and processes that may overlap at any site.

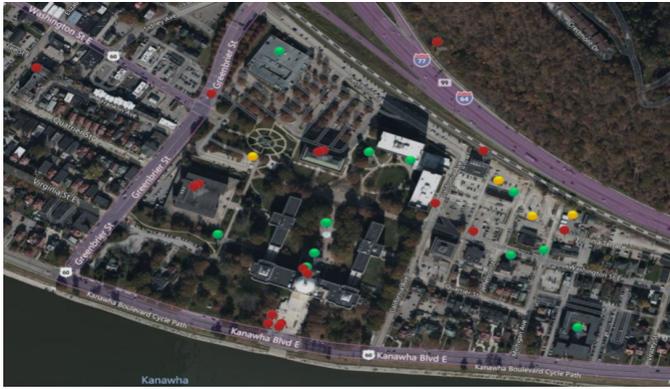


Our 6,000 professionals add depth of expertise, fortify bench strength, and bring value to our clients and partners. Our nationwide network of professionals allows us to initiate services easily on one or multiple contracts or task orders simultaneously. Our resources, including one of the country's largest drill rig fleets (130+ drill rigs) and more than 60 USACE-validated laboratories, mean extensive support for various clients and partners. We have the know-how, having successfully executed thousands of West Virginia contracts since 1965.

Terracon's project experience within the West Virginia State Capitol Complex include:

- *West Virginia State Capitol Mortar Project*
- *Capitol Parking Garage Project*
- *Proposed State Capitol East Campus Redevelopment*
- *East Campus Metal Buildings*
- *Capitol Sinkhole Project*
- *Cultural Center South Garden Hardscape*
- *Lincoln Plaza Capitol Project*
- *West Virginia State Capitol Bollard Removal*
- *Concrete Sampling & Testing Contract*
- *Fire Proofing Building 5 & 6 Materials Testing*
- *West Virginia Capitol - Building 3 Hydronic Boiler Upgrades*
- *Proposed Capitol Circle Sidewalk Subsidence*
- *North Stairs Restoration Project*
- *West Virginia State Capitol Building GPR*
- *Capitol Court Yard Lighting*
- *West Virginia State Capitol Soil Bearing*

Terracon will partner with [Chapman Technical Group](#) to deliver comprehensive Survey Monument services, ensuring seamless coordination and execution of all specialty survey components.



West Virginia Capitol Complex Project Experience Charleston, West Virginia

We have completed hundreds of Materials Testing, Geotechnical, Environmental, and Geophysical projects throughout the West Virginia region, specifically the West Virginia Capitol Complex. We have diligently tracked data on subsurface conditions and project findings for all of these projects and routinely utilize this information to benefit our clients' strategic decision-making. We understand the unique geological and environmental issues relevant to key regions. Our experts are familiar with navigating various local, state, and federal regulations and processes that may overlap at any site.

CLIENT:

Multiple Entities

HIGHLIGHTS:

Geotechnical Engineering
Materials Testing Services
Pavement Consulting
Special Inspections Services
Concrete Testing and Inspection

Our 6,000 professionals add depth of expertise, fortify bench strength, and bring value to our clients and partners. Our nationwide network of professionals allows us to initiate services easily on one or multiple contracts or task orders simultaneously. Our resources, including one of the country's largest drill rig fleets (130+ drill rigs) and more than 60 USACE-validated laboratories, mean extensive support for various clients and partners. We have the know-how, having successfully executed thousands of West Virginia contracts since 1965.

Terracon's project experience within the West Virginia State Capitol Complex include:

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- ♦ Capitol Parking Garage Project
- ♦ Proposed State Capitol East Campus Redevelopment
- ♦ East Campus Metal Buildings
- ♦ Capitol Sinkhole Project
- ♦ Cultural Center South Garden Hardscape
- ♦ Lincoln Plaza Capitol Project
- ♦ West Virginia State Capitol Bollard Removal
- ♦ Concrete Sampling & Testing Contract
- ♦ Fire Proofing Building 5 & 6 Materials Testing
- ♦ West Virginia Capitol - Building 3 Hydronic Boiler Upgrades
- ♦ Proposed Capitol Circle Sidewalk Subsidence
- ♦ North Stairs Restoration Project
- ♦ West Virginia State Capitol Building GPR
- ♦ Capitol Court Yard Lighting
- ♦ West Virginia State Capitol Soil Bearing



WV Department of Natural Resources Building 74 Renovations

324 4th Avenue
South Charleston, West Virginia

Chapman Technical Group developed a multi-phase project for the renovation of Building 74 in South Charleston, West Virginia for the West Virginia Department of Administration, General Services Division (GSD). In Phase 1, Chapman Technical Group provided a thorough evaluation of the interior and exterior of the existing 37,000 square-foot building, including functional analysis, code review, and evaluations of the building enclosure, roof, electrical, and mechanical systems. The second phase was the demolition of the existing interior spaces in anticipation of a complete remodel for the new tenant. The third phase provided a complete renovation including approximately 120 offices, conference rooms, break rooms, and support spaces for the new tenant. A new roof, new windows, and new HVAC and electrical systems were included in the renovations, as well as site renovations, improved parking, and landscape architecture. The project included site improvements and site surveying.





WV Department of Administration

Capitol Complex
Warehouse and Grounds Buildings
Charleston, West Virginia

The State of West Virginia needed to upgrade and consolidate its warehouse facilities, as well as its building-and-grounds maintenance facilities. A new 28,000 square-foot warehouse building, a 5,000 square-foot buildings-and-grounds facility, and a 3,000 square-foot mail room building were included in the project. Parking and vehicle access were major components and low-impact stormwater facilities were designed to minimize impact on the City of Charleston's combined sewer system. Chapman Technical Group provided architectural design; civil and structural engineering; mechanical, electrical and plumbing engineering; landscape architecture services; and surveying.





West Virginia Department of Administration WV State Capitol Main Stairs and Lincoln Plaza Restoration

Charleston, West Virginia

Built in 1930's, ninety years of use and exposure to elements deteriorated the monumental entry stairs and Lincoln Plaza at the WV State Capitol. Chapman Technical Group designed and provided construction administration for their restoration of the 28,000 SF, \$1.6M historic project.

Limestone at stairs, fountains, and landings were repaired with stone mortar, re-surfaced, re-set, or were replaced entirely. That limestone was repointed along with the brick plaza pavers. The concrete walks and ramp were replaced with the ramp's curved bronze handrails now providing access to the plaza level. Failed trench drains were replaced with stainless steel to manage storm water that caused some of the deterioration. The limestone base for the statue of Lincoln was re-set, with new lead caps protecting the transition to the granite. This work, plus the stair wing walls, were cleaned using methods appropriate for historic work.



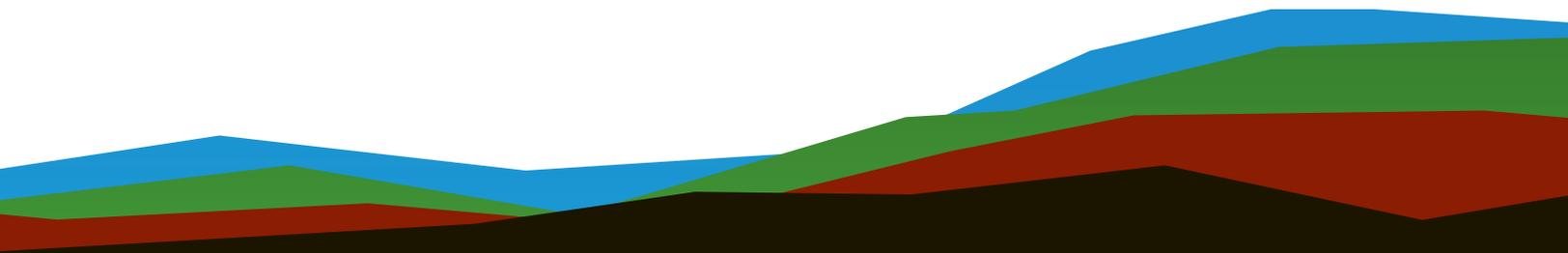


West Virginia Capitol Plaza Repair Project

West Virginia Department of Administration

Charleston, West Virginia

As part of the ongoing State Capitol hardscape repairs, Chapman Technical Group designed repairs to the historic entrances to the main capitol building. Limestone pavers had deteriorated and needed to be replaced. The design included a reinforced concrete base for the new limestone pavers to withstand occasional vehicular traffic. The project also included repair and replacement of historic granite stairs leading to one of the entrances to the Capitol East Wing.



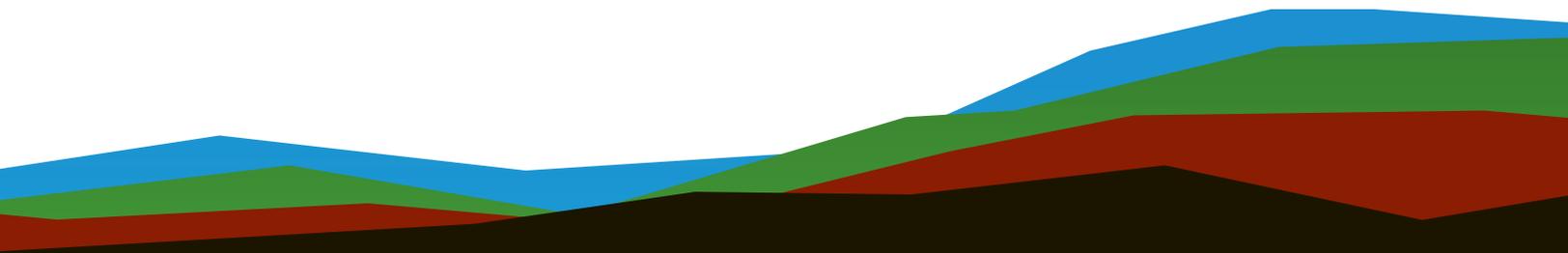
6. References

References

Jeffrey Rogers
Nucor Corporation
704-353-9018

Erika Connelly
Kanawha County Library
304-343-4646

Matthew Runion
American Electric Power
540-824-5230



7. Attachments



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

Proc Folder: 1918355			Reason for Modification:
Doc Description: EOI: Special Inspections and Survey Monuments			
Proc Type: Central Contract - Fixed Amt			
Date Issued	Solicitation Closes	Solicitation No	Version
2026-03-03	2026-03-19 13:30	CEOI 0211 GSD2600000001	1

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code: 000000185474
Vendor Name : Terracon Consultants, Inc.
Address : 912
Street : Morris Street
City : Charleston
State : West Virginia **Country :** USA **Zip :** 25301
Principal Contact : John R. Barclay, Jr.
Vendor Contact Phone: 304-344-0821 **Extension:** N/A

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

Vendor Signature X  **FEIN#** 42-1249917 **DATE** 03/18/2026

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) John R. Barclay, Jr./Principal, Operations Manager

(Address) 912 Morris Street, Charleston, WV 25301

(Phone Number) / (Fax Number) 304-344-0821 / 304-342-4711

(email address) bob.barclay@terracon.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Terracon Consultants, Inc.

(Company) 

(Signature of Authorized Representative)

John R. Barclay, Jr./Principal, Operations Manager

(Printed Name and Title of Authorized Representative) (Date)

304-344-0821 / 304-342-4711

(Phone Number) (Fax Number)

bob.barclay@terracon.com

(Email Address)