

WV General Services Division Building 37 Upgrades Project

CEOI 0211 GSD2300000004

Expression of Interest for
Architectural/Engineering Services

February 1, 2023





**Chapman
Technical
Group**
a division of
GRW

February 1, 2023

Ms. Melissa Pettrey
Department of Administration
Purchasing Division
2019 Washington Street, East
Charleston, West Virginia 25305

**Re: A/E Services for Building 37
Upgrade Project**

Dear Ms. Pettrey:

Chapman Technical Group is most interested in providing the required A/E services for the Building 37 Upgrade project. Our project team has offered similar services for projects throughout West Virginia, including the design of the renovation of Building 74, the historic State Road Commission (SRC) Building for the West Virginia Division of Highways, and Clay County High School renovations. We also recently completed the design of the West Virginia State Capitol East Campus project.

Our in-house personnel include architects, as well as mechanical, electrical, and civil engineers. Our team also includes Carol Stevens (CAS Structural Engineering) for any structural issues that may arise, and Terracon, who will address microbial growth remediation. We have developed a detailed Project Approach outlining our specific capabilities and approach for each project issue. We have completed many projects for various State agencies and understand the State Purchasing system. We are well-equipped to work within their framework.

We would appreciate the opportunity to appear before your selection committee and further discuss your project and our qualifications.

Sincerely,

CHAPMAN TECHNICAL GROUP

Joseph E. Bird, ASLA
Vice President

200 Sixth Avenue
Saint Albans, WV 25177

304.727.5501
304.727.5580 Fax

Buckhannon, WV
Lexington, KY

www.chaptech.com



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: 1148169
Doc Description: Bldg. 37 Window, HVAC, Roof, and Envelope Upgrades Project
Reason for Modification:

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2023-01-06	2023-01-25 13:30	CEOI 0211 GSD2300000004	1

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code:
Vendor Name : Chapman Technical Group
Address : 200
Street : Sixth Avenue
City : Saint Albans
State : West Virginia **Country :** USA **Zip :** 25177
Principal Contact : Joseph E. Bird, Senior Vice President
Vendor Contact Phone: 304-727-5501 **Extension:** 154

FOR INFORMATION CONTACT THE BUYER

Melissa Pettrey
 (304) 558-0094
 melissa.k.pettrey@wv.gov

Vendor Signature X

FEIN# 550704766

DATE 2/1/2023

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

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) Joseph E. Bird

(Address) 200 Sixth Avenue, Saint Albans, WV 25177

(Phone Number) / (Fax Number) 304-727-5501/304-727-5580

(email address) jbird@chaptech.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.

Chapman Technical Group

(Company) 

(Signature of Authorized Representative)

Joseph E. Bird, Senior Vice President 2/1/2023

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

304-727-5501/304-727-5580

(Phone Number) (Fax Number)

jbird@chaptech.com

(Email Address)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CEOI GSD2300000004

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Chapman Technical Group

Company

Authorized Signature

2/1/2023

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

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Section 2.0 - Company Overview & Awards

Section 3.0 - Project Team & Resumes

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GOAL 1: ASSESS EXISTING BUILDING SYSTEMS

Team Experience

Detailed Project Experience information is provided in Section 3.0. Highlights below:



State of Kentucky, Courthouse Assessments: Multiple Locations throughout Kentucky.

- Whole-Building Assessments for 37 courthouses
- Completed assessment and issued reports covering: Age & History, Structural Soundness, Performance & Lifecycle Assessment of Mechanical & Electrical Systems, Security Needs, Building Code & ADA Compliance, Space Adequacy of Facilities Relative to AOC Space Program Requirements, Interior & Exterior Quantity of Existing Court Facilities & Potential Environmental Hazards.
- Phased Construction Recommendations
- Probable Construction Cost Estimates

MSD Morris Forman Water Treatment Facility; Louisville, KY

- Whole-Building Assessment
- Phased Construction Recommendations
- Probable Construction Cost Estimates
- Three construction projects have been released based on assessment recommendations.

Performing the Assessment and Preparing the Report

- Gather Existing Building Data
 - ⇒ Meet with current Building Manager to discuss known issues and deficiencies
 - ⇒ Collect Operation & Maintenance Manuals, repair logs, existing building plans and specifications, and documented building alterations
 - ⇒ Conduct initial tour of facility for assessment planning purposes
- Develop an Assessment Plan
 - ⇒ Review initial findings to determine specific areas that require concentrated or additional investigation
 - ⇒ Allocate specific personnel and testing resources
- Perform additional site visits to complete testing and documentation of specific systems
 - ⇒ Photographs
 - ⇒ Test Reports
- Data Evaluation
 - ⇒ Specific systems are evaluated by qualified team member for recommendations
 - ⇒ Recommendations are then reviewed by entire team to establish priorities & possible phasing
 - ⇒ Rough cost estimates established for client discussion
- Issue Report
 - ⇒ Meet with client for preliminary report review to discuss findings and recommendations
 - ⇒ Discuss phasing and probable costs
 - ⇒ Alter and finalize report based on client review.

GOAL 2: WINDOW SYSTEM REPLACEMENT

Team Experience

Window systems are an integral part of any building, restoration or new. Detailed Project Experience information is provided in Section 3.0. Highlights below:

Similar Window Systems

- Frankfort Plant Board—structural silicone glazing systems
- Weisberg Family Engineering Laboratory—curtain wall system
- B&O Building Restoration—window replacement
- WV Division of Highways—window replacement

Energy Analysis

An Hourly Analysis Program, HAP, can model generate an energy model using specific thermal properties. After modeling the existing situation, our team can evaluate multiple window systems based on their thermal properties. Modeling can determine which system will provide the most energy savings and shortest payback timeframe.

Fenestration Specialist

The existing windows are failing and replacement appears to be the most probable solution; however, it may be worthwhile to consult a specialist for a more thorough inspection and analysis. Our team can add a specialist to evaluate the existing condition and explore potential cost-saving options.

Microbial Growth Remediation



Chapman Technical Group has an established team member in Terracon. Their

Industrial Hygiene Services division would develop a remediation plan to address existing mold and microbial growth. Their input on the new window system and the prevention of future microbial issues will also be valuable.

You can find Terracon company information and resumes in Section 6.0.



GOAL 3: UPGRADE HVAC SYSTEMS

Team Experience

Our team has experience with the existing HVAC system used in this facility. Detailed Project Experience information is provided in Section 3.0. Highlighted project:

Henry Clay High School HVAC Replacement Project: **Lexington, KY**

- 243,178 sf , 20-year old facility
- Comprehensive assessment HVAC, controls, lighting
- Aging components with constant maintenance issues
- Unbalanced system with humidity issues
- Replaced with new water source heat pump system served by a new cooling tower and boiler, connection to a hydronic piping loop.
- Addressed airborne transmissions with Bi-Polarization
- New direct digital controls with BACnet capability, accessible from remote locations

Energy Analysis

Just as discussed in GOAL 2, an Hourly Analysis Program, HAP, will be used to evaluate existing and proposed changes.

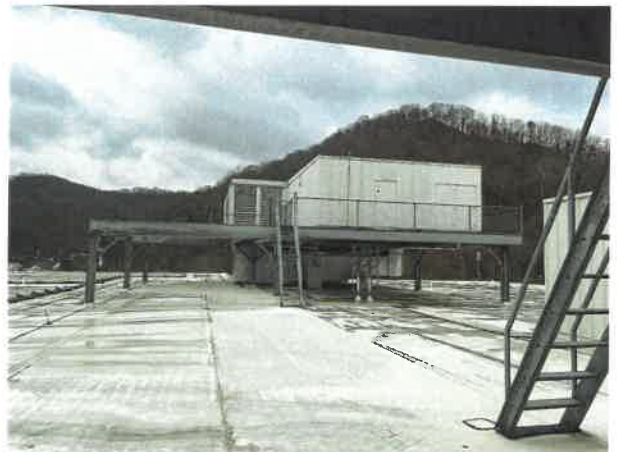
After inventory and analysis of the existing system is complete, our team will model the existing conditions, using existing system components. Changes will be made to the model— replacing certain components, keeping other components— until GSD is satisfied with the energy savings and payback timeframe.

The LEED Component

This building was one of the first to achieve a LEED certification in West Virginia, and a Silver Certification is a true distinction. Our team is qualified to make any upgrades LEED compliant should GSD choose to acquire recertification for this facility.

Mitigating Airborne Transmission

Although this facility was state-of-the-art in its day, technology has brought many changes to the HVAC industry. Specialized filtration, irradiation, and thermal sterilization are a few advances. New technology in this field can be incorporated as GSD evaluates renovation possibilities.



GOAL 4: ROOF REPLACEMENT

Team Experience

Detailed Project Experience information is provided in Section 3.0.

Selected roof replacement and renovation projects:

Roof Replacements:

Lewis County Courthouse Roof Restoration, Weston, WV
State Road Commission Renovation, Charleston, WV
Coal Heritage Discovery Center, Mt. Hope, WV
Smithville Elementary Addition & Renovation, Harrisville, WV
St. Albans Water Treatment Plant Building Renovation, St. Albans, WV
Memorial Education Center, Pulaski County Schools, Somerset, KY
Day Treatment Center, Pulaski County Schools, Somerset, KY
Oak Hill Elementary School, Pulaski County Schools, Somerset, KY
Cumberland Valley Technical College Building One Renovation, Harlan, KY
Kennedy Building, ES Mental Hospital Building Renovations, Lexington, KY
Harlan County Courthouse Renovations, Harlan, KY
Communities at Oakwood Cottage Renovation, Somerset, KY
Nicholas County Armory Building Restoration, Carlisle, KY
Nicholas County Courthouse Renovation, Carlisle, KY
Hancock County Senior Center, Hawesville, KY
Russellville Harrison-Hite Building Restoration, Russellville, KY

Roof Repair & Renovation:

Northern Middle School, Pulaski County Schools, Somerset, KY
Independence Courthouse, Covington, KY
Jessamine County Courthouse, Nicholasville, KY
Wendell Building, Eastern State Mental Hospital Building Renovations, Lexington, KY
Metcalf County Library Renovation and Addition, Edmonton, KY
Fayette County Public Schools Central Office Renovation, Lexington, KY
Bryan Station High School, Lexington, KY



Investigation

EPDM roofing systems provide years of service; however, this facility's roof may be nearing the end of its lifespan. Investigation and testing may help GSA determine if dollars need to be allocated to roof replacement sooner rather than later.

An intensive visual inspection of the roof for soft spots, seam separations, and blistering can be conducted. Other more technical forms of inspection and testing include thermography and low or high voltage electronic leak detection. Targeted spot repairs to the existing roof may allow GSD to allocate funding to more urgent facility issues.

Safety Railing

The installation of safety railing is needed. Two issues are critical with safety railing: the connection to the existing structure and waterproofing the penetrations. Our structural engineer will work closely with project architect to

GOAL 5: CLEANING & SEALING EXTERIOR

Team Experience

Highlighted Project:

Upshur County Courthouse; Buckhannon, WV

- Restoration of turn-of-the century courthouse
- Exterior cleaning
- Brick repointing
- Metal roof panel replacement & restoration
- Stone replacement & restoration
- Complete sealant replacement

Select Exterior Masonry Restoration Projects:

Tucker County Jailer's Residence Renovation, Parsons, WV

Coal Heritage Discovery Center, Mt. Hope, WV

State Road Commission Renovation, Charleston, WV

Water Treatment Plant Masonry Repairs, Bowling Green, KY

Eastern State Hospital Wendell Building, Lexington, KY

Fayette Co. Public Schools Central Office Renovation, Lexington, KY

Fayette County Public Schools Exterior Renovation of Bryan Station High School, Lexington, KY

Fred M. Vinson Birthplace/Visitor Center Renovation, Louisa, KY

Harlan County Courthouse Renovations, Harlan, KY

Holt House Restoration, Hardinsburg, KY

City Hall Renovation and Addition, Jackson, KY

Jessamine County Courthouse Study and Exterior Renovation, Nicholasville, KY

Kentucky American Water Kentucky River Station I, Lexington, KY

Lexington-Fayette Urban County Government West Hickman Wastewater Treatment Plant, Lexington, KY

Historic Building Renovation, New Castle, KY

Nicholas County Courthouse Renovation, Carlisle, KY

Pulaski County Northern Middle School, Somerset, KY

Day Treatment Center, Pulaski County Schools, Somerset, KY

Rebecca Newland House/Stephenson Homestead Rehabilitation and Stabilization, Stanford, KY

Harrison-Hite Building Restoration and Adaptive Re-Use, Russellville, KY

Transportation Museum, Cadiz, KY

U.S. Steel Restaurant Stabilization at Lynch Mining Facilities, Lynch, KY



Investigation & Cleaning

A RILEM test can be conducted on the masonry components to evaluate porosity. Sealant recommendations follow test results. Masonry sealant may be a consideration along with the window replacement and sealant replacement work.

There are many cleaning products and methods of cleaning available. Selecting the correct cleaning products and method for this facility is critical to its longevity. Selecting green, non-toxic products is also important, particularly when dealing with an occupied building.

GOAL 6: OCCUPIED CONSTRUCTION

Team Experience

Detailed Project Experience information is provided in Section 3.0. Of these featured projects, these were occupied during construction:

Clay County High School, Clay, WV
B&O Building Restoration, Wheeling, WV

Other Projects Occupied during Construction:

Beckley Water Company Office, Beckley, WV
Lewis County Courthouse Renovations, Weston, WV
Upshur Co. Courthouse Renovations, Buckhannon, WV
Mercer Co. Airport Terminal Renovation, Bluefield, WV
WV State Capitol Building 1/ Lincoln Plaza Renovations, Charleston, WV



Phased Construction

Our team frequently works with clients to complete their projects in multiple construction packages. Today's economy is more volatile than ever and preparing phased plans is a necessity. Phased construction is a valuable method for large-ticket renovations and upgrades.

A phasing plan needs to be established. This process looks at need and funding—what issue is critical and how much will it take to address it. We help identify and prioritize their issues based on safety, occupant comfort, maintenance requirements, etc.

Accurate cost estimates are crucial to phased construction. Can GSD afford to fund the most critical issue first? Can the project be reduced to fit available funds? Our team will work with GSD to generate to evaluate need and dollars.

Occupied Construction

Renovation projects often involve working with site personnel and the public. Occupied construction requires planning to ensure vital systems are maintained and that people working in the facility and the public that uses their services are kept safe. We help our clients develop a moving and staging plan as they prepare for upcoming construction.

Public Procurement Methods

Public projects have paperwork challenges. We have navigated the State of West Virginia procurement process many times. We have completed project with West Virginia General Services, Department of Natural Resources, and the Department of Highways.



COMPANY OVERVIEW & AWARDS



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.

COMPANY OVERVIEW & AWARDS



SRC Building Renovation
WV AIA Merit Award, 2016
Historic Preservation



I-79 Rest Area
AIA Merit Award, 2010

COMPANY OVERVIEW & AWARDS



Upshur County Courthouse Renovations
WV AIA Honor Award, 2008
Historic Preservation



COMPANY OVERVIEW & AWARDS



Upper Big Branch Miners Memorial
WV ASLA Honor Award, 2012



Nuttallburg Historic Mining Complex
WV ASLA Merit Award, 2012



WV Department of Natural Resources Building 74 Renovations

324 4th Avenue
South Charleston, West Virginia

Chapman Technical Group was selected to provide a multiphase project for the Renovations of Building 74 for the 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. Phase 2 will provide design services as directed by the GSD to resolve issues identified in Phase 1. Phase 3 will develop construction documents and provide construction phase services for phased construction projects to enable continuous tenant occupancy of the building.



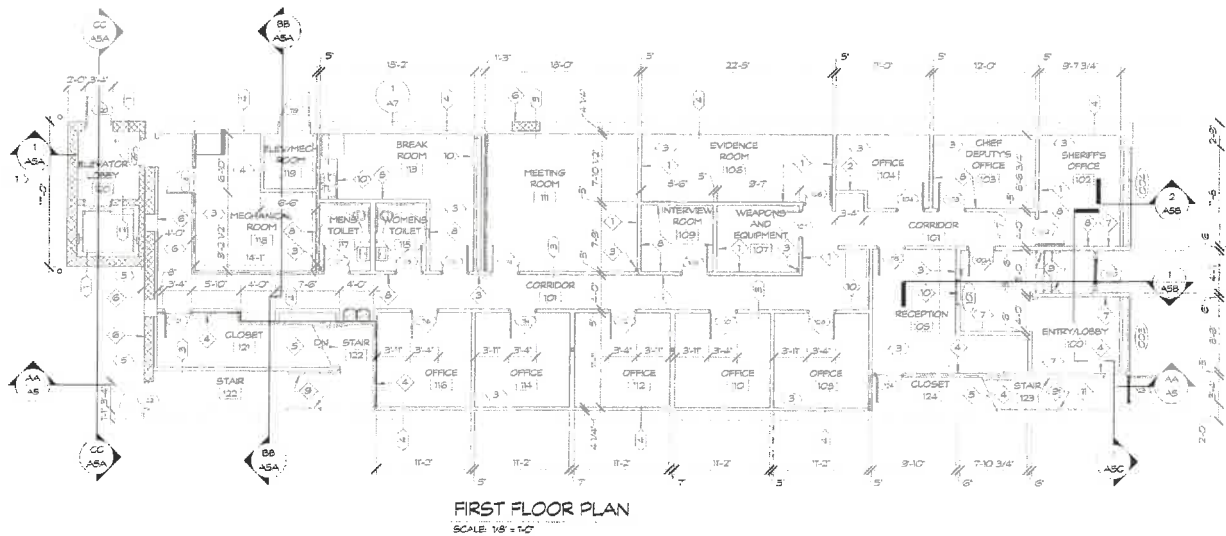


WV Division of Highways State Road Commission Building Renovation Charleston, WV

As part of the West Virginia Division of Highways District One Campus Renovation, the former State Road Commission Building was renovated to serve as an office building for various DOH personnel. The historical 40,000 square-foot facility retained many historical features, including many original doors and transoms, while providing energy-efficient and cost-effective systems throughout. In addition to a complete interior makeover that included a historic information center and radio studio, the building also received new exterior doors, windows, roofing and a new elevator. A skywalk connects the building to a new Headquarters Building being constructed beside the SRC Building, and a courtyard between the two will be provided for employee use.



ARCHITECTURE



Mason County Sheriff's Office

Point Pleasant, WV

The Mason County Commission selected this existing building adjacent to the County Courthouse to be headquarters for the Mason County Sheriff's Department. The three story 11,500 square-foot facility remained basically unchanged on the exterior with the exception of minor facade repairs, new doors and windows. The first floor interior of the building was completely demolished and rebuilt to house the new Sheriff's Office while the second and third floor were renovated for Sheriff's office storage, voting machine storage and programming, and other County needs. Other additions and renovations included a new elevator at the rear of the building, a new sprinkler system throughout the building,



ARCHITECTURE



Coal Heritage Area Authority Coal Heritage Discovery Center Mt. Hope, West Virginia

The Coal Heritage Discovery Center will occupy the historic Patteson Building in downtown Mt. Hope. The Coal Heritage Discovery Center will consist of offices, meeting rooms, an historic information center, a small theater space, a public lobby area, a gift shop, and a small café area. There will also be an outdoor patio which can be used as exterior café seating.

The Center will be constructed in two phases. The first phase consisted of remedial work to weatherize the building and included the installation of a new roof and roof structure; repointing and repair of the exterior brick; cleaning the interior of the building and the installation of new doors and storefront.



Right: Interior prior to renovation.

ARCHITECTURE



B&O Building Restoration **WV Northern Community College** Wheeling, West Virginia

Built in 1908, the B&O Building served as the main terminal building of the Baltimore and Ohio Railroad in Wheeling, WV, until 1962. A private owner purchased the building in the 1960s and used part of the building as a bar. The State of West Virginia purchased the building in 1975 and opened it for community education in 1976 and it is now home to the Northern West Virginia Community College.

In 2021 the College engaged Chapman Technical Group to evaluate the current conditions of the B&O Building and recommend cleaning and repairs to the masonry, terra cotta, and windows.





Clay County Board of Education Clay County High School Renovations

1 Panther Drive
Clay, West Virginia

Clay County High School serves 550 students in grades 9 through 12 and is the only high school in the county. The school was constructed in 1970 and needed renovations to make it a more modern learning facility. Because Clay is a small rural county, the high school serves as a place of learning and acts as a community center and gathering place for the county.

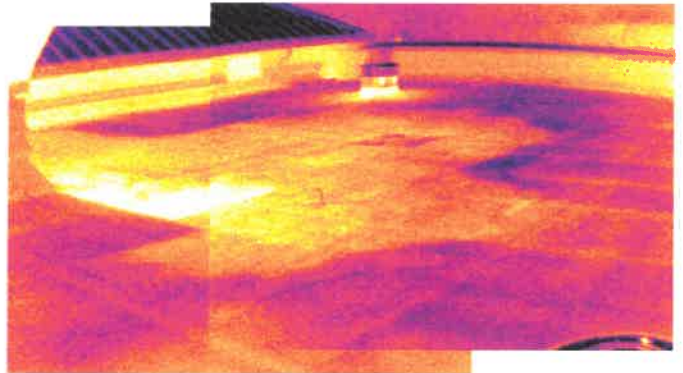
Renovations to the school were quite extensive and included new HVAC systems, fire alarm and security systems, a secure office entrance, new toilet rooms, new windows, new secure classroom door hardware, reworking the locker rooms and gym and the addition of a new commons area.

The renovations and addition have significantly improved the health, safety and welfare of the students and staff at this school and have had a direct impact on improving the learning environment.

Through improved Indoor Air Quality and comfort, improved safety and the improved overall functionality of the school, this facility will continue to serve the residents of Clay County for many years.



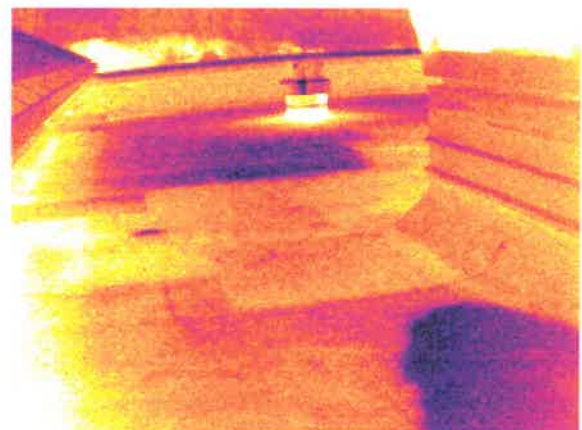
Visual image of area #1



Infrared view of area #1



Visual image of area #2



Infrared view of area #2

Knott County Judicial Center Roof Inspection Report

2003 W Main Street
Hindman, Kentucky

With the advent of thermography, roofs can be scanned with a highly sophisticated infrared camera to detect and accurately map subsurface moisture, thereby determining whether a portion or all of the roof requires replacement. Unlike other non-destructive techniques, thermal scanning assesses every square inch of roofing, including vertical flashings and around and under roof obstructions and equipment. This results in a comprehensive view of the roof's condition, with the possibility of errors virtually eliminated.

The objective of the report was to identify area of subsurface moisture or where moisture has penetrated the roof membrane and deck structure. Those areas were

documented with roof markings and correlated on a roof map with real-life and infrared photos.

When an abnormality on the thermogram appears, usually as a lighter colored area, it can be interpreted to be either wet or at one time wet and has lost some of its original quality of texture and strength. The outline of these areas is marked on the surface of the roof with spray paint: in some areas only a number is painted, as these areas had no definite pattern or the roof is completely wet.

ARCHITECTURE



Frankfort Plant Board New Administration Building

Frankfort, KY

The Frankfort Plant Board, a municipal utility company that provides cable, broadband, telephone, security, electric and water for the city of Frankfort, KY, and surrounding areas, hired GRW to provide programming, planning and design services for its new consolidated administration building and associated 30-acre site.

The new three-level, 46,000 SF administration building project consolidates the Frankfort Plant Board's administrative offices for accounting, human resources, management, IT, and dispatch. In addition, facilities were provided for the Plant Board's public customer service functions including cashier/payment service stations, exterior drive through tellers, product service representation, and a board/community room. The facility also includes backup utility systems and a designated shelter area.

The building facade is primarily constructed of architectural precast concrete panels with design elements such as structural silicone glazing systems and aluminum panels.



ARCHITECTURE



Weisberg Family Engineering Laboratory Marshall University

Huntington, West Virginia

Chapman Technical Group's parent company, GRW, was hired by Marshall University to masterplan and design the first phase for a new engineering complex on their main campus in Huntington, West Virginia. This 16,000 SF teaching facility houses materials, soils, hydraulics, structural, and environmental laboratory space, as well as classroom space, public space for students and faculty offices. A building-wide access control system was provided to monitor usage and control entry.

The curved façade of the building was designed to create a park-like plaza along the north edge of 3rd Avenue, giving a softened edge to what previously had been parking lots and pavement. Brick and other exterior building materials were selected to complement the adjacent campus buildings, thus giving a more unified appearance to the campus.



ORGANIZATIONAL CHART



West Virginia Department of Administration General Services Division

Joseph Bird, ASLA,
Project Officer

Phill Warnock, AIA
Project Manager

Architecture

Phill Warnock, AIA
Jim Piper, AIA, LEED AP BD+C

Mechanical/Electrical

Monty Maynard, PE, LEED, AP BD+C
Cory Sharrad, PE, LEED AP

Structural Engineering

CAS Structural Engineering
Carol Stevens, PE

Abatement

Terracon
Daniel J. David, CEM, CES
Brad Knipper, MS, CIH, ESP



Joseph E. Bird, ASLA

Senior Vice President Project Manager

Years of Experience: 44
Years with Chapman: 37

Education

B.S., Landscape
Architecture, 1978
West Virginia University

Registration

Architect: WV, KY, IN

Affiliations

Council
of Landscape
Architectural
Registration Boards

WV Chapter,
American Society of
Landscape Architects

Experience

Joe has been involved in a wide range of projects in his 40+ years of experience. In addition to his landscape architectural design experience, he has served as Project Manager for many major multi-discipline projects ranging from site development to major architectural projects. His experience includes coordinating the efforts of various local, state, and federal agencies.

Site Development

Site planning and project management for numerous projects throughout West Virginia ranging from small campus sites to large sites for commercial, government, industrial, and institutional development. Projects include military complexes, campuses, public housing developments and other public facilities.

Parks and Recreation

Projects include, master planning for municipal parks, swimming pools, bathhouses, cabins and support facilities for the West Virginia Division of Natural Resources and similar facilities for county and municipal park systems. Also involved in the design of facilities such as softball fields, fishing access facilities, recreation facilities for prisons, as well as passive recreation areas for public and private clients.

Miscellaneous

Other project experience includes the urban planning and development, streetscape design, roadway and storm drainage projects, as well as the project management of numerous major architectural projects throughout West Virginia.

Recent Relevant Experience

Old Central City Gazebo Space Redesign; Huntington, WV
Smith Street Streetscape; Charleston, WV
St. Albans C Street Plaza; St. Albans, WV
Scottsville Streetscape; Scottsville, KY
Meadow River Trail; Greenbrier County, WV
Clear Fork Trail; Raleigh County, WV



Phillip A. Warnock, NCARB, AIA Vice President

Years of Experience: 31
Years with Chapman: 19

Education

B.S., Architecture, 1995
University of Tennessee

Registration

Architect: WV, KY, IN, TN

Affiliations

National Council
of Architectural
Registration Boards

WV Chapter,
American Institute
of Architects

Awards

Honor Award, WV AIA
Upshur County Courthouse

Merit Award, WV AIA
I-79 Burnsville Rest Area

Merit Award, WV AIA
State Road Commission
Building

Publications

Structure Magazine,
February 2010
"A Gem in the Mountains"
Upshur County Courthouse
Restoration

Experience

Phill is an award-winning architect with extensive experience, having worked with clients on programming / planning, budget analysis, design, construction documents, meeting coordination, bidding / negotiation services, construction phase services, and code compliance. He is especially skilled in renovation and historic restoration projects for government and municipal facilities.

WV Division of Natural Resources, Building 74 Renovation; Charleston, WV

Project Architect for evaluation and recommendations for possible improvements and upgrades to building systems in three-story, 37,000 SF, masonry-construction facility that houses approximately 100 employees. Among improvements selected for design are replacement of heating and cooling systems, windows, T5 lighting with LED fixtures, and replacement of ceilings and floor finishes, as well as new DDC controls throughout building.

WV DOT Rest Areas and Welcome Centers

Project Architect for the design and construction of the prototype rest areas and welcome centers for various locations throughout West Virginia.

State Road Commission Building; Charleston, WV

Project Architect for the renovation of the historic State Road Commission Building for the West Virginia Division of Highways. The 40,000 square-foot building houses offices and support facilities for the local highway district. In addition to a complete interior makeover that included a historic information center and radio studio, the building also received new exterior doors, windows, roofing and a new elevator. A skywalk connects the building to a new Headquarters Building that was constructed beside the State Road Commission.

District One Equipment Shop Building; Charleston, WV

Project Architect for the design of the new \$10 million vehicle equipment shop building for District One which includes multiple service bays, parts storage, welding shop, and offices.

Coal Heritage Discover Center; Mt. Hope, WV

Project Architect for the Coal Heritage Discovery Center, which is a rehabilitation of the historic Patterson Building in downtown Mt. Hope. The Coal Heritage Discovery Center is designed to house WVDNR WMA Storage Buildings offices, meeting rooms, an historic information center, a small theater space, a public lobby area, a gift shop, and a small café area. There will also be an outdoor patio which can be used as exterior cafe seating.



Jim Piper, Jr., AIA LEED AP-BD+C Project Architect

Years of Experience: 36
Years with GRW: 27

Education

Bachelor of Architecture,
1987, University of Ken-
tucky

Registration

Registered Architect: KY,
IN, VA, OH, MI, GA

National Council of Archi-
tectural Registration Boards
(NCARB) Certification

LEED Accredited
Professional BD+C

Affiliations

AIA Kentucky Code Review
Committee (2021)

Kentucky Housing, Buildings
and Construction Advisory
Committee (2016-2017, 2017-
2018)

AIA East Kentucky Chapter
Board of Directors (2017)

American Institute of
Architects (AIA)
Kentucky Masonry

Institute Certified Masonry
Specialist

Steel Window Restoration
Seminar, Kentucky Heritage
Council

AIA School Facilities
Construction A to Z
Continuing Education

Experience

Jimmy has comprehensive architectural services experience, having worked with clients on programming / planning, budget analysis, design, construction documents, meeting coordination, bidding / negotiation services, construction phase services, and code compliance. He regularly provides leadership in architectural design and project management for new building design and renovation projects such as higher education facilities, municipal buildings, large military campus structures, and historic / cultural renovations / restorations. Jimmy's industry leadership roles include serving on the Board of Directors of the American Institute of Architects East Kentucky Chapter and the Commonwealth of Kentucky's Department of Housing, Building and Construction Committee. Also, because Jimmy worked for five years following graduation as a general contractor, he is very familiar with construction materials, methods, and techniques.

Kentucky Administrative Office of the Courts; Frankfort, KY
Project Manager responsible for assessment of the roof at the Knott County Justice Center to identify failed and underperforming components and to generate a prioritized list of recommended repairs/replacement that will improve reliability and performance.

Fort Knox Warriors in Transition Headquarters Building; Fort Knox, KY
Project Architect responsible for design oversight of the design-build team, as well as coordinating DoD/USACE RFP design guidelines and requirements, code review, design-build proposal documents, design after award, QC review coordination, review submissions coordination, LEED coordination, and construction administration oversight.

Knott County Judicial Center Roof Assessment; Hindman, KY
Project Architect responsible for assessment of roof to identify failed and underperforming components and to generate prioritized list of recommended repairs/replacement that will improve reliability and performance.

Crittenden County Courthouse Facility Assessment; Marion, KY
Project Architect responsible for on-site inspection and assessment to identify building interior and exterior deficiencies, space limitation issues, security concerns, and ADA compliance issues. Report included findings, potential solutions and cost estimates.



Monty Maynard, PE

LEED AP BD+C

Vice President

Years of Experience: 44
Years with GRW: 25

Education

B.S., Electrical Engineering,
1978,
University of Kentucky

Registration

Professional Engineer
(Electrical): KY, WV, IN, GA,
TN, TX, NV, NC, MS, MI, AL,
CA

LEED Accredited
Professional, Building
Design + Construction

Affiliations

National Fire Protection
Association

International Society of
Automation

American Council of
Engineering Companies

National Council of
Examiners for Engineering
and Surveying

Experience

Monty's experience with electrical design, process instrumentation and control design, and project management is extensive. He has been involved with the design of building systems for more than 300 projects, ranging from water resources projects to the design-build of federal prisons with total construction values as high as \$984 million. His areas of technical expertise include electrical power distribution, substation design, alarm systems, communications, lighting, lightning protection, instrumentation/controls/telemetry, power quality, energy efficiency and code compliance.

Cumberland Valley Technical College Building One Renovation; Harlan, KY

Electrical Engineer. Renovation design for 31,000 SF building including updated exterior appearance, and modernized teaching spaces. Work included total replacement of building mechanical and electrical systems.

Fort Knox Macdonald Elementary School Renovation; Ft. Knox, KY

Principal-in-Charge. Renovation of a 63,000 SF Army school with year-round schedule. Involved a new standing seam roof installed over 48,000 SF to create an attic for 100% replacement of existing HVAC system equipment with geothermal-based heat pump system, new electrical service system, and fire alarm system upgrade.

Lexington Catholic High School Phase II Addition, Lexington, KY

Engineering Manager. 48,000 SF addition included 1800-seat two level gymnasium and running track, performing arts stage, art wing, and new administration area.

Marshall University Weisberg Family Engineering Laboratory, Huntington, WV

Electrical Engineer. New, 16,000 SF engineering laboratory building. Building security systems included access control and CCTV. HVAC systems feature rooftop VAV systems with variable electric reheat.



Cory Sharrard, PE LEED AP Mechanical Engineer

Years of Experience: 23
Years with GRW: 3

Education

B.S., Industrial Technology,
1996, Murray State University

B.S., Mechanical Engineering,
1998, University of Kentucky

Registration

Professional Engineer: KY, IN,
OH, WV, NY, TN

NCEES Member allows
reciprocity with other states

LEED AP

Affiliations

American Society of Heating,
Refrigerating and Air-
Conditioning Engineers

Kentucky Society of
Professional Engineers

Experience

Cory possesses more than 20 years' experience with mechanical engineering including design of traditional water source heat pump (WSHP), geothermal WSHP, hybrid geothermal WSHP, variable refrigerant flow (VRV), split system, rooftop units, unit ventilators, variable air volume (VAV), and ice storage systems. Her experience includes numerous K-12, higher education, vocation school, detention center, church, and library projects.

WV Division of Natural Resources Building 74 - South Charleston, WV
Mechanical Engineer for evaluation and recommendations for possible improvements and upgrades to building systems in three-story, 37,000 SF, masonry-construction facility that houses approximately 100 employees. Among improvements selected for design are replaced of heating and cooling systems, windows, TS fighting with LED lighting LED fixtures, and replacement of ceilings and floor finishes, as well as new DDC controls throughout building.

WV Capitol East Campus - Charleston, WV
Mechanical Engineer for planning, design, and bidding services for a 26,771 SF warehouse facility with surplus and receiving, a warehouse store, office area, maintenance shop with welding, grounds mechanic shop for vehicle maintenance, and equipment storage facility serving the General Services Division on the Capitol East Campus. Included are an open storage and bulk storage building, as well as a separate building for Capitol mail room.

Clay County Schools Bus Garage; Clay, WV
Mechanical Engineer; FEMA funded project for new bus garage constructed above 100 year flood elevation. Project included 5,000 SF masonry garage (constructed on deep foundations) with two service bays, wash bay, parts storage, and drivers lounge. Separate building houses spare tires.

Clay County High School Renovation and Addition; Clay, WV
Mechanical Engineer; Design and construction administration phase services for gymnasium and locker rooms, commons area, and HVAC system renovations; door/window replacement; and security/communications system improvements. Portion of construction will occur during summer months, but most was completed while school is occupied.

Buffalo Trace Distillery Design-Build Process Building at Wastewater Treatment Plant; Frankfort, KY
Architectural, mechanical, process, and structural design services for design-build of process building at Buffalo Trace Distillery's wastewater treatment plant in Frankfort, KY. Approximate 13,000 SF pre-engineered metal building, with height of up to 33 feet, houses equipment and processes for new wastewater treatment plant.

CAS

Structural Engineering, Inc.

Carol A. Stevens, P.E. Structural Engineer

EDUCATION

West Virginia University, BSCE, 1984
 Chi Epsilon National Civil Engineering Honorary
 The Pennsylvania State University, ME Eng Sci, 1989

PROFESSIONAL REGISTRATION

P.E.	1990	Pennsylvania
P.E.	1991	West Virginia
P.E.	1994	Maryland
P.E.	2008	Ohio

BACKGROUND SUMMARY

2001 – Present	President, Structural Engineer CAS Structural Engineering, Inc.
1999 – 2001	Structural Engineer Clingenpeel/McBrayer & Assoc, Inc.
1996 – 1999	Transportation Department Manager Structural Engineer Chapman Technical Group, Inc.
1995 – 1996	Structural Engineer Alpha Associates, Inc.
1988 – 1995	Structural Department Manager Structural Engineer NuTec Design Associates, Inc.
1982 – 1988	Engineer AAI Corporation, Inc.

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers, WV Section
 Past Past President
 National Society of Professional Engineers
 American Concrete Institute
 American Institute of Steel Construction
 West Virginia University Department of Civil and
 Environmental Engineering Advisory Committee
 West Virginia University Institute of Technology
 Department of Civil Engineering Advisory Comm

CIVIC INVOLVEMENT

ASCE Christmas in April Project

EXPERIENCE

West Virginia, Central West Virginia Transit Authority (CENTRA): Repairs to existing facility roof and parapet wall to repair leaks.

West Virginia, Bluefield Transit Building: Design of new office, maintenance and bus storage facility for the Bluefield Transit Authority.

West Virginia, State Capitol Complex, Dome Structure: Exploratory investigation and preparation of construction documents for repairs to structural steel in Capitol Dome.

West Virginia, State Capitol Complex, Building 3: Structural design and construction administration of repairs and renovations to limestone canopy.

West Virginia, State Capitol Complex, Main Capitol Building Parapet: Exploratory investigation of limestone/brick parapet/balustrade of Main Capitol Building to determine cause of movement/cracking/leaks. Construction contract for repairs has been awarded and work is progressing. Building is on State Historic Register.

West Virginia, Huntington Parking Garage: Designed structural repairs to existing parking facility. New deck expansion joints were installed at the upper level and a new deck coating system was applied to parking level above retail space.

West Virginia, State Capitol Complex, Governor's Mansion: Structural analysis and design in addition to evaluation report for modifications and renovations to several areas of mansion. Building is on State Historic Register.

West Virginia, State Capitol Complex, Holly Grove Mansion: Structural evaluation report for preliminary condition assessment of building structure. Building is on State Historic Register.

West Virginia, State of West Virginia Building 2, California Ave Parking Garage, Charleston, WV: Performed condition survey of existing 1950's reinforced concrete parking facility and recommended repairs to Owner. Owner opted to raze structure.

West Virginia, St. Mary's Parking Structure: Performed condition survey of existing post-tensioned

parking structure designed in 1978. Recommended repairs to the Owner.

Pennsylvania, Sewickley Manor Parking Garage: Performed condition survey of existing parking structure constructed in the 1960's. Structure consists of precast concrete beams and joists supported by concrete columns. Recommended repairs to Owner.

Pennsylvania, Holiday Inn Parkway East: Performed condition survey of existing structure designed in 1974. Determined that there were structural deficiencies and recommended repair solutions to Owner.

Pennsylvania, Fifth & Neville Apartments Parking Garage: Performed condition survey of existing parking structure constructed in the 1960's. Recommended repair solutions to Owner.

West Virginia, Upshur County Courthouse: Developed construction documents for structural repairs to main entrance and dome of 1899 structure. Work is currently under contract.

PREVIOUS EXPERIENCE

West Virginia, Huntington TTA Bus Garage: Designed repairs to existing building foundation and floor slab in office area for project including renovations of offices, driver's and mechanic's area and locker room recreations room/break room.

West Virginia, State Capitol Building: Designed structural system to replace deteriorated reinforced concrete slab at landing on north side of Capitol steps.

West Virginia, Farrell Law Building: Performed analysis of existing deteriorated structural sidewalk over parking area. Recommended repair solutions for reinforced concrete and aged terra cotta façade of 1920's building.

West Virginia, Upshur County Courthouse Annex: Performed structural evaluation and design for repairs to existing multi-story Annex addition.

West Virginia, Sissonville Library: Structural design of new 7,000 SF branch library. Structure consisted of wood framing.

West Virginia, Cabell Huntington Hospital Boiler Mezzanine: Structural analysis and testing of existing reinforced concrete mezzanine with significant degradation from brine tank leakage. Developed new structural system to replace existing concrete mezzanine utilizing steel framing and steel grating.

West Virginia, Beckley Wastewater Treatment Plant: Designed reinforced concrete tanks and masonry support structures for new wastewater treatment plant.

West Virginia, Morgantown High School Additions: Designed steel framing and foundations for science classroom, cafeteria and gymnasium additions to existing education complex.

West Virginia, Grafton High School Addition: Designed steel framing and foundations for new science classroom addition to existing high school.

Pennsylvania, Metropolitan Edison Company, Headquarters: New 80,000 SF two-story office addition to existing complex.

Pennsylvania, Defense Distribution Region East: Structural engineering and design for a 33,000 SF Hazardous Materials Storage Warehouse.

Pennsylvania, Glatfelter Insurance: Design of steel framing and foundations for new 30,200 SF building.
Maryland, U.S. Army Corps of Engineers, Baltimore District, Administration Building: Seismic design of new 10,000 SF masonry building.

Pennsylvania, Carlisle Syntec: Design of foundation supports for 800,000 lb rubber vulcanizing machine; enlargement of foreman's office including new framing to support mechanical equipment on roof; new monorail installation; extension of existing gantry rail.

Pennsylvania, Engel Worldwide: Steel framing and foundations for new 12,000 SF two-story office building; design of crane beams and columns for adjacent 60,000 SF crane building.

Pennsylvania, AMP IMF: Structural design for the renovation and conversion of a stamping facility into an integrated manufacturing facility (IMF) housing operations for stamping as well as blow molding processes.

Texas, York International: Structural survey of existing building structure for modifications to incorporate large testing and manufacturing areas for mechanical equipment.

Maryland, Columbia 100: Design of structural steel framing for new two-story 43,000 SF office building.

Pennsylvania, York Federal Savings and Loan Association/New Service Corporation: Design of steel framing, reinforced concrete retaining wall and foundations for new 14,400 SF two-story office building.

Pennsylvania, Yorktowne Parking Garage: Study of reinforced concrete/steel framed parking garage.

REFERENCES



1. Mr. Barrow Koslosky, AIA
Chief of PEM
WV Division of Natural Resources
324 4th Avenue
South Charleston, WV 25303
(304) 558-2764
2. Mr. Gary Mullins P.E.
WV Department of Transportation
Division of Highways
1340 Smith Street
Charleston, WV 25301
(304) 205-6983
3. Mr. Jeffrey J. Sayre, CFO
VP of Administrative Services
P1704 Market Street
Wheeling, WV 26003
(304) 214-8809



3280 William Pitt Way
Pittsburgh, PA 15238
P (412) 327-3320
Terracon.com

A. COMPANY/DIVISION PROFILE

Since our founding in 1965, Terracon has grown and evolved to become a thriving, employee-owned, multidiscipline engineering consulting firm delivering environmental, facilities, geotechnical, and materials consulting services. Our more than 5,500 employees include engineers, scientists, architects, facilities experts, and field professionals focused on solving client environmental, 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 as well as the acquisition of 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.

The Terracon Environmental Industrial Hygiene/Due Diligence Group in Pennsylvania and Ohio includes Certified Industrial Hygienists, Project Managers and field scientists who routinely provide technically sound and cost effective solutions for our clients' projects.

B. KEY ENVIRONMENTAL STAFF

Project Manager

Daniel J. Davis, CEM, CES – Over 30 years of Industrial Hygiene and Indoor Air Quality sampling/field work and project management experience.

Certified Industrial Hygienist/Approved Project Reviewer

Brad Knipper, MS, CIH, CSP – Over 10 years of Industrial Hygiene and Indoor Air Quality sampling/field work and project management experience.

Project Assistant

Richard Mance, PG - Over 30 years of Industrial Hygiene and Indoor Air Quality sampling/field work and project management experience.

Staff Scientist

Sean James – Over 15 years of Industrial Hygiene and Indoor Air Quality sampling/field work.

Resumes for the above key environmental staff are attached.

C. RELEVANT MICROBIAL PROJECTS

Terracon has completed microbial inspections and remediation management for numerous clients. Listed below are four (4) of our IAQ/Microbial projects.

**1. Department of Veterans Affairs - H.J. Heinz Campus – Pittsburgh, Pennsylvania
Patient Lodging Apartments**

Provided initial microbial inspection and sampling for total airborne mold spores, microbial remediation management and post remediation confirmatory air sampling to ensure satisfactory remediation, final cleaning, and treatment with anti-microbial encapsulant.

**2. Pennsylvania Department of Transportation – District 11
Adamsburg Shed – Locker Room/Dispatch**

Provided initial microbial inspection, swab sampling for mold on suspect staining and air sampling for total mold spores, microbial remediation management and post remediation confirmatory air sampling to ensure satisfactory remediation, final cleaning, and treatment with anti-microbial encapsulant. Also provided oversight during re-insulation and sheetrock wall replacement.

**3. Mt. Pleasant School District
Mt. Pleasant Junior/Senior High School**

Provided initial microbial inspection including swab sampling for mold on suspect staining and air sampling for total mold spores, microbial remediation management during re-caulking of windows and removal of sheetrock impacted walls and post remediation confirmatory air sampling to ensure satisfactory remediation, final cleaning, and treatment with anti-microbial encapsulant.

**4. Indiana University of Pennsylvania
8 Resident Halls**

Provided initial microbial inspections including swab sampling for mold on suspect staining and air sampling for total mold spores in affected rooms in 8 resident halls. After HVAC units/vent grills and affected carpeting were cleaned and treated with microbial disinfectant by IUP maintenance and custodial personnel, post remediation testing was performed to ensure satisfactory remediation, final cleaning, and treatment with anti-microbial disinfectant. We also continue to perform periodic random sampling in for total mold spores the in the resident halls.

Daniel J. Davis, CEM, CES

Senior Client Development Manager

PROFESSIONAL EXPERIENCE

Mr. Davis has comprehensive hazardous substance management, assessment, and design experience. He has conducted various remediation duties at numerous hazardous waste sites including air sampling; health and safety planning; actual remediation from level D to level B contamination; sampling of drums, soil, streams, etc.; and is experienced at hazardous materials decontamination. He has conducted numerous large scale and specialized asbestos and lead management activities including building inspections and surveys, management planning, on site monitoring, abatement supervision, preparation of design specifications and drawings, O&M plans, specification implementation, and air monitoring. He also conducted indoor air quality (IAQ) investigations and sampling. Mr. Knipper is a Senior Industrial Hygienist in Terracon's Cincinnati office. He specifies and reviews all aspects of industrial hygiene, providing guidance on workplace evaluation and sampling strategies to meet the client's needs. He provides a broad range of safety, industrial hygiene, and ergonomic solutions to assist clients in regulatory compliance and general worker health improvement strategies.

Mr. Davis serves as a Senior Project Manager on various environmental projects involving the management of hazardous materials including asbestos, lead-based paint (LBP), IAQ, environmental studies, and hazardous waste. In this capacity, he is responsible for staff supervision, client relations, cost estimates, project scheduling, and all other aspects involved in abatement design.

Mr. Davis worked for a remediation firm which conducted large scale remediation projects for industrial clients involving PCBs, heavy metals, cyanide, organics, and solvents. He performed health and safety supervision and sampling for heavy metals, drums, soils, stream sediment, solvents, and organics.

PROJECT EXPERIENCE

Pittsburgh Public Schools Indoor Environmental Air Quality and Industrial Hygiene On-Call Contracts, Pittsburgh, Pennsylvania - Managed and performed environmental inspections for asbestos-containing materials (ACM); LBP; polychlorinated biphenyls (PCB); mercury-containing fluorescent lamps, thermostats, and equipment; fluorescent tubes; chlorofluorocarbons (CFC); NiCad batteries; lead-acid batteries; and radioactive sources. He developed technical abatement specifications and drawings, conducted all pre-bid meetings, and assisted in the selection of the most qualified abatement contractor. He managed and performed environmental abatement monitoring services for the renovations to the building, which included monitoring the abatement contractor for the proper removal and disposal or recycling of ACM and other hazardous materials.

PennDOT Environmental Remediation Services, Statewide, Pennsylvania - Mr. Davis serves as the project manager of the western Pennsylvania environmental remediation contract for PennDOT. Services provided include Phase I/Phase II Environmental Site Assessments (ESAs), soil, groundwater, and waste characterization, site remediation, waste management planning, asbestos and lead paint inspections and abatement, storage tank management, removal, and remediation, hazardous waste management, health and safety monitoring, investigation derived waste management, field



EDUCATION

B.S., Biology, 1986, Ohio State University

REGISTRATIONS/ CERTIFICATIONS

Certified Environmental Manager/Certified Environmental Specialist
U.S. EPA Certified Asbestos Inspector, PA and WW
U.S. EPA Management Planner, PA and WW
U.S. EPA Certified Asbestos Project Designer, PA and WW
Lead Abatement Supervisor
Asbestos Hazard Evaluation Specialist, OH

PROFESSIONAL TRAINING

OSHA HAZWOPER/40HR/
8HR Refresher/Supervisor
OSHA Confined Space
Entrant/Attendant/Supervisor

operations oversight and documentation, construction monitoring, and geophysical investigations to support highway and bridge construction, renovation, and replacement.

Demolition of Former ALCOSAN Operation and Maintenance Building Allegheny County, Pennsylvania - Mr. Davis serves as project manager for providing environmental and engineering services to complete a demolition plan for ALCOSAN's old O&M building. Skelly and Loy is providing hazardous materials inspection and abatement specifications as well as a site survey and civil engineering services including a grading plan and civil site specifications. Phase I ESAs were performed to assist with planning the location of the new lab and Right of Way Acquisitions.

Pittsburgh VA Medical Center Crawspace #1, #2, and #3 Contaminated Soil Project, Allegheny County, Pennsylvania - Mr. Davis currently serves as the Project Manager for the preparation of working drawings and asbestos abatement specifications, submittal review, and construction/air monitoring services for the project.

Asbestos Building Inspections for Buildings Slated for Demolition in Various Areas of the City of Pittsburgh, Allegheny County, Pennsylvania - Mr. Davis currently serves as Project Manager for an open-end environmental contract with the City of Pittsburgh for completion of pre-demolition asbestos inspections. Under this contract, Skelly and Loy has completed a total of 78 project-specific, task order asbestos inspections for the City of Pittsburgh since 2012.

Open-End Environmental Contract, City of Pittsburgh, Pennsylvania - Project Manager for an open-end environmental contract involving asbestos, lead, indoor air quality, radon, and Phase I and II Site Assessments for all properties governed by the City.

Open-End Environmental Contracts, West Virginia Department of Highways, West Virginia - Project Manager for all environmental building surveys, remediation and construction management for a Right-of-Way acquisition prior to the demolition. Over 450 single and multi-story buildings were investigated.

VA Pittsburgh Healthcare System Demolition and Disposal Plan, Environmental Assessment, and Hydrological Analysis, Highland Drive Campus, Allegheny County, Pennsylvania - Environmental Manager for the assessment and review of the environmental and hazardous materials of all the buildings at the VA Highland Drive campus. Materials assessed were asbestos, LBP, underground storage tanks (UST), stored chemicals, and other potential waste materials. Recommendations were made on how materials would need to be handled during future campus building demolition.

Bayer Materials Science Facility, New Martinsville, West Virginia - Project Manager for an environmental assessment of all thermal system insulation (TSI) for the Hydrochloric Acid, Boiler House 1 and 2 Buildings which incorporated a database management program incorporating digital photography. The assessment was intended to validate existing data, determine condition of TSI, database report generation, cost estimates, and Operation and Maintenance program.

Historic Atlantic City Convention Hall, New Jersey Sports and Exposition Authority, Atlantic City, New Jersey - Project Manager and Environmental Consultant providing investigation, recommendations, remediation design, and construction monitoring for all environmental concerns of this historic structure which has encompassed a remedial action plan for UST, AST, PCB, asbestos, LBP and CFCs. Specialized work practices were required because of the building's historic fabrics and status.

Multi-Year Open-End Asbestos Contracts, New Jersey Department of Transportation, Statewide, New Jersey - Project Manager for multi-task environmental investigations, remediation, and construction management for right-of-way acquisition throughout the entire state of New Jersey.

Brad Knipper, MS, CIH, CSP

Senior Industrial Hygienist

PROFESSIONAL EXPERIENCE

Mr. Knipper is a Senior Industrial Hygienist in Terracon's Cincinnati office. He specifies and reviews all aspects of industrial hygiene, providing guidance on workplace evaluation and sampling strategies to meet the client's needs. He provides a broad range of safety, industrial hygiene, and ergonomic solutions to assist clients in regulatory compliance and general worker health improvement strategies.

Mr. Knipper has delivered comprehensive onsite industrial hygiene services and support to the National Institute for Occupational Safety and Health (NIOSH) Cincinnati Safety Office. Support and services included personal exposure monitoring, compliance audits, incident investigations, respirator fit-testing services, personal protective equipment selection, project health, and safety plan reviews, ergonomics evaluations, training, noise monitoring, selection of engineering controls, comprehensive chemical inventory management, and hazardous waste management. He served on the Cincinnati Federal Executive Board Emergency Preparedness Committee and NIOSH Cincinnati Laboratory Safety Committee.

He has performed hundreds of IH surveys and safety inspections for laboratory and manufacturing clients who needed data and solutions to protect their workers' health from immediate and long-term hazards. More recently, he completed a project to identify deficiencies in and recommended corrective actions to the laboratory chemical fume hood ventilation system for the Radiological Assessment Laboratory at the United States Air Force School of Aerospace Medicine.

PROJECT EXPERIENCE

Commercial Cargo Air Hub at CVG International Airport - Boone County, KY

Personal exposure monitoring for respirable crystalline silica and dust was conducted for the construction crew. Environmental monitoring for particulates was conducted at multiple locations along the project boundary.

CVG Guard Hut Mold Investigation - Cincinnati, OH

Performed an indoor air quality and suspected fungal growth assessment at the Gate NE-19 Guard Hut.

Lunken Municipal Airport Hanger Indoor Air Quality Investigation - Cincinnati, OH

Performed an indoor air quality investigation of a hanger and office space for a private charter company located at Lunken Municipal Airport.

Duke Energy General Power Plant Support

Supervised the collection of personal exposure and area samples for respirable crystalline silica, respirable dust, welding fumes, arsenic, beryllium, chromium, lead, manganese, molybdenum, metals profiles, and total dust, indoor air quality, and mold for Duke Energy employees and contractors involved in Fly Ash operations, water treatment plants, and conveyor



EDUCATION

Master of Science, Occupational and Environmental Hygiene, University of Cincinnati, 2012
Bachelor of Science, Environmental Studies, University of Cincinnati, 2009

REGISTRATIONS/ CERTIFICATIONS

Certificate, Hazardous Substances Academic Training, University of Cincinnati, 2012
Certificate, Geographic Information Science, University of Cincinnati, 2009
Certified Industrial Hygienist, American Board of Industrial Hygiene [REDACTED]
Certified Safety Professional, Board of Certified Safety Professionals [REDACTED]
Asbestos Hazard Evaluation Specialist, State of Ohio [REDACTED]
Asbestos Inspector, Indiana Department of Environmental Management [REDACTED]
Asbestos Management Planner, Commonwealth of Kentucky [REDACTED]

PROFESSIONAL TRAINING

HAZWOPER Technician

repair during routine operations at the East Bend, KY, Edwardsport, IN, Cayuga, IN, and Gibson, IN, and Miami Fort Station, OH power plants.

Duke Energy General Power Plant Support

Supervised the collection of personal exposure and area samples for respirable crystalline silica, respirable dust, welding fumes, arsenic, beryllium, chromium, lead, manganese, molybdenum, metals profiles, and total dust, indoor air quality, and mold for Duke Energy employees and contractors involved in Fly Ash operations, water treatment plants, and conveyor repair during routine operations at the East Bend, KY, Edwardsport, IN, Cayuga, IN, and Gibson, IN, and Miami Fort Station, OH power plants.

Miami Fort Station Unit 6 Retirement Asbestos Abatement Monitoring - Northbend, OH

Provided oversight and review of air samples collected during the asbestos abatement monitoring of Miami Fort Station Unit 6.

Large Mulch Production Facility Health and Safety Audits

Conducted internal health and safety audits at five large mulch manufacturing facilities. The audits looked at all functions of the plant, identified deficiencies in environmental health and safety programs and plant operations, and provided recommended corrections to both local plant management and the corporate EH&S team.

May Company Radio Frequency Power Density Survey - Cleveland, OH

Conducted a power density survey of cell phone antennas located on the roof and top floor of the May Company building.

Kao Brands Noise Dosimetry and Sound Level Mapping - Cincinnati, OH

Supervised the collection of personal noise dosimetry and sound level mapping of the Kao Brands factory in Cincinnati, Ohio.

Children's Hospital Critical Care Building Community Noise Monitoring - Cincinnati, OH

Supervised the collection of construction noise at community receptors during the construction of the Children's Hospital Critical Care Building.

Large Retailer Distribution Center Shotblasting Dust Monitoring - Indianapolis, IN

Conducted personal exposure monitoring for respirable crystalline silica, respirable, and total dust on a shot blasting operation inside a distribution center.

Shiloh Industries Isocyanate and Acrylate Exposure Monitoring - Valley City, OH

Supervised technicians during the collection of personal exposure samples for isocyanates and acrylates in the mixing room and along with the curing oven.

Charah Solutions Miami Fort Station FGD Facility Exposure Monitoring - North Bend, OH

Conducted personal exposure monitoring for respirable crystalline silica, respirable dust, total dust, and a 21-metals profile on employees working in and around the flue gas desulfurization plant.

AFFILIATIONS

American Industrial Hygiene Association (National and Local Chapters)
American Conference of Governmental Industrial Hygienists
Board of Certified Safety Professionals
American Association for Aerosol Research (UC Chapter President, 2011-2012)
Cincinnati Federal Executive Board Emergency Preparedness Committee (2012-2017)

PRESENTATIONS/ PUBLISHED ARTICLES

"Water stress, quality, health and variability in infrastructure in the arid, rural state of Gujarat, India". Ecological Society of America Millennium Conference: Water-Ecosystem Services, Drought, and Environmental Justice. Athens, GA, Nov 2009.
"Examination of Silica Exposure from Fugitive Dust Emission for Phosphate Mining Facilities - an Investigation during Drought Conditions". (Electronic Thesis or Dissertation). University Cincinnati, 2012
"Lifestyle and safety practices of firefighters and their relation to cardiovascular risk factors." Work 50 (2015) 285-294

Brookdale Centennial Park Sprinkler Leak Water Damage Assessment and Restoration Protocol - Englewood, OH

Inspected retirement community facility for water damage and developed comprehensive water damage and restoration protocol.

Kao Noise Dosimetry and Sound Level Mapping - Cincinnati, OH

Conducted personal exposure monitoring of employees and contract staff working on assembly and compounding lines. Constructed a sound-level map of the facility.

Weir Williamsport Dustless Blasting Personal Exposure Monitoring - Williamsport, PA

Collected personal exposure samples for respirable silica and dust on employees working on parts finishing line.

Large Refrigerator Recycling Plant Refrigerant, Fiberglass, and Dust Survey - Lima, OH

Conducted personal to fiberglass, and area monitoring for fiberglass and refrigerants. Developed a map of dust concentrations in the plant.

Brewery Hyperflex Exposure Monitoring - Cincinnati, OH

Designed and implemented a study to measure personal exposures to the components of a clean-in-place solution utilized in the brewery under normal conditions and during a mocked-up leak of the clean-in-place solution.

Amusement Park Noise Monitoring - Mason, OH

Supervised noise monitoring at multiple locations around a rollercoaster during park operations.

Large Distribution Center Noise Dosimetry, Sound Level Mapping, and Hydrogen Survey - Groveport, OH

Supervised noise monitoring at a 1.2 million square foot distribution center for a major retailer. Constructed a sound pressure level map of the facility. Measure hydrogen gas levels generated during the charging of powered industrial truck batteries.

Solar Farm Preconstruction Noise Monitoring - Highland, OH

Conducted community noise monitoring to determine pre-construction background noise levels at the site of a large solar farm.

Brookdale Richmond Sprinkler Leak Water Damage Assessment and Restoration Protocol - Richmond, IN

Inspected retirement community facility for water damage and developed comprehensive water damage and restoration protocol.

Fungal Growth and Water Damage Assessment at the large manufacturer - Plainsfield, IN

Conducted water damage and fungal growth assessment of two large warehouses used to store finished projects.

Duke Energy Three Mile Road Gas Regulator System Retaining Wall Construction Noise Survey - Wilder, KY

Supervised the collection of construction noise at community receptors during the construction of a gas regulatory system retaining wall.

Record Storage Center Fungal Growth Assessment - Lexington, KY

Conducted a fungal growth assessment at the large record storage facility.

Edwardsport IGCC 2020 Spring Outage Personal Exposure Monitoring - Edwardsport, IN

Supervised the collection of personal exposure samples for contract staff during the scheduled refurbishment outage of the power station. Samples were collected for respirable silica and dust, arsenic, beryllium, manganese, chromium, and welding fume profiles.

Large Solar Farm Preconstruction Noise Monitoring - Mount Sterling, OH

Conducted community noise monitoring to determine pre-construction background noise levels at the site of a large solar farm.

Chillicothe VA Medical Center Garbage Compactor Machine Guarding Review - Chillicothe, OH

Examined the operation of a garbage compactor and provided options for guarding the operation.

Dialysis Clinic - Fairborne, OH

Inspected Dialysis clinic for water damage and fungal growth and developed comprehensive restoration protocol.

Ethicon Endo-Surgery Microbial Assessment - Blue Ash, OH

Inspected the office complex for water damage and fungal growth and developed a comprehensive restoration protocol.

Edwardsport IGCC 2021 Community and Occupational Noise Monitoring - Edwardsport, IN

Supervised the collection of occupational noise dosimetry of station personnel and sound level mapping. Supervised the collection of community noise measurements at the station boundaries.

Mammoth Cave Frozen Niagara Trail Restoration Radon Review - Mammoth Cave, KY

Reviewed environmental radon measurements collected by the National Park Service to determine permissible work time at various trail locations and recommend occupational safety practices for work crews. Mammoth Cave Frozen Niagara.

Trail Restoration Radon Review - Mammoth Cave, KY

Reviewed environmental radon measurements collected by the National Park Service to determine permissible work time at various trail locations and recommend occupational safety practices for work crews.

Large Mausoleum Bat Removal and Remediation - St. Albans, WV

Surveyed a large mausoleum to develop a remediation plan to address spaces in the mausoleum that were impacted by mold and bat excrement. The plan included addressing asbestos-containing materials and microbial remediation.

Edwardsport IGCC 2021 Spring Outage Personal Exposure Monitoring - Edwardsport, IN

Supervised the collection of personal exposure samples for contract staff during the scheduled refurbishment outage of the power station. Samples were collected for respirable silica and dust, arsenic, beryllium, manganese, chromium, and welding fume profiles.

Occupational Noise Monitoring for a Printing Operation - Wooster and Canton, OH

Conducted occupational noise dosimetry and sound level mapping of a printing operation.

Microbial Assessment and Remediation Plan for Fulfillment Center - Mason, OH

Inspected fulfillment center penthouse for fungal growth, and developed a comprehensive restoration protocol.

Desktop Review of Safety Program for Manufacturing - Mason, OH

Reviewed the safety program of two manufacturing facilities to determine program compliance with Occupational Safety and Health Administration Regulatory requirements.

ACT Recycling Community Noise Monitoring, Harrison, OH Review of Safety Program for Manufacturing - Mason, OH

Supervised the collection of community noise dosimetry for comparison to local noise ordinances.

Dale Hallow Statement Park Ship Store Fungal Moisture Survey - Burkesville, KY

Conducted a moisture and mold assessment of a marina store to determine the scope of water damage and develop a remediation plan.

Bank Indoor environmental Quality Assessment - Floyds Knobb, KY

Investigated indoor environmental quality concerns at a bank branch. Identified mold contamination and developed a microbial remediation work plan for the facility.

Microbial Assessment and Remediation Plan for Brewery - Cincinnati, OH

Inspected Brewery lager house for fungal growth, and developed a comprehensive restoration protocol.

Edwardsport IGCC 2022 Spring Outage Personal Exposure Monitoring - Edwardsport, IN

Supervised the collection of personal exposure samples for contract staff during the scheduled refurbishment outage of the power station. Samples were collected for respirable silica and dust, arsenic, beryllium, manganese, chromium, and welding fume profiles.

Duke Cayuga Spring Outage Personal Exposure Monitoring - Cayuga, IN

Supervised the collection of personal exposure samples for contract staff during the scheduled refurbishment outage of the power station. Samples were collected for respirable silica and dust, arsenic, beryllium, manganese, chromium, and welding fume profiles. Area noise monitoring was also conducted throughout the power plant.

Wastewater Treatment Plant Ventilation and VeriDART Assessment - Cincinnati, OH

Conducted an assessment of the ventilation system and airflow characteristics of an industrial wastewater treatment plant.

Personal Noise Dosimetry at Meat Packaging Plant - North Kingston, RI

Conducted personal noise dosimetry on staff working on packaging and production lines.

Quarterly Temperature and Relative Humidity Monitoring at a Pharmaceutical Plant - Xenia, OH

Measured temperature and relative humidity in quality control laboratories on a quarterly basis.

WATCO Asbestos Personal Exposure Monitoring - Cincinnati, OH

Conducted personal exposure monitoring to asbestos fibers while working in contaminated soil.

Microbial Assessment and Remediation Plan at Dialysis Facility - Lafayette, IN

Conducted personal exposure monitoring to asbestos fibers while working in contaminated soil.

Health and Safety Assessment of Movie Set - Cincinnati, OH

Evaluated environmental hazards of a movie set located in brewery lager tunnels.

Xylene Personal Exposure Monitoring for a threaded fiber manufacturing facility - Erlanger, KY

Conducted personal exposure monitoring for xylene during cleaning of manufacturing equipment.

Health and Safety Assessment of Movie Set - Cincinnati, OH

Evaluated environmental hazards of a movie set located in brewery lager tunnels.

Microbial Assessment and Remediation Plan for Office Complex - Cincinnati, OH

Inspected office complex Brewery lager house for fungal growth, and developed a comprehensive restoration protocol.

Microbial Assessment and Remediation Plan for Brewery - Cincinnati, OH

Inspected Brewery lager house for fungal growth, and developed a comprehensive restoration protocol.

Duke Edwardsport Combustion Turbine Borescope Monitoring - Edwardsport, IN

Managed personal exposure monitoring of staff conducting a borescope operation of a combustion turbine at Edwardsport Station.

Microbial Assessment and Remediation Plan for Bank - Westerville, OH

Inspected banking facility for fungal growth, and indoor environmental quality parameters.

Comprehensive Industrial Hygiene Responsibilities

Indoor and outdoor air quality, noise, confined space and hot work permit authorization, radiation sources, radiation safety, mold investigations, asbestos, silica, trace metals, volatile organic chemicals, ventilation, personal protection equipment, respirator selection, ergonomics, chemical inventory, and hazardous waste management, Job hazard analysis, emergency response management, and combustible dust analysis.

Safety Experience Includes

Mr. Knipper led a continuous reduction of injuries and severity rates at each career position during his career. He achieved a 72 percent reduction in findings of non-compliance by developing relationships with laboratory research staff and implementing changes to inspection programs. In addition, Mr. Knipper performed hundreds of ergonomic surveys to employee workstations that delivered fewer injuries, higher worker satisfaction, and higher productivity.

Training Experience Includes

Mr. Knipper developed content and delivered training for Lockout/Tagout, bloodborne pathogens, ergonomics, safe work surfaces, respiratory protection, slips, trips, and falls, off-the-job safety, office safety, HazCom, ladders, writing JSAs, PPE, hand tools, welding, fall protection, confined space entry, and compressed gas safety.

Richard C. Mance, P.G.

Project Manager - Industrial Hygiene/Due Diligence

PROFESSIONAL EXPERIENCE

As a licensed Professional Geologist, Mr. Mance has over 32 years of experience dealing with regulatory and technical issues associated with environmental projects. This experience has been gained through the management and oversight of site characterization investigations; Phase II Environmental Site Assessment (ESA) soil and groundwater investigations; sampling of soils, surface water, sediments, and groundwater; and overseeing the drilling of borings and installation of monitoring wells.

Mr. Mance is responsible for preparing scope and fee proposals for single and multitask projects, managing the budgets for these projects, and reviewing subcontractor invoices and project invoices for each phase of the projects.

PROJECT EXPERIENCE

Management of Asbestos-Containing Materials (ACMs) - As a licensed Pennsylvania Asbestos Inspector/Management Planner, Mr. Mance has performed numerous asbestos investigations in K-12 school buildings regulated under the United States Environmental Protection Agency's (U.S. EPA) Asbestos Hazard Emergency Response Act (AHERA) and commercial/residential, higher education, hospitals, and industrial sites regulated under the U.S. EPA/Pennsylvania Department of Environmental Protection (PADEP) and Allegheny County asbestos regulations. Assessments have included pre-renovation and pre-demolition surveys as well as due diligence transaction surveys. Mr. Mance has also prepared/reviewed asbestos assessment reports documenting the types, location, condition, and removal costs for documented asbestos-containing materials. Mr. Mance has also prepared and updated Management Plans required for K-12 schools under AHERA.

Hazardous Materials Inventory and Testing - Mr. Mance has performed numerous hazardous materials inventories and sampling surveys for buildings undergoing renovations or demolition. Building components inventoried include lighting and electrical transformers, capacitors and hydraulic equipment containing suspect polychlorinated biphenyl (PCB) oils, fluorescent tubes, high intensity lamps, thermostats and gauges containing suspect mercury, and cooling units suspected of containing ozone-depleting CFCs. Stored maintenance products/fuels inventoried include paints and solvents, corrosive boiler maintenance products, oils, greases, lubricants, and liquid and gaseous fuels stored in aboveground and underground storage tanks. Mr. Mance has also conducted waste stream sampling of blast waste and wastewater associated with abrasive blasting lead/toxic metals paint removal projects. Mr. Mance has also compiled and reviewed inventory and sampling data into hazardous materials assessment reports documenting location, quantity, and removal costs for the suspect items.

Phase I and II ESAs - Mr. Mance has over 15 years of experience conducting and overseeing the performance of Phase I and II ESAs. Services that Mr. Mance has provided in support of Phase I and II ESAs have included the following: developing work plans and sampling plans; assessing potential impacts to soil, sediments, surface water, and groundwater media; investigating petroleum products, volatile organic compounds, semi-volatile organic compounds, PCBs, and metals; using direct push drilling methodologies for the installation of soil borings and monitoring wells; excavating test pits; overseeing ground penetrating radar/electromagnetic survey techniques to determine the presence/absence of



EDUCATION

B.S., Geology, 1985, University of Pittsburgh

REGISTRATIONS/ CERTIFICATIONS

Professional Geologist, PA

U.S. EPA Asbestos
Inspector/Management Planner, PA
Lead Inspector, PA

PROFESSIONAL TRAINING

OSHA HAZWOPER/40HR

buried materials; working with attorneys on confidential projects; and preparing comprehensive reports meeting ASTM and U.S. EPA guidelines.

Lead/Toxic Metals Consulting Services - Mr. Mance has furnished technical assistance and provided environmental compliance to support painting contractors performing abrasive blasting paint removal on Pennsylvania Department of Transportation (PennDOT) and Pennsylvania Turnpike Commission bridge rehabilitation projects. Mr. Mance has prepared site-specific Lead Health and Safety Plans, medical surveillance letters documenting worker blood lead levels, waste stream sampling reports, and environmental health and safety audits, all reviewed by an on-staff Certified Industrial Hygienist.

As a licensed Pennsylvania Lead Inspector, Mr. Mance has performed paint sampling of structural steel on numerous bridge structures for PennDOT and has performed paint surveys in commercial structures. Mr. Mance has also performed clearance wipe sampling for lead under Housing and Urban Development guidelines.

Indiana University of Pennsylvania Hazardous Materials Management and Testing Open-End Contract, Indiana, Pennsylvania - Mr. Mance serves as the Project Manager for as-needed environmental inspection and investigation including Indoor Air Quality surveys focusing on mold air and swab sampling and mold remediation procedures. Mr. Mance has also conducted soil sampling, transformer oil sampling, and air sampling for volatile organic compounds. He also provides Asbestos Operations and Maintenance air and bulk sampling services in academic buildings, office buildings, residence halls and the main powerhouse. Mr. Mance was also involved in pre-demolition asbestos and hazardous materials assessment and abatement specification preparation for 1 academic building and 1 student residence hall.

Armstrong Area School District - West Shamokin Jr./Sr. High School - Mr. Mance performed mold swab sampling on staining and air sampling for total mold spores after carpeting and classroom and library books exhibited suspect mold staining. After review of the results, a mold remediation firm was contracted by the school district to perform school-wide clean and disinfecting of approximately 25 school rooms. After remediation was complete, areas were not released until total mold spore sampling indicated satisfactory results.

PennDOT Environmental Remediation Services, Statewide, Pennsylvania - After fire destroyed the District 12-0 Waynesburg Maintenance Garage, Mr. Mance was part of the Rapid Response team that collected air samples for asbestos and polycyclic aromatic hydrocarbons and direct read measurements for oxygen, lower explosive limit, hydrogen sulfide, carbon monoxide and total volatile organic compounds. After it was determined that the building was a total loss and was to be demolished, the team also performed a pre-demolition asbestos and hazardous materials assessment. Prior to building demolition, the team managed the removal of fire debris, damaged furniture, smoke-damaged IT equipment and paper files, hazardous material building components, oils and fluids from hydraulic lifts, and burned vehicles and asbestos-containing materials. Mr. Mance has also been involved in Rapid Response spill cleanup overseeing removal of fuel, spill absorbent, impacted soils, and catch basin debris.

Pittsburgh Public Schools Indoor Environmental Air Quality and Industrial Hygiene On-Call Contracts, Pittsburgh, Pennsylvania - Mr. Mance served as the Project Manager and Project Designer for the 3-year reinspection of school district-owned buildings required by AHERA-U.S. EPA Asbestos in Schools regulations. Mr. Mance also managed drinking water sampling performed in 33 of the district's school buildings, field houses, and main administration building.

Interstate Acquisition Services, Mon-Fayette Expressway Project, Allegheny County, Pennsylvania - Mr. Mance has conducted pre-demolition asbestos assessments, hazardous materials inventories and final reporting of residential structures scheduled for demolition for the Mon-Fayette Expressway expansion. In addition to these assessment services, Mr. Mance also provided asbestos abatement cost estimates for actual asbestos abatement and performed required clearance air testing.

Sean R. James

Staff Scientist - Industrial Hygiene / Due Diligence

PROFESSIONAL EXPERIENCE

Mr. James serves as Field Scientist for the Geo-Environmental Service Group. He has experience in environmental hazards inspections, asbestos abatement oversight, lead based paint sampling, and soil and water testing for disposal. Mr. James also has experience in operating monitoring and extracting equipment including pH water sampler; AHERA, indoor air quality testing and identifying mold migration, and other indoor air hazards; providing preliminary and final reports with interpretation of analytical recommendations; and verifying input data to ensure accuracy of completed work and scanned edits for errors during processing.

PROJECT EXPERIENCE

Pennsylvania Department of Transportation, Pittsburgh, Pennsylvania - Mr. James has performed multiple inspection and oversight services for asbestos and hazardous materials, including aboveground and underground storage tank removal, lead-based paint; PCBs; mercury-containing fluorescent lamps, thermostats, and equipment; fluorescent tubes; CFCs; NiCad and lead- acid batteries; bio-hazard needles, and various oils. Additional work includes geo-probe monitoring, core drilling, and soil collection, mold assessment and air clearance sampling, asbestos abatement, and air clearance monitoring, developing reports and including homogenous area maps and sample locations and quantities, and verification of remediation activities with applicable federal and state regulations.

On-Call Services, Pittsburgh Public Schools, Pittsburgh, Pennsylvania - Mr. James serves as an Environmental Specialist. His responsibilities include sample preparation, coordination, and testing school facilities for lead contamination in drinking water, and compiling results reports for the schools. His AHERA inspection responsibilities include review past reports, identifying and collecting bulk samples, maintaining chain of custody forms, creating interactive PDF's, and updating management plans to reflect findings.

Hempfield Area School District, Indoor Air Quality, Greensburg, Pennsylvania - Mr. James serves as the Staff Scientist for as-needed environmental investigations including Indoor Air Quality surveys for mold in the Hempfield High School after roof damage allowed water infiltration into several areas of the school building. Mr. James has also performed IAQ mols sampling in the Middle and Elementary schools after occupant odor complaints.

Indiana University of Pennsylvania Hazardous Materials Management and Testing Open-End Contract, Indiana, Pennsylvania - Mr. James serves as the Staff Scientist for as-needed environmental investigations including Indoor Air Quality air and swab sampling for mold and airborne mold spores, lead-based paint testing, water quality testing, and transformer oil sampling. He also provided Asbestos Operations and Maintenance air and bulk sampling services in academic and office buildings, and the powerhouse co-generation tunnels.

Oakland Veterans Administration (VA) Medical Center, Pittsburgh, Pennsylvania - Mr. James was the Environmental Specialist who assisted in the crawlspace investigation and inspection for the Pittsburgh VAMC to help determine



EDUCATION

A.D., Multimedia Technology,
Pittsburgh Technical Institute, 2004

REGISTRATIONS/ CERTIFICATIONS

Air and Waste Management
Association
U. S. EPA Asbestos Building
Inspector/Management Planner, PA
Asbestos Building Inspector
Refresher Training
Management Planner Refresher
Training
Asbestos Inspector, WV
Asbestos Air Clearance Monitor,
WV
Asbestos Hazard Evaluation
Specialist, OH

PROFESSIONAL TRAINING

OSHA HAZWOPER/40HR

quantities of ACM in the soil and pipe runs. The assessment included bulk sampling, drawings, photos, maps, and documentation of over 137 grids/sections in the crawlspace.

Lebanon VA Medical Center Asbestos Inspection, Lebanon, Pennsylvania - Mr. James served as an Environmental Specialist. His responsibilities included verifying past reports, identifying, and collecting bulk samples, photos, maintaining chain of custody forms, and compiling results reports.

Wilmington VA Medical Center, Wilmington, Delaware - Mr. James was the Environmental Specialist who assisted in the crawlspace vault investigation and inspection for the Wilmington VAMC to help determine quantities of ACM in the pipe runs. The assessment included bulk sampling, confined space permitting, drawings, and photos.

University of Pittsburgh Medical Center (UPMC) - Pittsburgh, Pennsylvania - Mr. James served as the Environmental Technician who performed abatement air monitoring, Dust Trak II monitoring and background monitoring, data logging and graphs, and demolition surveillance for UPMC Presbyterian - DeSoto Wing throughout a 13 month period.

UPMC - Franklin and Oil City, Pennsylvania - Mr. James was the Environmental Technician who conducted oversight services for asbestos and hazardous materials remediation for Venango County Authority. Work included air monitoring, construction and demolition surveillance, and verification of remediation activities with applicable federal and state regulations.

Housing Authority of the City of Pittsburgh (HACP), Northview Heights, Pittsburgh, Pennsylvania - Mr. James served as the Environmental Specialist who performed asbestos inspections and lead based paint inspections for the HACP. The assessment included identifying and collecting bulk samples, photos, maintaining chain of custody forms, and compiling results reports.

Massaro Corporation, Pittsburgh, Pennsylvania - Mr. James was the Environmental Technician who performed four months of asbestos air monitoring for the Hillman Library Renovation Project at the University of Pittsburgh. Sixteen ambient air samples were collected on a daily basis throughout the library to verify ambient concentrations of asbestos in air.

Carmichaels School District, Carmichaels, Pennsylvania - Mr. James has served as the Environmental Specialist who performed 5 months of asbestos abatement and remediation oversight and demolition surveillance; ambient, personal, and final clearance air monitoring, hazardous materials abatement and disposal, and additional bulk sampling as needed per project needs.

Statewide Asbestos Inspection Services, West Virginia Department of Highways - Mr. James serves as an Environmental Specialist of an asbestos inspection services contract for WVDOH. Services provided include asbestos inspection and reporting services to support highway and bridge construction, renovation, and replacement.

West Virginia University, Morgantown, West Virginia - Mr. James served as the Environmental Specialist who performed asbestos sampling and oversight during renovations at the WVU Health Science Center. Clearance air sampling was also performed after remediation and abatement activities were completed.

Bayer Material Science, LLC, New Martinsville, West Virginia - Mr. James served as an Environmental Technician who performed an asbestos assessment of Thermal System Insulation (TSI) for the Polyol Department at the Bayer facility in New Martinsville, West Virginia. The assessment included bulk sampling, physical assessment of the TSI, abatement cost estimates, a final report, and an Asbestos Management System (Microsoft Access Database) which provided data handling,

manipulation of the information, and the ability to estimate abatement cost, manage future inspections, and track asbestos-containing material conditions.

Youth Service System, Inc., Wheeling, West Virginia - Mr. James was the on-site Environmental Specialist who performed asbestos abatement oversight and air monitoring, hazardous materials abatement oversight including mercury-containing fluorescent lamps, fluorescent tubes, light ballasts containing PCBs; and final clearance inspections and clearance air sampling of work areas following remediation activities.

Industrial Hygiene/IAQ Summary



Industrial Hygiene Services

Occupational health and safety is a critical part of a productive and safe workplace. Exposures to chemicals, noise, hazardous materials, mold, and other contaminants can result in serious health problems.

Terracon offers our clients one of the largest occupational health and safety groups in the United States that

includes Certified Industrial Hygienists, Certified Safety Professionals, and Industrial Hygienists.

Our health and safety team has extensive experience identifying: hazards, monitoring exposures, evaluating risks, and formulating measures to correct problem areas.

Terracon's expertise is built on decades of experience with a wide variety of projects and settings that range from individual employee exposure evaluations to community-wide, health research projects. Our clients range from Fortune 500 companies to local small businesses, in various markets including: power production, oil and gas exploration,

manufacturing, petrochemical refining, healthcare, colleges and universities, railroads, mining, aviation, shipping, food production, and retail.

We help our clients address various questions related to workplace health and safety, including:

- What hazards are present in the workplace?
- How should these hazards be addressed in a cost-effective manner?
- How must employers reduce worker risks?
- What legal, economic, and regulatory liabilities exist?
- What will it cost to correct these hazards?
- How can the company improve its safety culture?

Terracon's industrial hygiene services include:

- Occupational Safety and Health Administration (OSHA) and Mine Safety and Health Administration (MSHA) Compliance Evaluations
- compliance evaluations and auditing

- Health and safety training and planning
- Qualitative exposure assessments
- Employee exposure assessments
- Noise and hearing conservation
- Ventilation and lighting surveys
- Mold assessments and remediation monitoring
- Indoor environmental quality investigations
- Respiratory protection and personal protective equipment
- Heat/cold stress management
- Litigation support



CONSTRUCTION SAFETY



MONITORING FOR WELDING FUME

Why Terracon?

Resourceful. With one of the largest health and safety groups in the country, Terracon has extensive resources and knowledge to creatively solve complex problems. Our team collaborates to reach deeper for creative solutions for our clients.

Responsive. With our nationwide industrial hygiene footprint, Terracon acts quickly to deliver practical solutions to address health and safety concerns while also developing cost-effective solutions to protect people, property, and investments.

Reliable. We meet deadlines, explain complex issues, interpret lab results, and provide successful cost alternatives and deliver consistent quality to our clients. Our collaborative approach allows us to share resources and information through our network of offices.

"I'd be very glad to use Terracon again...they did an excellent job, provided all the deliverables required, and had very competent personnel who were courteous to both our staff and patients."

- RICK TOWLES, FACILITIES MAINTENANCE SUPERVISOR
PRESCOTT VETERANS AFFAIRS MEDICAL CENTER

112 Offices Nationwide with Industrial Hygiene Experience



ENR Rankings 2022

- #1 Asbestos and Lead Abatement
- #12 Top 100 Pure Designers
- #21 Top 500 Design Firms
- #46 Top 150 Global Design Firms
- #61 Top 200 Environmental Firms
- #10 Top 20 General Building

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