



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at [wvOASIS.gov](http://wvOASIS.gov). As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at [WVPurchasing.gov](http://WVPurchasing.gov) with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

## Header 1

List View

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

Procurement Folder: 1319716

Procurement Type: Central Contract - Fixed Amt

Vendor ID: 000000164419

Legal Name: AE WORKS LTD

Alias/DBA:

Total Bid: \$0.00

Response Date: 12/12/2023

Response Time: 11:08

Responded By User ID: aeworks

First Name: Carly

Last Name: Khanna

Email: carly@aeworks.com

Phone: 301-332-9780

SO Doc Code: CEOI

SO Dept: 1400

SO Doc ID: AGR2400000001

Published Date: 11/14/23

Close Date: 12/12/23

Close Time: 13:30

Status: Closed

Solicitation Description: Moorefield Laboratory Facility - EOI

Total of Header Attachments: 1

Total of All Attachments: 1



Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Moorefield Laboratory Facility				0.00

Comm Code	Manufacturer	Specification	Model #
81000000			

**Commodity Line Comments:** Per RFP, no pricing information has been included.

**Extended Description:**

To provide architectural/engineering services to evaluate and advise on HVAC, laboratory ventilation, electrical, roof, and security/access systems for possible upgrades/renovations at the West Virginia Department of Agriculture Moorefield Laboratory, located in Moorefield, Hardy Co., WV See attached specifications for further details.

# Making Building Projects a Better Value

## State of West Virginia

West Virginia Department of Agriculture - Moorefield Laboratory Facility

Moorefield, WV

Solicitation: CEOI 1400 AGR240000000 1

### Prepared by:

AE Works Ltd.

1655 Ft Myer Drive, Suite 830

Arlington, VA 22209

[aeworks.com](http://aeworks.com)

**Due Date:**

December 12, 2023

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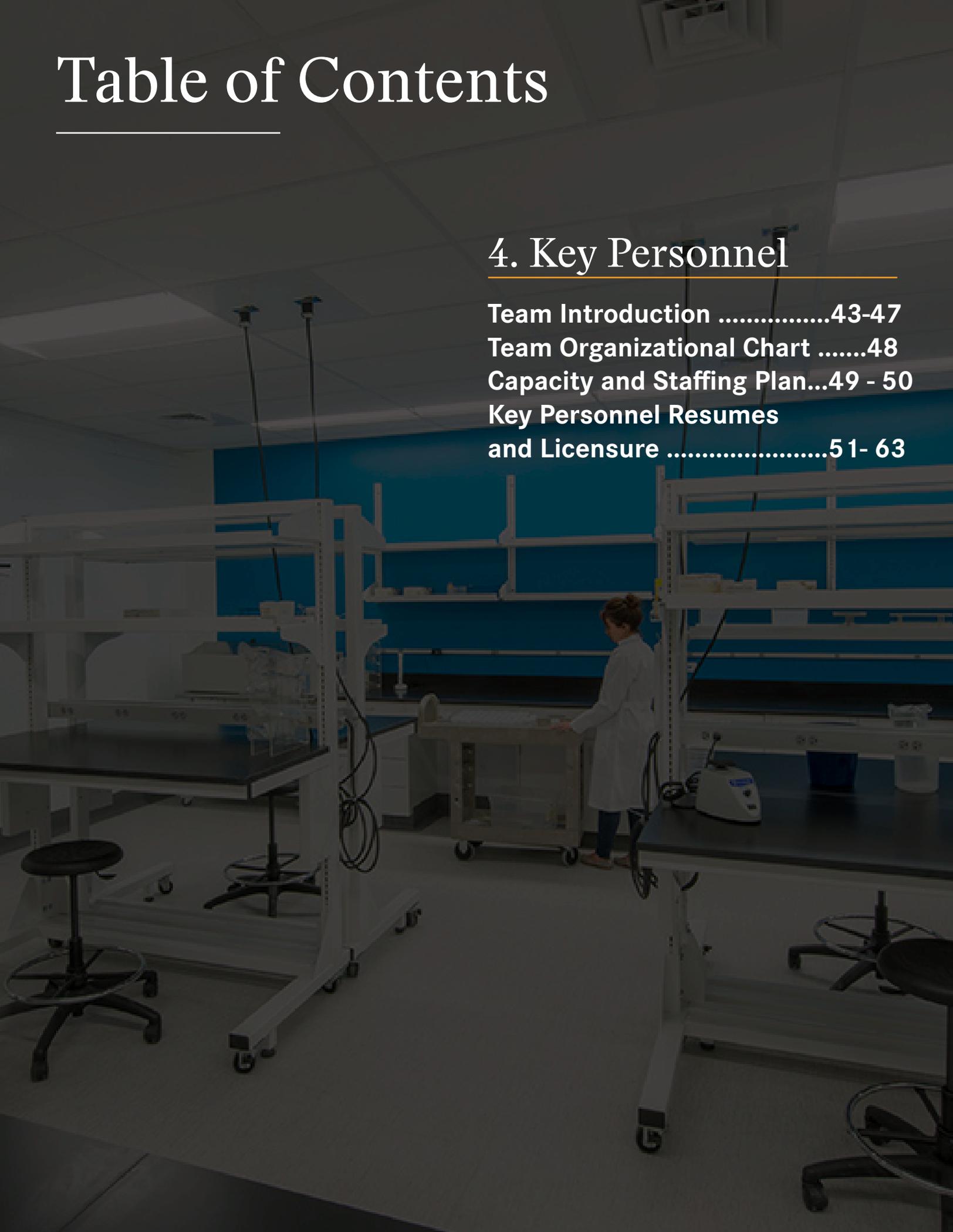
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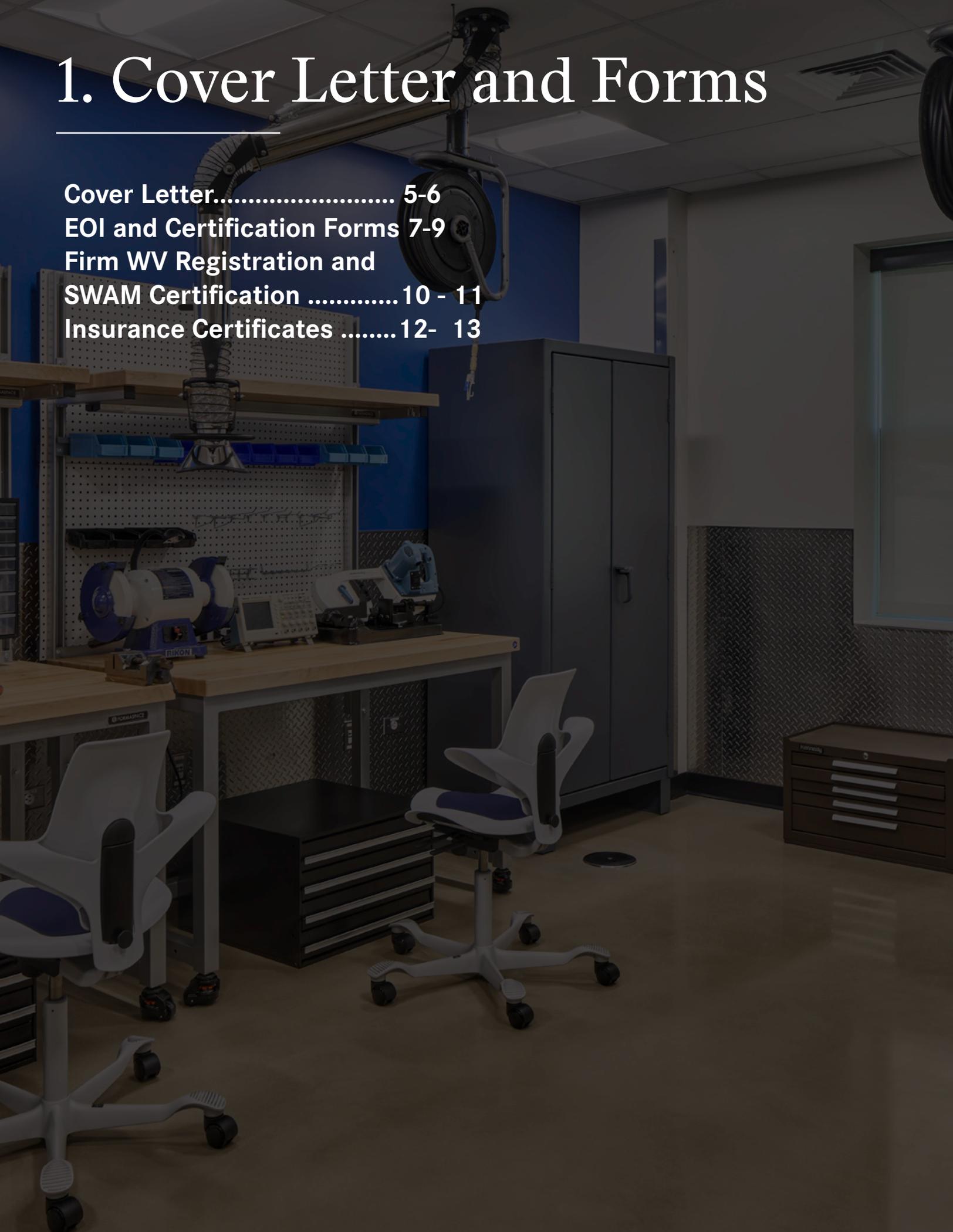
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# 1. Cover Letter and Forms

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State of West  
Virginia

Moorefield  
Laboratory

12.12.2023

State of West Virginia  
Department of Administrative Purchasing Division

Attn: Mr. Larry D. McDonnell, Senior Buyer

**RE: West Virginia Department of Agriculture Moorefield Laboratory  
Solicitation No. CEOI 1400 AGR240000001**

Dear Mr. McDonnell,

On behalf of AE Works Ltd., a *West Virginia certified SWAM Small Business*, I am pleased to submit our proposal to be considered as a design and engineering partner to serve the West Virginia Department of Agriculture in upgrades and renovations of the Moorefield Laboratory.

**Our comprehensive team brings core expertise leading highly technical laboratory projects for similar government agencies. Team qualifications include:**

**A complete solution:** The AE Work team was formed to provide the West Virginia Department of Agriculture with world-class laboratory design and engineering expertise, a local presence, and a team adept at leading large-scale public projects. Our team includes:

- A comprehensive resource network of architects, engineers, project managers and specialized building consultants with the expertise and capacity to successfully deliver your Moorefield Laboratory project.
- Your proposed AE Works Project Manager, Michael Carroll, PE, LEED AP, DCEP is a skilled management and design leader with years of experience providing leadership to advance projects through government agency review and approval processes.

- **Proven laboratory planning and design expertise:** This team brings a fresh perspective, having successfully re-imagined laboratory operations in older facilities. Our innovative solutions address the immediate need for expanded service capacity but also incorporate the necessary infrastructure for highly controlled environments. With a deep understanding of issues unique to environmental testing and public health laboratories, we will provide practical solutions to make your building project a better value. Experience includes:

State of West  
Virginia

Moorefield  
Laboratory

12.12.2023

- Work with world's premier public health and research institution, the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health.
- Deep expertise with renovations to realize how modular, flexible laboratories can fit and thrive in existing spaces.
- **Local West Virginia Experience:** Our team has worked throughout the state of West Virginia. We are familiar with the local construction climate and permitting requirements to support project delivery and accurate project estimates.
  - Local experience includes laboratory projects for CDC National Institute for Occupational Safety & Health. Also of note, AE Works is a trusted firm by state agencies, recently providing services to the West Virginia Lottery to enhance building security.

We appreciate this opportunity to present our proposal and stand ready with an experienced team to successfully meet the needs of your project. Please do not hesitate to contact me at 202.400.0526 or via email [sara@aeworks.com](mailto:sara@aeworks.com).

Sincerely,  
AE Works Ltd.



Sara Lappano, PE  
Vice President of Operations  
[sara@aeworks.com](mailto:sara@aeworks.com) | 202.400.0526



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**

<b>Proc Folder:</b> 1319716			<b>Reason for Modification:</b>
<b>Doc Description:</b> Moorefield Laboratory Facility - EOI			
<b>Proc Type:</b> Central Contract - Fixed Amt			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2023-11-14	2023-12-12 13:30	CEOI 1400 AGR2400000001	1

**BID RECEIVING LOCATION**

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

**VENDOR**

**Vendor Customer Code:** 000000164419

**Vendor Name :** AE Works Ltd.

**Address :** Headquarters address: 418 Beaver Street, Sewickley, PA 15143

**Street :** Local team office: 1655 Ft Myer Drive, Suite 830

**City :** Arlington

**State :** VA **Country :** United States **Zip :** 22209

**Principal Contact :** Richard Witt, Jr. AIA

**Vendor Contact Phone:** 814.242.0489 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**

Larry D McDonnell  
 304-558-2063  
 larry.d.mcdonnell@wv.gov

**Vendor Signature X** 

**FEIN#** 26-3588925 **DATE** December 12, 2023

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

**ADDITIONAL INFORMATION**

CEOI

Expression of Interest

The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for WV Department of Agriculture ("Agency"), from qualified firms to provide architectural/engineering services ("Vendors") to evaluate and advise on HVAC, laboratory ventilation, electrical, roof, and security/access systems for possible upgrades/renovations at the West Virginia Department of Agriculture Moorefield Laboratory, located in Moorefield, Hardy Co., WV per the bid requirements, specifications and terms and conditions as attached herein.

INVOICE TO	SHIP TO
AGRICULTURE DEPARTMENT OF ADMINISTRATIVE SERVICES 1900 KANAWHA BLVD E CHARLESTON WV 25305-0173 US	AGRICULTURE DEPARTMENT OF EXECUTIVE DIVISION 217 GUS R DOUGLAS LN, BLDG 1 RM 100 CHARLESTON WV 25312 US

Line	Comm Ln Desc	Qty	Unit Issue
1	Moorefield Laboratory Facility		

Comm Code	Manufacturer	Specification	Model #
81000000			

**Extended Description:**

To provide architectural/engineering services to evaluate and advise on HVAC, laboratory ventilation, electrical, roof, and security/access systems for possible upgrades/renovations at the West Virginia Department of Agriculture Moorefield Laboratory, located in Moorefield, Hardy Co., WV

See attached specifications for further details.

**SCHEDULE OF EVENTS**

<u>Line</u>	<u>Event</u>	<u>Event Date</u>
1	Vendor Questions Due by 2:00PM EST	2023-12-01

**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) Richard Witt, Jr., AIA - Chief Client Officer, Sr. Vice President  
(Address) 1655 Ft. Myer Drive, Suite 830, Arlington, VA 22209  
(Phone Number) / (Fax Number) 814.242.0489 (mobile)  
(email address) rick@aeworks.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.

AE Works   
(Company)

(Signature of Authorized Representative)

Richard Witt, Jr., AIA December 12, 2023

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

814.242.0489 (mobile), no fax

(Phone Number) (Fax Number)  
rick@aeworks.com

(Email Address)

# CERTIFICATE OF *Authorization*

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

*The West Virginia State Board of Registration for Professional Engineers  
having verified the person in responsible charge is registered in  
West Virginia as a professional engineer for the noted firm, hereby certifies*

*has complied with section §30-13-17 of the West Virginia Code governing  
the issuance of a Certificate of Authorization. The Board hereby notifies you of its  
certification with issuance of this Certification of Authorization for the period of:*

*providing for the practice of engineering services in the State of West Virginia.*

IF YOU ARE REQUIRED TO REGISTER WITH THE SECRETARY OF STATE'S OFFICE,  
PLEASE SUBMIT THIS CERTIFICATE WITH YOUR APPLICATION.



IN TESTIMONY WHEREOF, THE WEST VIRGINIA STATE BOARD OF  
REGISTRATION FOR PROFESSIONAL ENGINEERS HAS ISSUED THIS COA  
UNDER ITS SEAL, AND SIGNED BY THE PRESIDENT OF SAID BOARD.

*Geoff E. Thomas Jr.*

BOARD PRESIDENT



MARK D. SCOTT  
CABINET SECRETARY

STATE OF WEST VIRGINIA  
DEPARTMENT OF ADMINISTRATION  
PURCHASING DIVISION

W. MICHAEL SHEETS  
DIRECTOR

July 6, 2023

**AE WORKS LTD**  
418 BEAVER STREET  
SEWICKLY, PA 15143

JoAnn Rizzo:

This is to notify you that your Small, Women-, and Minority-Owned Businesses (SWAM) Certification Application has been approved based on your representations that the vendor named above meets the definition of a Small, Women-, and Minority-Owned Businesses as set forth in the *West Virginia Code of State Rules* 148-22-1 et seq. This certification becomes effective:

08/02/2023

And shall automatically expire without notice two years after the effective date unless revoked by the Purchasing Director or upon expiration pursuant to the *West Virginia Code of State Rules* 148-22-8. The type(s) of Small, Women-, and Minority-Owned Businesses (SWAM) Certification approved for your entity:

Small Business

At the end of your two-year certification period, if you wish to reapply, please complete a WV-1a form or apply for re-certification through the Vendor Self-Service portal at [wvOASIS.gov](http://wvOASIS.gov). Complete renewal instructions, application forms, and a list of all SWAM-Certified entities are available online at [www.state.wv.us/admin/purchase/VendorReg.html](http://www.state.wv.us/admin/purchase/VendorReg.html).

If you have questions, please contact the West Virginia Purchasing Division at 304-558-2311.

Sincerely,

A handwritten signature in blue ink, appearing to read "Angelina Villanueva".

Angelina Villanueva  
Vendor Registration Coordinator





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

Acct#: 2955553

10/01/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Lockton Companies, LLC 3657 Briarpark Dr., Suite 700 Houston, TX 77042	<b>CONTACT NAME:</b> PHONE (A/C. No. Ext): 888-828-8365	<b>FAX (A/C. No.):</b>
	<b>E-MAIL ADDRESS:</b> INSPERITYCERTS@LOCKTONAFFINITY.COM	
<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
<b>INSURER A :</b> Indemnity Insurance Co. of North America		43575
<b>INSURER B :</b>		
<b>INSURER C :</b>		
<b>INSURER D :</b>		
<b>INSURER E :</b>		
<b>INSURER F :</b>		

**INSURED**  
**AE WORKS LTD.**  
 418 BEAVER ST  
 SEWICKLEY, PA 15143-1502

**COVERAGES****CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
A	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	C56079051	10/01/2023	10/01/2024	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**CERTIFICATE HOLDER****CANCELLATION**

AE WORKS LTD.  
 418 BEAVER ST  
 SEWICKLEY, PA 15143

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

# 2. Project Goals and Approach

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Approach..... 14-20





# Project Approach

## ALCOSAN Environmental Compliance Facility

Presented at *International Institute for Sustainable Laboratories (I2SL) Conference (Pittsburgh 2022)*  
Notable Design Features - enhanced daylighting and ultra-efficient HVAC systems

### We tame building complexities.

Offering a single-source solution to solve our client’s building project challenges, AE Works leverages the power of diverse services to add value throughout a project life cycle and deliver results.

With experience developing and implementing laboratory facility standards and providing planning, design, and engineering services for projects across the country, we understand the importance of aesthetics, systems and security working together to provide highly functional, aesthetically pleasing and safer spaces for staff and the community.

The AE Work team was formed to provide the West Virginia Department of Agriculture with world-class laboratory operations and planning expertise, a local presence, and a team adept at leading large scale public projects. This team brings a unique perspective, having re-imagined laboratory operations within older facilities. Our focus extends to planning and designing infrastructure for highly controlled environments, incorporating layouts that enhance operational efficiency. This approach aligns with both current and future work practices, reflecting your operational needs and requirements. Additionally, our team is dedicated to seamlessly integrating security and sustainability measures into the overall design, ensuring a comprehensive solution for the Moorefield Laboratory.

**Team of Experts.** This team of laboratory design and engineering experts recently completed the new \$40M Environmental Compliance Facility for the Allegheny County Sanitary Authority (ALCOSAN), which is in the final stages of construction. This local government facility includes water testing and other environmental laboratories.



Your proposed **Project Manager Michael Carroll, PE** brings 15+ years of experience including program management for various laboratory upgrades and renovations for the National Institutes of Health.

## PROJECT AND GOALS

To meet your project goals and objectives, our team's approach and anticipated considerations are detailed below.

### **2.1. Goal/Objective 1: Evaluate facility's existing HVAC systems to identify any potential airflow concerns relating to the removal and addition of walls.**

*The goal is to promote climate uniformity in the office and laboratory spaces allowing for the heat generated by additional equipment and potential reconfiguration of interior walls. Provide assessment of impact of potential changes and recommendations and cost estimates for HVAC solutions to address that impact.*

Office and laboratory spaces have very different design considerations for HVAC systems.

- In offices, the priorities are generally provision of sufficient outside air for occupants combined with the energy efficiency.
- For laboratories, the focus is on occupant safety, including negative pressurization to avoid potential air contamination in adjacent spaces, as well as functional exhaust systems, both at fume hoods and for the overall space.

As partitions and spaces have been renovated and changed over time, it is likely that the existing spaces no longer have optimal HVAC systems. After gaining a thorough understanding of the existing HVAC system and space usage, we would work to develop a design approach that separately addresses the office and lab spaces, likely through separate HVAC supply, return, and exhaust systems. Segregating these systems will ensure that proper airflow and pressurization can be achieved for the various space types.

### **2.2. Goal/Objective 2: Evaluate existing fume hood and biosafety cabinet ventilation system for the Animal Health and READ laboratories.**

Proper function of fume hoods and biosafety cabinets (BSCs) is critical to the safety of the scientists and researchers working in lab spaces. In addition to ensuring fully functional equipment, a properly designed exhaust system is critical for fume hoods and animal holding areas, since the hazardous fumes and particles emitted need

to be safely exhausted out of the building. The exhaust system can be designed as either constant volume (less expensive to install and less energy efficient) or variable volume (more expensive install cost but more energy efficient).

We would work with your team to evaluate the existing system and determine the best design approach to address any identified issues. Equally important is the supply air system to ensure that lab spaces maintain negative pressurization and sufficient airflow is provided to meet

## LABORATORY PROJECT EXPERTISE

- Over 1 million SF spanning new construction, fit-outs, renovations, and facility standards
- Ongoing work with our nation's public health agency, Centers for Disease Control and Prevention (CDC)
- Work with the world's premiere research institution - National Institutes of Health (NIH)

## HIGHLIGHTED LABORATORY PROJECTS

- ALCOSAN Environmental Compliance Facility
- Center of Excellence, Microbac Laboratories (water and food testing laboratories)
- Department of Veterans Affairs, Biomedical Research Laboratory Modernization
- National Institutes of Health (NIH)
  - Robotics Laboratory
  - Radiochemistry Laboratory
  - Cryo-Electron Laboratory
  - Spectroscopy Laboratory
- Private Client, Environmental Laboratory Renovation
- CDC - National Institute for Occupational Safety and Health (NIOSH) - various laboratory renovations (Morgantown, WV; Pittsburgh, PA; Spokane, OR)

exhaust air requirements. BSCs typically utilize internal HEPA filtration to trap any microbes prior to recirculating the air into the space, although they can be vented from the building if toxic chemicals are used. While typical BSCs don't have the same building exhaust requirements as fume hoods, it is still critical to their operation to ensure the BSCs are functional and that there are no external obstructions that could be blocking either the intake or exhaust air for the cabinets within the room.

**2.2.1. Determine if there are any positive or negative impacts of changing hood(s) to the current exhaust system and make recommendations on solutions to address the impact of such changes.**

It is likely that the existing fume hoods are “constant air velocity” type. We would first evaluate the condition of the hoods and the building HVAC system to determine if they are functional and estimate the equipment's remaining life span.

If we find that the condition is poor enough to warrant replacement of the hoods and associated HVAC, we will provide an evaluation and comparison between a new CAV (constant air velocity) and VAV (variable air velocity) fume hood and exhaust system. While a VAV system has a less expensive initial cost, it is a more energy intensive system and, since the airflow at the hood varies depending on the sash position, it is more challenging to ensure proper airflow at various sash positions. A VAV system is more expensive to install due to the need for additional valves and controls to vary the airflow. However, these systems ensure a consistent airflow at the hood regardless of sash

position, and because they modulate the airflow based on demand, they are more energy efficient. In the case of laboratories that are anticipated to remain in operation for a long amount of time, we generally recommend the VAV solution since it has a lower life cycle cost and results in higher-quality airflow conditions at the hoods. We also recommend utilizing the Classification of Laboratory Ventilation Design Levels published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) to inform the exhaust system design approach, including fan redundancy and exhaust stack height and discharge location.

**2.2.2. Evaluate concept of a horizontal trunk line or alternative exhaust system for the laboratories and develop a concept plan with cost estimate.**

The requirements for laboratory spaces can vary over time based on changing research programs, available grants and funding, and evolving technology. Integrating flexibility and modularity into the design of the lab spaces and their supporting systems can facilitate reconfiguration of spaces with minimal time and expense. A manifolded horizontal exhaust trunk line can provide flexibility for the future addition and/or reconfiguration of fume hoods and other exhaust-related equipment (such as snorkels and thimbles) to lab spaces over time. This type of centrally located exhaust duct will allow exhaust ducts from lab spaces to “plug” into the main exhaust line and then be exhausted via the main lab exhaust fans (usually located on the roof). It also enables central exhaust fans to be utilized (typically a primary fan and a backup fan) rather than multiple dedicated exhaust fans, which saves energy via reduced



**FUME HOOD FACILITY CONDITION ASSESSMENTS**

For a private laboratory client, AE Works completed Facility Condition Assessments (FCAs) of HVAC systems and fume hoods at seven (7) laboratory facilities in five (5) states. Following on-site inspections, AE Works prepared RFPs for contractor testing, adjusting, and balancing of the systems, as well as airflow testing. Following evaluation of results, completed HVAC assessment reports include recommendations to inform an enterprise-level Capital Improvement/Deferred Maintenance Plan.

fan power, improved energy recovery opportunities, and adjustable airflow. These energy savings increase even more when a VAV fume hood and exhaust fan solution is applied.

To determine the viability of this design approach, we would evaluate the lab and building layout, assess the available plenum depth above corridor ceilings, and performance initial exhaust calculations to approximate the size of a central horizontal trunk line. If we find this approach is not feasible from a physical space standpoint, our next step would be to evaluate a slightly more distributed approach with smaller horizontal ducts, such as separate horizontal lines running above lab spaces rather than a single duct in the corridor. While a single horizontal trunk line will likely be the most cost-effective approach, if we find that smaller, multiple ducts are necessary, we will quantify that impact in our cost estimate.

**2.3. Goal/Objective 3: Evaluate current electrical requirements for the entire facility as well as future electrical demands based on planned equipment acquisitions to determine insufficiencies and/or needed upgrades.**

*Provide recommendations for requirements or alterations. Evaluate current backup generator against current and future electrical demands to propose additional equipment solutions along with cost estimates needed for sufficient backup power.*

With a trend towards more data and power-intensive equipment demands, it is critical for the electrical distribution system to meet both present and anticipated future loads, not only for laboratory spaces, but also office and IT support spaces. We will evaluate both the existing electrical distribution system but also assess the existing capacity to meet loads using peak demand data from utility records or on-site metering if needed. In addition, with most electrical equipment having an anticipated life span of 20-30 years, we will also assess the remaining useful life of the existing equipment. It is also common for older buildings to operate on a 120/208V system. If this is the case, changing to a new 277/480V system will allow for larger electrical capacity without a substantial increase in space required for electrical equipment and feeders. In addition to the overall condition and capacity of the distribution system, the means of distributing power to

branch circuits will also be assessed. To provide some modularity and facilitate future reconfiguration of spaces, we recommend locating a branch circuit panelboard at each structural bay to serve lab equipment.

The standby power system for the building is also critical to both protecting occupants and preserving important research in the event of a power outage. In addition to ensuring that exit signs and egress lighting are available in a power outage, the emergency power system for lab buildings also must ensure that occupants are not exposed to toxic fumes or dangerous microbes when power is lost.

**PHYSICAL SECURITY EXAMPLE: PA DEPARTMENT OF GENERAL SERVICES (DGS) - Physical Security Assessment and Recommendation at Commonwealth Technology Center (CTC)**

AE Works was contracted to recommend security and anti-terrorism improvements for a state government campus located in the Eastern United States. This project involved the assessment of the current physical security of the entire site, access roads and parking areas, and recommendations to improve overall security on site.

Assessing countermeasures and potential vulnerabilities, AE Works conducted physical security assessments of the campus and buildings during both daylight and hours of darkness. The deliverables for this survey cost estimate included the following options to upgrade site security:

- Two (2) options for each building, site and parking lot
- Two (2) options for the entire site (both buildings) and access roads.

Following physical security surveys completed during both day and night, AE Works' security experts recommended strategies for mitigating vehicular hazards. These recommendations focused on strengthening already in place security measures with minimal disruption to site access and parking available.



Therefore, it is critical that the lab exhaust and supply air systems remain operational during a power outage to avoid release of contaminants into occupied spaces. We will also work with the lab users to understand additional emergency power provisions that should be in place to preserve their important research during a power outage. To avoid the costly loss of materials or loss of research, this type of equipment is also frequently backed up on emergency power. If any data-intensive research is occurring, we may also determine that an uninterruptible power supply (UPS) is recommend ensuring no loss of data when an unexpected power outage occurs.

**2.4 Goal/Objective 4: Evaluate existing roof condition and known issues as it pertains to the current roof design, age of roof, and laboratory hood and biosafety cabinet ventilation system penetrations to determine if an alternative roof structure and/or exhaust system will correct the issue.**

*Provide recommendations and cost estimates on roof renovations or upgrades to address leaks and roof penetrations.*

In conjunction with evaluating the existing mechanical and electrical systems serving the facility, our architectural and structural teams will assess the roof, both the condition of the roofing material as well as the structural systems supporting the roof. Our understanding of the existing facility is that there are currently numerous smaller exhaust vents and fans penetrating the roof. With the likely transition to a more centralized exhaust system, this smaller roof equipment will be removed, leaving numerous locations requiring patching and repair.

In addition, the transition to centralized supply and exhaust systems will likely require large equipment to be located on the roof. The existing slope of the roof will need to be factored into the design of platforms for new equipment, and we also anticipate some additional structural reinforcement to be required. Due to the level of alteration, we anticipate the roof requiring, replacement of the roofing materials will probably be recommended rather than extensive patching and repairs. However, as we advance both our mechanical system design and our evaluation of the roof and structure, we will work to identify a design solution that will balance the integrity of the final roofing system with cost considerations.

**2.5. Goal/Objective 5: Evaluate current facility security and safety aspects of facility including fencing, gates, access points, door quality, lighting, cameras, and sidewalks to identify insufficiencies.**

*Propose solutions and cost estimates to address security and accessibility.*

Drawing from an architectural engineering background, our hands-on engineers understand the delicate balance between building systems and aesthetics. For development of system solutions, we will look at infrastructure responsiveness, safety / security, incorporation of energy efficiency measures when appropriate, and incorporation of technology systems.

To integrate safety throughout your laboratory, we will assess access control, including perimeter security and lighting.



**Additional safety and security assessment** We will also analyze eye wash and emergency shower locations and biologics and unknown agents safety protocols to air flow and control as well as NFPA, life safety and building codes.

**Laboratory Safety features**

- Chem Fume Hoods, BSC, eye wash and emergency showers locations in labs and in relation to traffic, doors, etc.
- Biologics and unknown agents Safety Protocols
- Air flow and control
- NFPA, life safety, building codes

**2.6. Goal/Objective 6: Assist in preparing specifications, bid documents, bid evaluation, and project oversight for solutions and upgrades from Goals 1 through 5 selected for implementation by WVDA.**

**BIDDING ASSISTANCE**

This phase will start with the issuance of bidding documents to invited contractors for pricing. AE Works will attend a pre-bid meeting for contractors to become more familiar with the project. Through a formal addendum process, we will support WVDA in addressing contractor questions. Following the bidding period and receipt of bids, we will assist in reviewing the qualifications of the low bidder and developing recommendations for contract award.

Deliverables during bidding phase include:

A complete reproducible set of approved final plans and administrative and technical specifications sealed by Professional Architect and Engineer, registered in Pennsylvania. All materials will be provided in paper and electronic format and submitted in e-builder.

**SERVICES DURING CONSTRUCTION**

Following the issuance of the Notice-to-Proceed to the Contractor until the final certificates of payment are issued

to the Contractor, our core responsibility is to review, evaluate, and verify that the construction is consistent with the project requirements specified in the Construction Documents as approved by WVDA. Activities by the A/E during this phase include:

- Attendance at preconstruction conference conducted by the CM
- Regular on-site progress and cost control review meetings with the Contractor, CM and ALCOSAN
- On-site visits to the site to assess construction progress and conformance with project requirements
- Technical review of shop drawings and submittals
- Preparation of drawing and cost estimates for any change orders
- Review of pending change order requests
- Responding to contractor Requests for Information (RFIs)

As construction nears completion, we will conduct inspections to determine if the project is substantially complete and will document the remaining work required to be completed to achieve final completion.

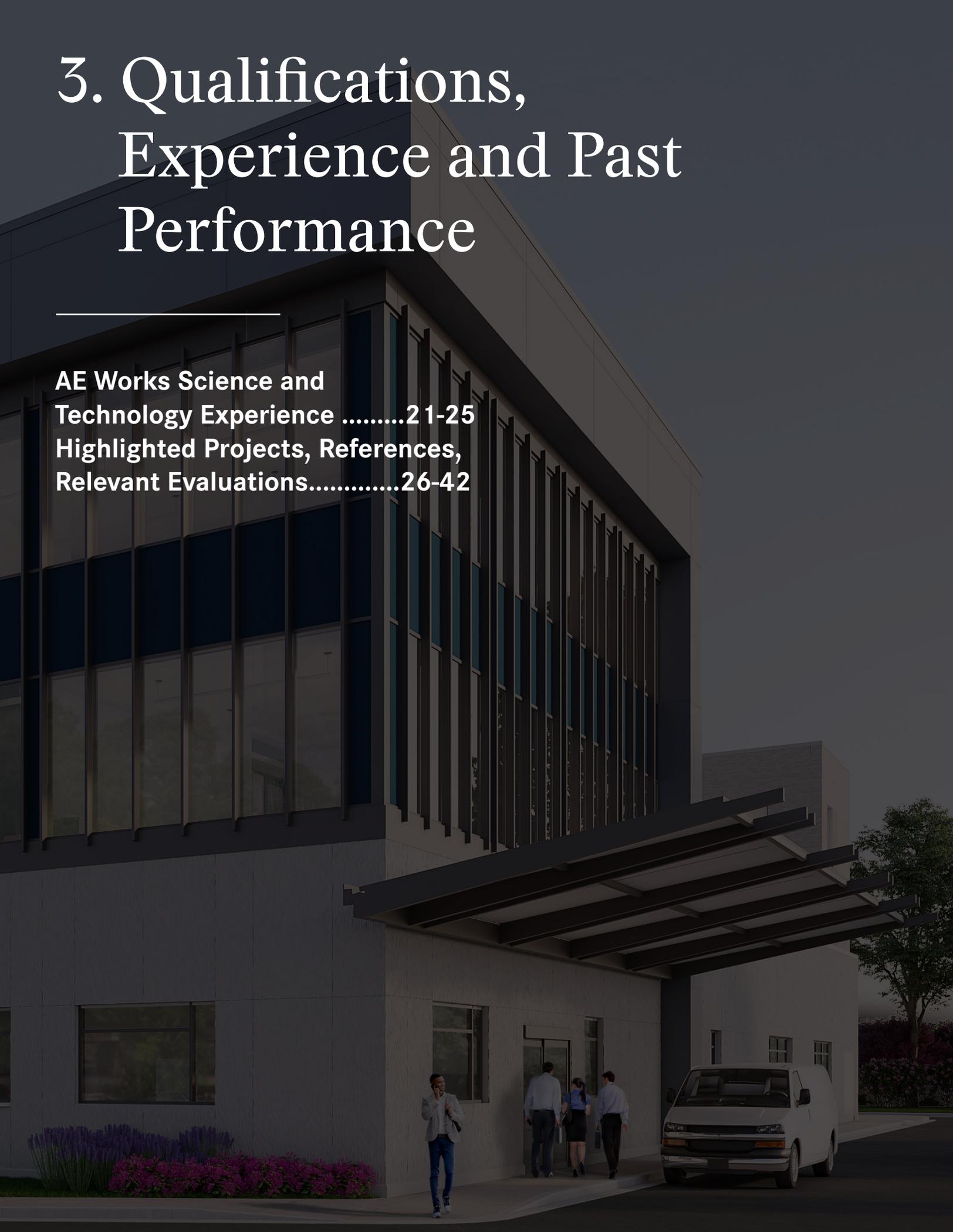
**West Virginia Experience**

- West Virginia University, Statler College of Engineering and Mineral Resources, Science Building Renovations, *Morgantown, WV*
- West Virginia Lottery Security Enhancements, *Charleston, WV*
- Centers for Disease Control and Prevention (CDC), *Morgantown, WV*
  - Design Repair of Campus Electrical Infrastructure
  - NIOSH - Upgrade HVAC Animal Quarters
  - NIOSH Study Expansion and Modernization of Inhalation Rooms
- Huntington VA Medical Center, Cooling Tower Replacement, *Huntington, WV*
- VBA Huntington Office Renovation, *Huntington, WV*
- Beckley VA Medical Center, Outpatient Behavioral Health Addition, *Beckley, WV*
- Martinsburg VA Medical Center, *Martinsburg, WV*
  - New Warehouse
  - Renovate 200 Row - Planetree Domiciliary
- Clarksburg VA Medical Center (Louis A. Johnson VAMC), *Clarksburg, WV*
  - Overhead Paging Upgrades Study and Design
  - Basement HVAC Study and Improvements
  - Electrical Upgrades
  - Evaluate Building 5 Flooring
  - HVAC Renovation MRI Suite
  - Pharmacy 800 USP Compliance
  - SPS Renovation
  - Statement of Conditions Survey

# 3. Qualifications, Experience and Past Performance

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**AE Works Science and  
Technology Experience .....21-25**  
**Highlighted Projects, References,  
Relevant Evaluations.....26-42**



# Science and Technology Experience



## Our Team Goal

Better efficiencies, ideation, and trust from a diverse team united by a strong culture of innovation and entrepreneurial spirit.

## The Result

Increasing the return on investment of capital projects.

AE Works is a teaming partner focused on unlocking the full potential of the built environment to deliver greater value for our clients. Combining a broad set of building design and consulting specializations, we explore all aspects of the built environment from aesthetics and functionality to security and constructability.

AE Works has received local and regional awards for design, growth, and social impact. Most recently, the firm was listed on *ENR's Top Mid Atlantic Firms* and the *Architecture 300* list, the list of the largest architecture firms in the country in addition to *Building Design + Construction's list of top A/E firms* for the past three years.

Today, over fifteen (15) years since the founding of AE Works, over seventy (70) professionals work collaboratively to support delivery of projects across the country for research, higher education, healthcare, commercial and government clients.

“AE Works has produced exceptional quality work in terms of using qualified staff to survey the site, prepare the reports, engage with customers about requirements and produce design documents.”

National Institutes of Health  
Contract Evaluation



Neuroscience Research Organization  
Executive Offices



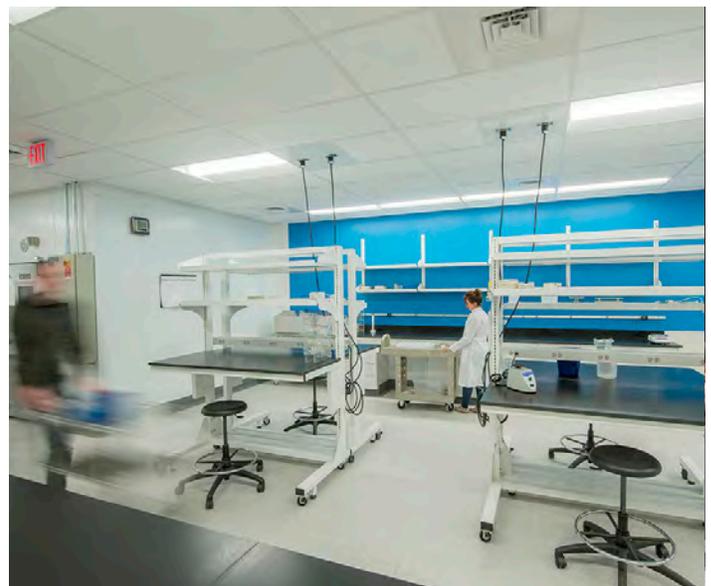
Allegheny Co. Sanitary Authority (ALCOSAN) Environmental  
Compliance Laboratory

Project presented at 2022 International Sustainable  
Laboratories Conference (I2SL)

## Science & Technology Facilities

AE Works’ science and technology experience spans new construction, fit-outs, renovations, and development of facility standards. Building projects with the world’s premiere research institution - National Institutes of Health, commercial laboratory clients and more.

- Advanced Technology Laboratories
- Biomedical Research Laboratories
- Medical Laboratories
- Testing Laboratories
- Modular and Flexible Concepts
- Office, Meeting and Training Spaces
- Workplace Safety + Security



Microbac Laboratories  
Testing Center of Excellence



ALCOSAN Environmental Compliance Laboratory + Parking Garage

## Highlighted Science & Technology Projects

- ALCOSAN Environmental Compliance Facility, Pittsburgh, PA:** Planning and design of three (3) unique facility types, testing laboratory, office and a parking garage, to support Allegheny County Sanitary Authority (ALCOSAN) in achieving their \$2 billion Clean Water Plan. 54,000-SF Environmental Compliance Facility and 170,000-SF Parking Garage. \$30M (est). Presented at International Sustainable Laboratories Conference.
- NIH Building 37 Renovation for Cryo-Electron Lab, Bethesda, MD:** Renovation of mechanical rooms to create advanced laboratory space for the National Institute of Neurological Disorders and Stroke. Laboratory provides cryo-electron microscopy and light imaging research functions. \$550,000 (est.)
- West Virginia University, Statler College of Engineering and Mineral Resources, Morgantown, WV:** Renovations of four (4) classrooms to support departmental moves, expansion of the remaining departments and creating space to build new teaching facilities within the existing building. \$625,000.
- Center of Excellence, Microbac Laboratories, Pittsburgh, PA:** 20,000-SF renovation of an analytical testing laboratory (chemistry, microbiology, serology and metals laboratories) and support spaces. Work also involved development of laboratory and office facility standards.
- NIH, Building 21, Robotics Laboratory Renovation, Bethesda, MD:** Transformation of abated radiation labs into robotics laboratory with design, fabrication, and offices for prosthetics development team. \$712,000.
- NIH, Building 10 National Cancer Institute Spectroscopy Laboratory Renovation, Bethesda, MD:** Renovate Spectroscopy Lab and infrastructure. Work included a study for installation of a Hyperpolarizer (Spinaliner) for the MRI system. \$550,000 (est.)



Microbac Laboratories Testing Center of Excellence



Microbac Laboratories Headquarters



National Institutes of Health, Laboratory Renovations

## Highlighted Science & Technology Projects

- Department of Veterans Affairs, Laboratory Modernization, Phase I and II, Philadelphia, PA:** 40,000-SF renovation to provide medical research laboratories and upgrade animal research facilities. \$12.7M
- NIH, Building 10 National Institutes of Mental Health, Radiochemistry Laboratory, Bethesda, MD:** Complex renovations to expand existing radiochemistry laboratory capability, adding two additional hot cells. Renovation design includes highly controlled pressurization and air flow in addition to laboratory gases (Compressed Air, Lab Vac, Helium, Argon, and Nitrogen).
- NIH, Building 14E, Murine Pheno Core, Bethesda, MD:** Transformation of existing wet labs into to a procedure lab and suite of holding rooms.
- NIH, Building 49 Pet Scanner Feasibility Study, Bethesda, MD:** PET Scanner Installation Feasibility Study which involved assessment of existing structural and MEP systems and developing a clear delivery path.
- NIH, Eunice Kennedy Shriver National Institute of Child Health and Human Development Executive Office Renovation, Bethesda, MD:** 14,850-SF research office renovation that delivers new offices, conference rooms, collaboration areas, circulation, and support spaces for a group consisting of 13 different departments. \$6.5M (est.)
- NIH, Building 31 A, 8th Floor Renovation, Bethesda, MD:** 11,500-SF office renovation, providing new open and private offices, conference rooms, collaboration areas, circulation, and support spaces for a neuroscience research group consisting of seven different departments. \$3.8M



Dept. of Veterans Affairs Laboratory Modernization



NIH Research Office Renovation



NIH Research Executive Offices

# Environmental Compliance Facility & Parking Garage

Allegheny County Sanitary Authority  
Pittsburgh, PA

## KEY FEATURES

- Local government water testing / environmental laboratory
- Laboratory assessment, concept, and design
- Operational improvements
- Infrastructure assessment and design: HVAC, Electrical, and Telecom systems
- Roof assessment and green roof design
- Physical security assessment
- Energy efficiency and sustainable design
- Presented at the International Institute for Sustainable Laboratories Conference
- **Size:** 54,000-SF Environmental Compliance Facility and 170,000-SF Parking Garage

## TOTAL PROJECT VALUE

\$42M (construction cost combined)

## PERIOD OF PERFORMANCE

**Design:** January 2008 - February 2021 (garage)

January 2008 - December 2021 (Lab)

**Construction:** May 2021 - June 2022 (garage)

August 2022 - April 2024 (Lab)

## REFERENCE

Suzanne Thomas, ALCOSAN, Procurement Officer  
412.732.8020, [suzanne.thomas@alcosan.org](mailto:suzanne.thomas@alcosan.org)

## SERVICES & DELIVERABLES

AE Works was the Prime and Project Manager, providing Planning, Architecture, Interior Design, MEP/ Telecom Engineering, Physical Security, and Construction Admin.

## CLIENT FEEDBACK

AE Works received **“Exceptional”** evaluation ratings.

This new 54,000-SF administration and laboratory operations facility was planned, designed and developed to support the Allegheny County Sanitary Authority’s (ALCOSAN) climate resilience charge and re-imagined operations. The resulting Environmental Compliance Facility (ECF) showcases a building solution that embraces the organization’s commitment to sustainability and enables organizational flexibility to adapt to changing testing protocols. Like the details of the water ALCOSAN tests, every detail of this new facility was explored and purposefully designed to enable operational efficiency, best practices and provide a sustainable and economically smart investment that will continue to serve the region for a long time.

## Approach

Focused on enabling ALCOSAN to meet its long-term operational needs, the new 3-story Environmental Compliance Facility re-imagines how ALCOSAN will complete testing in the future with new technologies, digital equipment and automated processes.

Following a detailed existing facility condition assessment and concept development phase, AE Works provided complete architectural and engineering design services for the new laboratory and parking garage. Operational awareness and adaptation were infused into the planning and design process to develop the go-forward vision and workflow, not re-create the existing facility and operation. The functions in the ECF were once handled on a single floor of the Administration building when the plant was first built in the late 50’s. As the environmental scope of

ALCOSAN’s obligations expanded inside and outside the plant, these functions expanded into other buildings in an unplanned manner. The ECF represents a fresh start where all of these functions are integrated into a single building with an intentional approach.

Interactive programming workshops with key stakeholders and users supported the development of the group’s future facility layout by translating requirements and evaluating current operations. The new facility brings together and houses two groups that work closely together, in one building to enable a seamless flow. The new testing laboratory is located on the first floor to accommodate receiving samples. Offices, conference rooms, classroom and support spaces fill the top two floors.



## Impact

Every bench and detail of the casework and equipment layout was coordinated with ALCOSAN to fulfill a specific purpose. The resulting solution integrates modular, flexible workspace design to support changes in operations. Benches, infrastructure systems and overall layout are positioned and specified to meet requirements of new digital equipment with flexibility for the future. Layering in flexibility through features such as moveable workstations with more static details like hard-piped equipment in set locations enable efficient work in this facility, now and in the future.

Responding to ALCOSAN’s charge as a steward of the environment, the new building is 3 Rivers Proud, integrating **many sustainable features such as a green roof, controls, LED lighting, enhanced daylighting and ultra-efficient HVAC systems.** Infrastructure details meet the requirements of a 24/7 operation, and a diverse range of equipment. Controls and sensors throughout the building enable optimized mechanical systems for reduction of power consumption. Due to the limitations of power available to serve this facility direct expansion cooling in lieu of an air-cooled chiller was supplied to prevent the need to increase the size of electrical service. Hot water ceiling mounted radiant panels are provided to supplement the heating for the VRF system in the perimeter office areas.

## NAVFAC/USACE PAST PERFORMANCE QUESTIONNAIRE (Form PPQ-0)

### CONTRACT INFORMATION (Contractor to complete Blocks 1-4)

#### 1. Contractor Information

Firm Name: AE Works Ltd. CAGE Code: 59TD4  
Address: 418 Beaver Street, Sewickley, PA 15143 DUNs Number: 828921424  
Phone Number: 412-287-7333  
Email Address: rick@aeworks.com  
Point of Contact: Richard Witt, Jr., AIA Sr. Vice President and Chief Client Officer Contact Phone Number: 814.242.0489

2. Work Performed as:  Prime Contractor  Sub Contractor  Joint Venture  Other (Explain)

Percent of project work performed: 95%

If subcontractor, who was the prime (Name/Phone #):

#### 3. Contract Information

Contract Number: Client Project #: S 464 o Client PO#: Service Authorization No. 350  
Delivery/Task Order Number (if applicable):  
Contract Type:  Firm Fixed Price  Cost Reimbursement  Other (Please specify): T&M\_NIE\_Contract Title: ALCOSAN Environmental Compliance Facility and Parking Garage  
Contract Location: Pittsburgh, PS

Award Date (mm/dd/yy): 01/08/2020

Contract Completion Date (mm/dd/yy): 12/31/2021

Actual Completion Date (mm/dd/yy): Targeting 12/31/2021

Explain Differences:

Original Contract Price (Award Amount): \$2,144,000.00

Final Contract Price (to include all modifications, if applicable): \$2,259,760.00

Explain Differences: Added build-out of third floor to design that was not originally included.

#### 4. Project Description:

Complexity of Work  High  Med  Routine

How is this project relevant to project of submission? (Please provide details such as similar equipment, requirements, conditions, etc.)

Following facility assessment and concept development, AE Works is completing the design of a new three-story 54,000-SF Environmental Compliance Facility that includes a Pennsylvania Department of Environmental Protection accredited Laboratory and offices, in addition to a 170,000-SF 461 space Parking Garage. Responding to ALCOSAN's charge as a steward of the environment, the project integrates many sustainable features such as a green roof, enhanced daylighting and ultra-efficient HVAC systems.

### CLIENT INFORMATION (Client to complete Blocks 5-8)

#### 5. Client Information

Name: Cody Edgell  
Title: Project Manager  
Phone Number: 412-734-6260  
Email Address: cody.edgell@alcosan.org

6. Describe the client's role in the project: Project manager for both the design and construction.

7. Date Questionnaire was completed (mm/dd/yy): 09/27/21

8. Client's Signature: Cody Edgell

NOTE: NAVFAC REQUESTS THAT THE CLIENT COMPLETES THIS QUESTIONNAIRE AND SUBMITS DIRECTLY BACK TO THE OFFEROR. THE OFFEROR WILL SUBMIT THE COMPLETED QUESTIONNAIRE TO NAVFAC WITH THEIR PROPOSAL, AND MAY DUPLICATE THIS QUESTIONNAIRE FOR FUTURE SUBMISSION ON NAVFAC SOLICITATIONS. CLIENTS ARE HIGHLY ENCOURAGED TO SUBMIT QUESTIONNAIRES DIRECTLY TO THE OFFEROR. HOWEVER, QUESTIONNAIRES MAY BE SUBMITTED DIRECTLY TO NAVFAC. PLEASE CONTACT THE OFFEROR FOR NAVFAC POC INFORMATION. THE GOVERNMENT RESERVES THE RIGHT TO VERIFY ANY AND ALL INFORMATION ON THIS FORM.

*ADJECTIVE RATINGS AND DEFINITIONS TO BE USED TO BEST REFLECT  
YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE*

<b>RATING</b>	<b>DEFINITION</b>	<b>NOTE</b>
<b>(E) Exceptional</b>	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor was highly effective.	An Exceptional rating is appropriate when the Contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also, there should have been NO significant weaknesses identified.
<b>(VG) Very Good</b>	Performance meets contractual requirements and exceeds some to the Government's/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective.	A Very Good rating is appropriate when the Contractor successfully performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
<b>(S) Satisfactory</b>	Performance meets minimum contractual requirements. The contractual performance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory.	A Satisfactory rating is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning ratings is that contractors will not be assessed a rating lower than Satisfactory solely for not performing beyond the requirements of the contract.
<b>(M) Marginal</b>	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
<b>(U) Unsatisfactory</b>	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory rating is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating.
<b>(N) Not Applicable</b>	No information or did not apply to your contract	Rating will be neither positive nor negative.

Contractor Information (Firm Name): AE Works  
 Client Information (Name): Cody Edgell

## TO BE COMPLETED BY CLIENT

PLEASE CIRCLE THE ADJECTIVE RATING WHICH BEST REFLECTS YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE.						
<b>1. QUALITY:</b>						
a) Quality of technical data/report preparation efforts	E	<input checked="" type="checkbox"/> VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	<input checked="" type="checkbox"/> VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	<input checked="" type="checkbox"/> E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	<input checked="" type="checkbox"/> S	M	U	N
<b>2. SCHEDULE/TIMELINESS OF PERFORMANCE:</b>						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. <i>(If liquidated damages were assessed or the schedule was not met, please address below)</i>	E	<input checked="" type="checkbox"/> VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	<input checked="" type="checkbox"/> VG	S	M	U	N
<b>3. CUSTOMER SATISFACTION:</b>						
a) To what extent were the end users satisfied with the project?	E	<input checked="" type="checkbox"/> VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	<input checked="" type="checkbox"/> E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	<input checked="" type="checkbox"/> E	VG	S	M	U	N
d) Overall customer satisfaction	E	<input checked="" type="checkbox"/> VG	S	M	U	N
<b>4. MANAGEMENT/ PERSONNEL/LABOR</b>						
a) Effectiveness of on-site management, including management of subcontractors, suppliers, materials, and/or labor force?	E	VG	<input checked="" type="checkbox"/> S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce to this effort	E	<input checked="" type="checkbox"/> VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	<input checked="" type="checkbox"/> N
d) Knowledge/expertise demonstrated by contractor personnel	<input checked="" type="checkbox"/> E	VG	S	M	U	N
e) Utilization of Small Business concerns	E	<input checked="" type="checkbox"/> VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	<input checked="" type="checkbox"/> VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changes	<input checked="" type="checkbox"/> E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	<input checked="" type="checkbox"/> VG	S	M	U	N
<b>5. COST/FINANCIAL MANAGEMENT</b>						
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E	<input checked="" type="checkbox"/> VG	S	M	U	N

Contractor Information (Firm Name): Cody Edgell

Client Information (Name): Cody Eddgell

b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	<input checked="" type="checkbox"/> E	VG	S	M	U	N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	<input checked="" type="checkbox"/> E	VG	S	M	U	N
d) Is the Contractor's accounting system adequate for management and tracking of costs? <i>If no, please explain in Remarks section.</i>	<input checked="" type="checkbox"/> Yes					No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? <i>Indicate if show cause or cure notices were issued, or any default action in comment section below.</i>	Yes					<input checked="" type="checkbox"/> No
f) Have there been any indications that the contractor has had any financial problems? <i>If yes, please explain below.</i>	Yes					<input checked="" type="checkbox"/> No
<b>6. SAFETY/SECURITY</b>						
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E	VG	S	M	U	<input checked="" type="checkbox"/> N
b) Contractor complied with all security requirements for the project and personnel security requirements.	<input checked="" type="checkbox"/> E	VG	S	M	U	N
<b>7. GENERAL</b>						
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues).	<input checked="" type="checkbox"/> E	VG	S	M	U	N
b) Compliance with contractual terms/provisions <i>(explain if specific issues)</i>	<input checked="" type="checkbox"/> E	VG	S	M	U	N
c) Would you hire or work with this firm again? <i>(If no, please explain below)</i>	<input checked="" type="checkbox"/> Yes					No
d) In summary, provide an overall rating for the work performed by this contractor.	E	<input checked="" type="checkbox"/> VG	S	M	U	N

**Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk (please attach additional pages if necessary):**



# National Institute for Occupational Safety and Health - Laboratory & Infrastructure Projects

NIOSH Centers for Disease Control and Prevention (CDC)  
Morgantown, WV | Pittsburgh, PA | Spokane, WA

## KEY FEATURES

- West Virginia project experience
- Government Environmental and Animal Laboratories
- HVAC evaluation and improvements
- Electrical evaluation and improvements
- Laboratory facility infrastructure assessment and improvement
- Cost Estimating
- Phased construction approach for continued facility operations.

## TOTAL PROJECT VALUE

\$10M+ (est.)

## PERIOD OF PERFORMANCE

Design: 2022 - ongoing

## REFERENCE

Bobby Addison, Contracting Officer  
Baddison@cdc.gov | 678.475.4524

## SERVICES & DELIVERABLES

AE Works was the Prime and Project Manager, providing Architecture, Interior Design, MEP/Telecom Engineering, and Cost Estimating Services.

AE Works holds an open-end agreement with CDC NIOSH, providing A/E services across multiple campuses, including Morgantown, WV. This collaboration has involved a wide array of projects, ranging from critical electrical and HVAC upgrades to the renovation of laboratory spaces and enhancements of air handling units. Among our key contributions on the CDC campuses are:

**Design Repair of Campus Electrical Infrastructure, Morgantown, WV:** Design-bid-build project to upgrade the existing electrical distribution systems to support reliable service and safe operation of outdoor medium voltage 25KV switchgear, transformers, DS breakers, main switchboards, and automatic transfer switches. Following comprehensive campus existing condition assessments, AE Works developed a solution to upgrade the electrical infrastructure and minimize electrical downtime. Complete A/E services include existing conditions assessment report, programming, design concepts, design options, schematic and construction drawings and specifications and other related documents **Cost:** \$4M (est.)

**Upgrade HVAC Animal Quarters, Morgantown, WV:** Design-bid-build project. The HVAC Controls for the Animal Quarters are pneumatic and are over 25 years old. They have reached the end of their useful life and are causing temperature and humidity issues. Following existing condition assessments, AE Works developed a design to replace the controls system with a DDC system and other HVAC system upgrades to improve functionality, reliability and energy savings.



Complete design (programming, investigations, testing, design concepts, design options, schematic and construction drawings), specifications, and construction period services are being provided to support this project. A phased construction approach will allow the facility to continue operations. **Cost:** \$3M (est.)

**Study Expansion and Modernization of Inhalation Rooms, Morgantown, WV:** Design/planning services to study the expansion and modernization of the NIOSH Inhalation Facility. The NIOSH Inhalation Facility is an AAALAC accredited Animal Facility that provides world class expertise and the ability to produce data of relevance to occupational exposures. This facility is essential for NIOSH’s continued testing and response capacity that requires specialized inhalation studies in rodent models. A driver for the study is the expansion of the facilities capacity to assess the many new chemicals/substances being adopted by industry that currently have unknown toxicity.

AE Works’ full service architectural and engineering team surveyed the existing facility and provided recommendations to complete the expansion and modernization. Recommendations considered current workload as well as anticipated space requirements, adjacencies, workflow and supporting building systems required to address the identified current and future needs. **Size:** 3,000-SF; **Cost:** \$105K (AE Works Fee)

**Research Facility AHU Replacement, Spokane, WA:** Constructed in 1974, the Spokane Main NIOSH Laboratory Building houses a wide range of laboratories and maintenance shops requiring reliable HVAC systems and controls. Specific facilities include industrial hygiene, micro-seismic, and electronics laboratories as well as machine, wood and welding shops.

To support development of viable HVAC options, AE Works assessed existing systems, building envelopes, and insulation. Analysis and recommendations included heating and cooling load calculations, ROM and life-cycle costs, and system evaluations. AE Works provided a detailed report which analyzed the existing HVAC systems and provided recommendations for replacement systems that are more efficient, maintainable and reliable. **Cost:** \$1M (est.)

**Building 141, Laboratory Space, Pittsburgh, PA:** Interior renovation to convert existing space into functional laboratories in the phase 2 portion of Building 141 at NIOSH Pittsburgh. Building system improvements include backup generator replacement and mechanical upgrades for heat load, cooling and ventilation. Other improvements include access control and sound proofing. **Cost:** \$2.8M (est.)

## Client Feedback

AE Works received “**Exceptional**” evaluation ratings.

*“Contractor met schedule and exceeded expectations. Contract response and submission timeline was exceptional.”*

**Bobby Addison**  
Contracting Officer  
Center for Disease Control and Prevention

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**CONTRACTOR PERFORMANCE ASSESSMENT REPORT (CPAR)**

INCOMPLETE-RATED

**Architect-Engineer****Name/Address of Contractor:**

Vendor Name: AE WORKS LTD.

Division Name: CDC/NIOSH/OD/ODDM/FMO

Street: 418 BEAVER ST

City: SEWICKLEY

State: PA Zip: 151431502

Country: USA

CAGE Code:

Unique Entity ID (SAM): S4QMN9YLJ866

Product/Service Code: C219 Principal NAICS Code: 541310

**Evaluation Type:** Final**Contract Percent Complete:** 100**Period of Performance Being Assessed:** 08/22/2022 - 02/17/2023**Contract Number:** 75D30122D13914 75D30122F00002 **Business Sector & Sub-Sector:** Architect-Engineer**Contracting Office:** CDC OFFICE OF ACQUISITION SERVICES **Contracting Officer:** BOBBY ADDISON **Phone Number:** 678-475-4524**Location of Work:**

1095 Willowdale Road, Morgantown, West Virginia

**Date Signed:** 08/22/2022 **Period of Performance Start Date:** 08/22/2022**Est. Ultimate Completion Date/Last Date to Order:** 02/17/2023 **Estimated/Actual Completion Date:** 02/17/2023**Funding Office ID:** 75D301**Base and All Options Value :** \$201,243 **Action Obligation:** \$201,243**Complexity:** High **Termination Type:** None**Extent Competed:** Full and Open Competition after Exclusion of Sources **Type of Contract:** Firm Fixed Price**Key Subcontractors and Effort Performed:****Unique Entity ID (SAM):****Effort:****Unique Entity ID (SAM):****Effort:****Unique Entity ID (SAM):****Effort:****Project Number:** 20191624**Project Title:**

NIOSH Morgantown, A/E - Design Animal Quarters HVAC System

**Contract Effort Description:**

Design a replacement of pneumatic controls for HVAC in the animal quarter area with digital controls.

**Small Business Subcontracting:**

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Does this contract include a subcontracting plan? No

Date of last Individual Subcontracting Report (ISR) / Summary Subcontracting Report (SSR): N/A

<b>Evaluation Areas</b>	<b>Past Rating</b>	<b>Rating</b>
Quality:	N/A	Exceptional
Schedule:	N/A	Exceptional
Cost Control:	N/A	Exceptional
Management:	N/A	Exceptional
Small Business Subcontracting:	N/A	N/A
Regulatory Compliance:	N/A	Very Good
Other Areas:		
(1) :		N/A
(2) :		N/A
(3) :		N/A

**Variance** (Contract to Date):

Current Cost Variance (%): Variance at Completion (%):

Current Schedule Variance (%): 0

**Assessing Official Comments:**

**QUALITY:** Performance met and exceeded contractual requirements. The contractual performance of the element or sub-element being evaluated was accomplished with few minor problems for which corrective actions taken by the Contractor were highly effective.

**SCHEDULE:** Contractor met schedule and exceeded expectations. Contract response and submission timeline was exceptional.

**COST CONTROL:** Contractor stayed within budget. No significant weaknesses identified. No cost overruns.

**MANAGEMENT:** Performance met and exceeded contractual requirements. The contractual performance of the element or sub-element being evaluated was accomplished with few minor problems for which corrective actions taken by the Contractor were highly effective. Contractor management of this task order was excellent, and responses were exceptional to all issues, concerns, or questions.

**REGULATORY COMPLIANCE:** No significant weaknesses identified. Contractor worked to ensure compliance with regulations such as AAALAC.

**ADDITIONAL/OTHER:** The project has been completed and the contractor performed exceptionally on this requirement.

**RECOMMENDATION:**

Given what I know today about the contractor's ability to perform in accordance with this contract or order's most significant requirements, I would recommend them for similar requirements in the future.

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**Name and Title of Assessing Official:**

Name: Bobby Addison

Title: Contracting Officer

Organization: CDC-OAS

Phone Number: 6784754524 Email Address: quk2@cdc.gov

Date: 03/07/2023

**Contractor Comments:**

**Name and Title of Contractor Representative:**

Name:

Title:

Phone Number: Email Address:

Date:

**Review by Reviewing Official:**

**Name and Title of Reviewing Official:**

Name:

Title:

Organization:

Phone Number: Email Address:

Date:

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AE WORKS®

# National Institutes of Health Laboratory Projects

Bethesda, MD

## KEY FEATURES

- Highly specialized laboratory projects for the world's premier biomedical research institution, NIH
- Laboratory types include radiochemistry, hot cell, spectroscopy, cryo-electron, procedure suites
- Infrastructure solutions to meet the stringent operating needs of these laboratories
- Specialized studies to evaluate equipment paths, vibration and more
- Assessment and Report Development
- Space Planning

## TOTAL PROJECT VALUE

\$21M in total construction

## PERIOD OF PERFORMANCE

Design: 2019 - ongoing

## REFERENCE

Magan Miller, Contracting Officer  
magan.miller@nih.gov | 301.443.9010

## SERVICES & DELIVERABLES

AE Works was the Prime and Project Manager, providing Architecture, Planning, Interior Design, MEP/Telecom Engineering, and Construction Administration services.

## CLIENT FEEDBACK

AE Works received **"Very Good"** CPARs ratings.

AE Works has delivered a range of laboratory, infrastructure and office projects to the National Institutes of Health (NIH). We are experienced with a range of laboratory considerations and infrastructure to support highly specialized, efficient and flexible operations. Example projects include:

**Robotics Laboratory:** This project transforms existing laboratories in a 60 year-old building into modern fabrication and office space. The fabrication area houses light machining and soldering equipment, requiring noise isolation from the office spaces.

Embracing the mission of the Robotics team, the architectural vision delivers a clean, modern industrial design. Understanding the collaborative nature of the team's work, the space is developed with flexibility in mind, including a conference room that can open up for more space with use of a Nana Wall.

Materials were selected for durability and safety during fabrication of prototypes and installed to match complex floor pattern drawings. **Size:** 1,369-SF; **Cost:** \$700K

**National Institutes of Mental Health, Radiochemistry Laboratory:** Complex renovations to expand laboratory capability, adding two additional hot cells. Engineering design includes highly controlled pressurization and air flow in addition to laboratory gases (Compressed Air, Lab Vac, Helium, Argon, and Nitrogen). This expansion and renovation project combines three (3) adjacent rooms into a single, larger laboratory to support addition of two hot cells. Infrastructure design provides for fire protection,

negative pressurization and required air changes to support laboratory operations and safety. The design solution integrates additional structural support to accommodate this load. To further support the work of researchers, a new intercom system ties into the existing cyclotron control room. **Size:** 290-SF; **Cost:** \$300K

**National Institute of Neurological Disorders and Stroke, Cryo-Electron Lab:** Renovation of the existing Building 37 mechanical rooms and office to create advanced laboratory space. Laboratory provides cryo-electron microscopy and light imaging research functions. This project is focused on documenting the demolition of the mechanical spaces to transform the space into a modern laboratory. Electro-magnetic and vibration studies to follow demo. **Size:** 1,000-SF; **Cost:** \$550K

**National Institutes of Mental Health, PET Scanner Feasibility Study:** AE Works evaluated the existing B1 level of Building 49 for potential use as an imaging lab for a PET/CT Scanner. Assessment included the needed structural capacity of the floor slabs, mechanical and HVAC loads as well as the impact of the equipment to the building electrically.

As this involves installation of large, heavy equipment, the feasibility of the project is dependent on the successful, in-building transportation of the PET/CT equipment from a loading dock area on the B2 level to the final location on the B1 level. The existing space is currently a two-module research wet laboratory.

AE Works completed a field survey of this room planned to house the PET/CT Scanner, including outlining options to transport the equipment from the loading dock to the new lab space. We surveyed the space and path of travel from the loading dock, up a freight elevator and down to the existing lab. Assessment also involved review of existing drawings to analyze the capacity of existing building systems to determine the feasibility of the planned path. **Cost:** \$425K

**National Cancer Institute, Spectroscopy Laboratory Renovation:** Supporting the work of a highly technical laboratory that develops MRI machines, this project renovates an existing 2,200-SF multi-room Spectroscopy Lab. The renovation also includes a study for installation of a Hyperpolarizer (Spinaliner) for the MRI system.

This project includes development of demolition documents to prepare to create space for a cryo-electron microscopy and light imaging lab. Following the demolition phase, the AE Works performed electromagnetic interference and vibration studies to determine the viability of the vacant space to serve as the microscope lab. **Size:** 2,000-SF; **Cost:** \$550K



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**CONTRACTOR PERFORMANCE ASSESSMENT REPORT (CPAR)**

INCOMPLETE-RATED

Architect-Engineer

**Name/Address of Contractor:**

Vendor Name: AE WORKS LTD.

Division Name:

Street: 209 SANDUSKY ST

City: PITTSBURGH

State: PA Zip: 152125823

Country: USA

CAGE Code:

Unique Entity ID: S4QMN9YLJ866

Product/Service Code: C1JZ Principal NAICS Code: 541310

**Evaluation Type:** Final**Contract Percent Complete:** 100**Period of Performance Being Assessed:** 07/27/2020 - 01/30/2023**Contract Number:** 75N99019D00001 75N99020F00004 **Business Sector & Sub-Sector:** Architect-Engineer**Contracting Office:** NIH A E CONSTRUCTION **Contracting Officer:** PAUL J. DEGROOT **Phone Number:** 301.402.3803**Location of Work:**

NIH Bethesda Maryland Campus Building 37

**Date Signed:** 07/27/2020 **Period of Performance Start Date:** 07/27/2020**Est. Ultimate Completion Date/Last Date to Order:** 01/20/2023 **Estimated/Actual Completion Date:** 01/30/2023**Funding Office ID:** 75N990**Base and All Options Value :** \$136,715 **Action Obligation:** \$136,715**Complexity:** Low **Termination Type:** None**Extent Competed:** Full and Open Competition after Exclusion of Sources **Type of Contract:** Firm Fixed Price**Key Subcontractors and Effort Performed:****Unique Entity ID:****Effort:****Unique Entity ID:****Effort:****Unique Entity ID:****Effort:****Project Number:** C108275**Project Title:**

C108275 - Building 37 Renovation for CRYO- Electron Microscopy - Enabling Project

**Contract Effort Description:**A/E Services for Specialized Architect-Engineer (A/E) Services -  
Office/Hospital/Lab Facility Types**Small Business Subcontracting:**

Does this contract include a subcontracting plan? No

Date of last Individual Subcontracting Report (ISR) / Summary Subcontracting Report (SSR): N/A

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<b>Evaluation Areas</b>	<b>Past Rating</b>	<b>Rating</b>
Quality:	N/A	Very Good
Schedule:	N/A	Very Good
Cost Control:	N/A	N/A
Management:	N/A	Very Good
Small Business Subcontracting:	N/A	N/A
Regulatory Compliance:	N/A	N/A
Other Areas:		
(1) SAFETY:		N/A
(2) ACCOUNTING PROCEDURES:		Very Good
(3) SECURITY:		N/A

**Variance** (Contract to Date):

Current Cost Variance (%): Variance at Completion (%):

Current Schedule Variance (%):

**Assessing Official Comments:**

QUALITY: AE Works was thorough in their data collection through RFIs, site visits (with appropriate equipment) and interviews.

SCHEDULE: AE Works started on time and kept the PO and CO informed of any potential delays in schedule caused due to external factors.

MANAGEMENT: AE Works personnel were very professional and responsive.

OTHER AREAS: Performance meets contractual requirements and exceeds some to the Government's benefit.

ADDITIONAL/OTHER: AE Works is a key stakeholder to the NIH. This firm has provided very professional and timely services. The contractor would be recommended for similar requirements in the future.

**RECOMMENDATION:**

Given what I know today about the contractor's ability to perform in accordance with this contract or order's most significant requirements, I would recommend them for similar requirements in the future.

**Name and Title of Assessing Official:**

Name: PAUL DEGROOT

Title: Contracting Officer

Organization: OD/ORF/OA

Phone Number: 3014023803 Email Address: paul.degroot@nih.gov

Date: 11/13/2023

**Contractor Comments:****Name and Title of Contractor Representative:**

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# Microbac Laboratories

Microbac Laboratories  
Various US locations

## Key Features

- Diverse laboratory assessment and design projects in multiple locations
- Environmental and water quality testing laboratories
- HVAC and Electrical evaluation and design
- Projects 2016-2018

## Reference

Robert Crookston, former Microbac President and COO  
rob@rscollaborative.com

## Services

AE Works served as Prime and Project Manager, providing Architecture, Construction Administration, MEP / Telecom Engineering, Interior Design, and Planning services.



*These renovations and design projects by AE Works expresses the client's commitment to a culture of transparency and teamwork as well as a work flow design to suit ideal customer experience*

Designing laboratories that serve the current testing needs of clients while also accommodating future flexibility is a challenge. Testing requirements and process flow are very dynamic in order to be responsive to a wide range of clients. AE Works provided a range of A/E assessment, planning, and design services for a wide range of laboratory facilities. Projects include:

**HVAC and Fume Hood Assessment:** To support the operations of several testing laboratories, AE Works completed Facility Condition Assessments (FCAs) focused on documenting the existing on-site conditions of the HVAC systems and fume hoods at seven (7) laboratory facilities in five (5) states. AE Works prepared RFPs for contractor testing, adjusting, and balancing of the systems, as well as airflow testing.

**Environmental Laboratory Expansion Options:** Development and evaluation of two options for the expansion of an environmental laboratory, a center of excellence in the testing and analysis of water quality.

**Environmental Laboratory Expansion and Fit-out:** New 5,000-SF addition and fit-out to support this comprehensive laboratory offering wastewater, drinking water, environmental, food safety, and paternity testing service.

**Testing Center of Excellence:** 20,000-SF renovation of an analytical testing laboratory (chemistry, microbiology, serology and metals laboratories) and corresponding support spaces. Incorporating modularity and sustainable practices, the design provides maximum flexibility and efficiency for



both now and in the future. Built as a showcase facility to share the company’s 50+ year history and laboratory services to clients and prospective clients.

**Corporate Headquarters:** 10,800-SF corporate headquarters relocation, including private offices, open workstations, meeting and training spaces, and lounge. Beginning with programming, staff interviews and stories and development of a Fit & Finish Manual to help establish facility design standards, this collaborative process helped enable the long-term growth of this innovative company.

**Worcester Laboratory Relocation and Fit-out:** AE Works provided concept designs to support build out and relocation of an environmental and food testing laboratory.

**Interior Design Consulting Services:** Interior design consulting for commercial testing laboratory to support standardization across the entire geographically dispersed footprint to provide distinctive “look and feel” consistent with organizational vision.

**New Microbiology Laboratory:** Bridging docs for 2,400-SF microbiology lab renovation for environmental and food testing.

**Metals Lab Renovations:** Renovations to upgrade a metals lab, including casework layout for metals lab and design of new canopy over bulk gas storage.

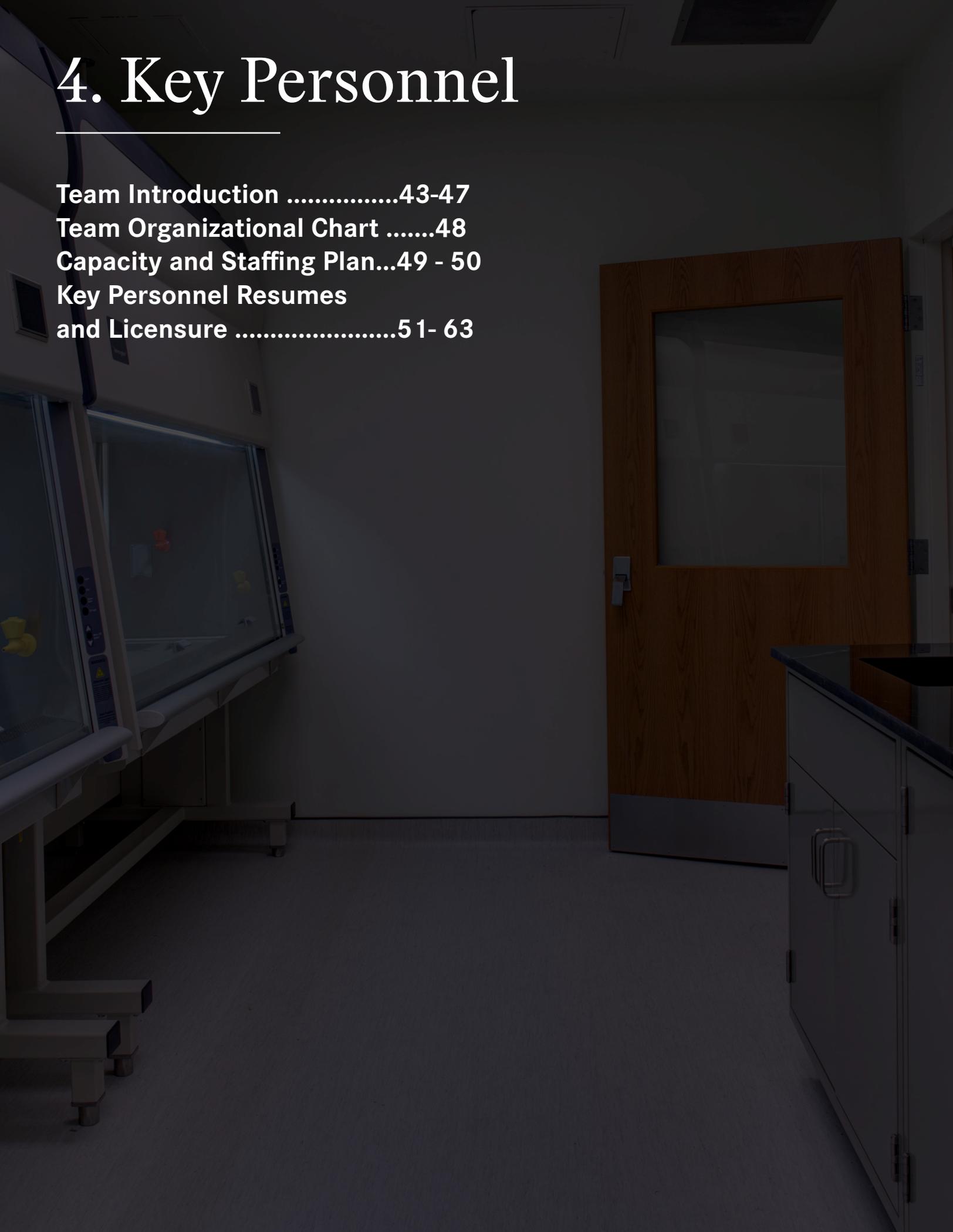
**Testing Laboratory Facility Specifications:** Supporting standardization of lab design across the entire geographically dispersed footprint to provide a distinctive “look and feel” consistent with organizational vision, AE Works developed facility specifications for testing laboratories. Specifications were developed to integrate modularity and sustainable practices for maximum flexibility and efficiency.



# 4. Key Personnel

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**Capacity and Staffing Plan...49 - 50**  
**Key Personnel Resumes  
and Licensure .....51- 63**



# Team Introduction & Qualifications

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## *An integrated approach to facility project development and execution*

Michael Cherock, PE, President and Founder of AE Works, started his career in the U.S. Navy as a nuclear trained power plant operator aboard fast-attack submarines. In 2007, just prior to the recession, he started and founded AE Works, headquartered in Pittsburgh, PA. An electrical engineer by trade, Michael started the firm offering electrical engineering, gradually adding architecture, other engineering disciplines and interior design. That comprehensive service offering has since evolved to also include Planning + Project Services.

**How We Work.** Combining a broad set of building design and consulting specializations, AE Works is a teaming partner focused on unlocking the full potential of the built environment to deliver greater value for our Clients.

United by a strong culture of innovation and entrepreneurial spirit, our team goal is focused on better efficiencies, ideation and trust. The result is better use of your time and money towards your capital project.

AE Works has received local and regional awards for design, growth, and social impact. Most recently, the firm was listed on **ENR's Top Mid Atlantic Firms** and the **Architecture 300** list, the list of the largest architecture firms in the country in addition to Building Design + Construction's list of top architecture firms for the past four years.

As a full-service architectural and engineering team, AE Works is accustomed to providing multi-discipline design and consulting efforts on a broad range of projects, simultaneously. Through years of experience leading hundreds of local, state and federal government projects

we are able to effectively allocate our professional staff resources. All of these factors support our team's ability to successfully execute projects in a timely, cost effective manner.

This AE Works team was formed to provide the West Virginia Department of Agriculture with a complete solution that includes the needed project expertise, a diverse and extensive resource network that has worked together, and an agile, integrated project development and delivery team.

Our team brings a strong portfolio and full complement of services to ensure balanced schedule, budget, and risk management throughout the project. With our integrated structure, leadership and management of our project manager and discipline leads, we will position our team to deliver their specialized expertise to benefit the Moorefield Laboratory renovation and system upgrades project.

### **Our Team Goal:**

Better efficiencies, ideation, and trust from a diverse team united by a strong culture of innovation and entrepreneurial spirit.

### **The Result:**

Increasing the return on investment of projects.

## Services Offered

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AE Works brings a full range of AE services. Evolving the delivery of traditional A/E services, we offer a different, fully encompassing approach to building project development and execution.

### DESIGN SERVICES

We believe the design of the physical environment is a canvas to express what's important to an organization, an opportunity to represent values and give meaning to vision. What we deliver is results that move people and organizations forward.

#### Architecture.

Creatively envisioning your project from concept through construction documentation, we design spaces with purpose to enable your purpose.

- Building Design and Documentation
- 3D modeling/ visualization
- Code Review and Survey
- Construction Documents and specifications
- Facility condition assessments
- Sustainable Design
- Master-planning
- Programming
- Regulatory Compliance and Management
- Space Planning

#### Interior Design

Merging function with beauty, our interior designers elevate experiences and enrich lives through health and safety, functionality and form.

- 3D Modeling
- Accessibility Implementation
- Code Review
- Furniture Research & Selection
- LEED Design
- Master planning
- Materials Research & Selection
- Space Planning

#### Building Systems Engineering

Our engineers can solve your buildings systems challenges and design for comfort and reliability while maximizing performance.

- Mechanical, Electrical, Plumbing, Fire Protection and Telecommunications Engineering
- Campus and Site Infrastructure
- Infrastructure Optimization
- Energy Management

### CONSULTING SERVICES

With in-house specializations in planning, safety, and program management, you have a comprehensive team and solution ready made for your project

#### Planning + Project Services

Our Planning + Project Services team is focused on analysis, consulting, management and execution of our clients' critical building projects. These diverse capabilities span owner representation, planning, procurement, cost estimating, safety, and more. The result is solutions that wrap around architecture and engineering to make building projects a better value for our clients.

- Capital Improvement Planning
- Estimating
- Master Planning
- Owner Representation
- Program Management
- Safety + Security
- Scheduling
- Scope Development
- Real Estate Analysis and Site Selection
- Regulatory Compliance and Management



## Differentiators & Qualifications

### Team Differentiators **Benefit to serve the West Virginia Department of Agriculture**

**A complete solution led by a full-service, West Virginia SWAM certified A/E firm:** Our project teams have completed 50+ projects for local and state government agencies. Our team specializes in improving facilities, including projects for environmental testing laboratories, ensuring advanced, efficient upgrades.

We have the management and communications processes in place to mobilize quickly to meet the needs of your laboratory project. Leveraging knowledge gained from successfully delivering a new environmental compliance facility and other environmental and public health laboratories, we are well-equipped to produce a comprehensive solution that meets the goals of the Moorefield Laboratory renovation project.

**AE Works brings a history of leading diverse and highly specialized teams to deliver unique solutions for complex problems.** Every member of the AE Works team brings experience with public projects - large, complex and highly visible. AE Works team members bring years of experience leading projects for our local, state and federal government agencies. Our team has delivered over 1M-SF of laboratory and support spaces, spanning new construction, fit-outs, renovations, and facility standards.

Our project leaders, architects, engineers, and specialists have delivered similar laboratory projects - including environmental health buildings.

We have the standards of quality and project processes in place to “hit the ground running.” The result is better use of your time in executing your capital project.

**Team experienced with the West Virginia construction climate.** We are familiar with the local construction climate and permitting requirements to support project delivery and accurate project estimates.

Our team has completed over 20 projects throughout the state of West Virginia. We bring an understanding of West Virginia’s construction climate, honed through our experience working for clients in Charleston, Morgantown, Beckley, Huntington, Clarksburg and Martinsburg. Our project teams are trusted by West Virginia state agencies. This regional expertise ensures that our services are tailored to meet the specific environmental, regulatory, and community needs that define successful projects for the West Virginia Department of Agriculture.

**Proven laboratory planning and design expertise.** Experience includes work with world’s premier public health and research institution, the Centers for Disease Control and Prevention (CDC), and the National Institutes of Health. We bring deep expertise with renovations to realize how modular, flexible laboratories can fit and thrive in existing spaces.

This team brings a fresh perspective, having successfully re-imagined laboratory operations in older facilities. Our innovative solutions address the immediate need for expanded service capacity but also incorporate the necessary infrastructure for highly controlled environments. With a deep understanding of issues unique to environmental testing and public health laboratories, we will provide practical solutions to make your building project a better value.

## Team Qualifications

AE Works’ team of experienced project managers, building system engineers, architects and interior design professionals include personnel with depth of experience collaborating with local, state, and federal government clients. Our team knows the ins and outs of government buildings and is adept at applying an understanding of unique conditions to create new possibilities that re-imagine government campuses and facilities.

### TEAM PROFESSIONAL CREDENTIALS

#### Key Personnel Credentials

- Registered Architects
- Professional Engineers
- LEED Accredited Professionals
- Registered Communications Distribution Designer (RCDD)
- Registered Telecommunications Project Manager (RTPM)
- Project Management Professional (PMP)
- Certified Technology Specialist (CTS)
- Data Center Energy Practitioner (DCEP)

#### Highlighted Qualifications

- West Virginia SWAM certification
- Direct experience in government buildings and complex laboratory facilities
- Cost Estimator with depth of government estimating experience
- Design leadership on projects for local, state, and federal government agencies
- Project Manager with experience working on various projects simultaneously for the National Institutes of Health on laboratory renovation and system upgrade projects
- Work completed in West Virginia, including for state agencies

### WEST VIRGINIA PROJECT EXPERIENCE

AE Works is a registered A/E firm with the State of West Virginia (C03239-00). We have been working in West Virginia since our inception in 2007. Our experience includes over 20 projects throughout the state working for state and federal agencies, in addition to WVU experience. Our firm’s experience throughout the state includes:

- WVU, Statler College of Engineering and Mineral Resources, Science Building Renovations, *Morgantown, WV*
- West Virginia Lottery Security Enhancements, *Charleston, WV*
- Centers for Disease Control and Prevention, *Morgantown, WV (highlighted project)*
- Huntington VA Medical Center, Cooling Tower Replacement, *Huntington, WV*
- VBA Huntington Office Renovation, *Huntington, WV*
- Beckley VA Medical Center, Outpatient Behavioral Health Addition, *Beckley, WV*

- Martinsburg VA Medical Center, *Martinsburg, WV*
  - New Warehouse
  - Renovate 200 Row - Planetree Domiciliary
- Clarksburg VA Medical Center, *Clarksburg, WV*
  - Overhead Paging Upgrades Study and Design
  - Basement HVAC Study and Improvements
  - Electrical Upgrades
  - Evaluate Building 5 Flooring
  - HVAC Renovation MRI Suite
  - Pharmacy 800 USP Compliance
  - SPS Renovation
  - Statement of Conditions Survey
- WVU, Hodges Hall Renovation, *Morgantown, WV\**
- WVU, Main Campus and Branch Campuses, Security Upgrades, *Multiple Campuses, WV\**

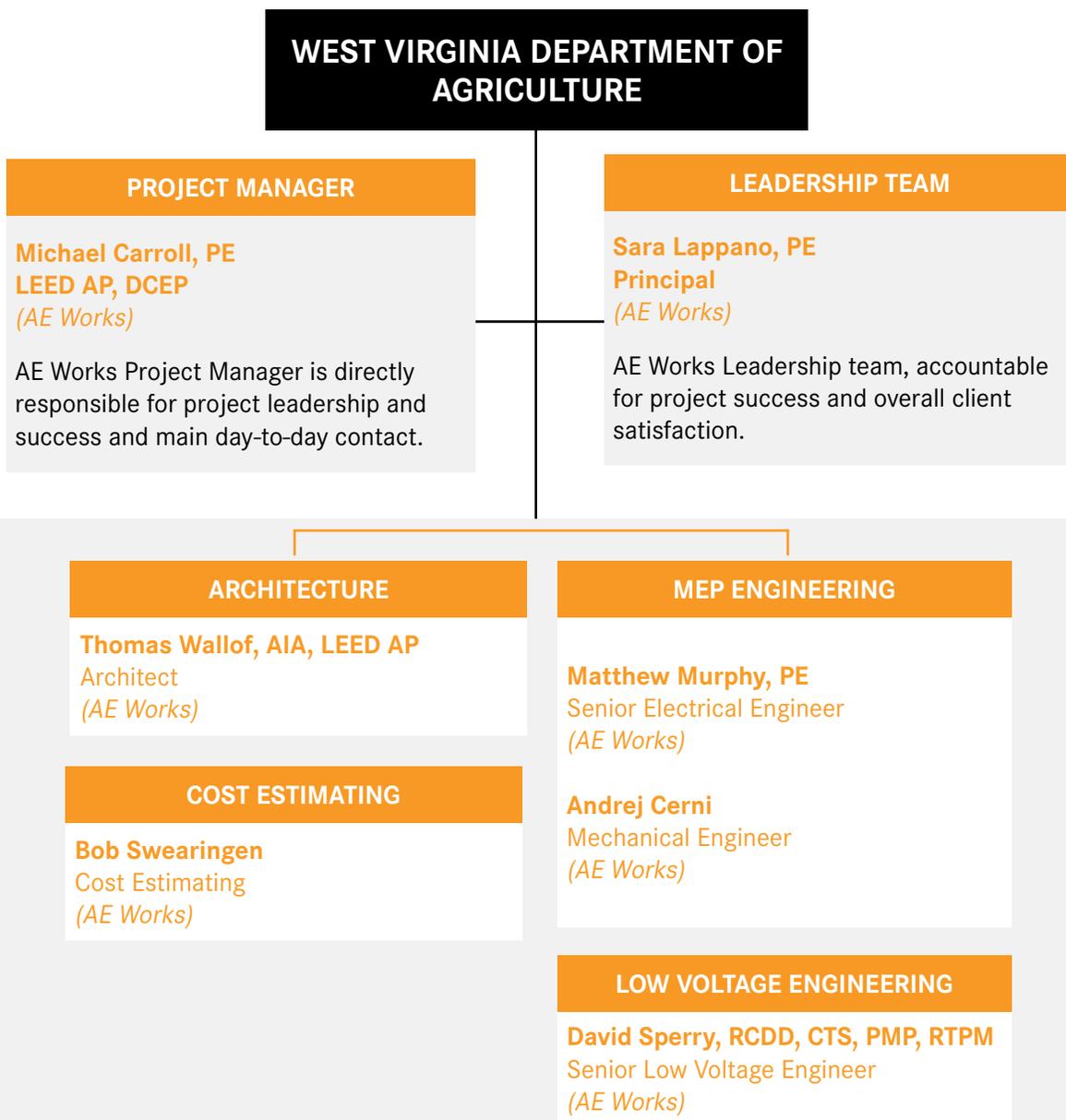
*\*Indicates projects were complete by team members prior to AE Works.*

# Organizational Chart

## AE WORKS TEAM ORGANIZATION

Combining a broad set of building design and consulting specializations, AE Works is an industry partner focused on unlocking the full potential of the built environment to deliver greater value for our clients. **AE Works is West Virginia certified SWAM Small Business and includes a network of over 70 professionals.**

The organizational chart and included resumes reflect key team members. Additional staff will be assigned as needed to complete your project.



# Capacity to Execute Services

AE Works on average self performs over 75% of the work (Project/Contract Management, Planning, Architecture, MEP / Telecom Engineering, and other Specialty Services). Our current project workload inclusive of all projects awarded during the previous 12 months utilizes on average 60% - 70% of our available workload capacity in the required disciplines with more than ample capacity for the proposed Moorefield Laboratory project.

## CAPACITY OF ADDITIONAL WORKLOAD

Discipline	% Capacity utilized for current backlog	% Capacity Available for new projects	Comment
<b>Architecture &amp; Planning</b>	70%	20%	Available capacity continues to increase from 2-3 months out and beyond providing more than ample capacity to take on new work.
<b>Mechanical, Electrical Engineering</b>	60%	30%	Available capacity continues to increase from 2-3 months out and beyond providing more than ample capacity to take on new work.
<b>Program Management</b>	55%	35%	More than ample capacity to take on additional work/projects

Since inception, AE Works has grown approximately 150% per year. 2023 was no exception, marking the largest growth period of the firm’s 15-year history. This constant, stable growth has allowed us to add expertise and increase our capacity to better enable our ability to deliver services to meet client needs.

With an extensive resource network as noted in the below chart, our team is able to provide a qualified team as well as backup staffing for key personnel to ensure continuity of services and the capability to provide additional staff to meet unexpected project demands. AE Works has experienced and registered professionals in each discipline to enable our capacity to meet the needs of your project.

AE Works Team			
Role/ Discipline	Resources	Role/ Discipline	Resources
Architects & Designers	10	Low Voltage Engineers	3
Interior Designers	4	Cost Estimators	1
MEP Engineers & Designers	17	Planners	4
Project Managers	6		

**CAPACITY OF KEY PERSONNEL**

Key Position	Name	Industry Years Experience	% of time personnel will be dedicated toward project	Current Projects	# of Projects to be added
<b>Project Manager (AE Works)</b>	Michael Carroll, PE, LEED AP, DCEP	19	20%	4	6
<b>Principal (AE Works)</b>	Sara Lappano, PE	23	5%	3	3
<b>Architect (AE Works)</b>	Thomas, AIA, LEED AP	16	20%	5	5
<b>Sr. Electrical Engineer (AE Works)</b>	Matt Murphy, PE	32	20%	6	3
<b>Sr. Mechanical Engineer (AE Works)</b>	Andrej Cerni, PE	16	30%	4	3
<b>Sr. Low-voltage Designer (AE Works)</b>	David Sperry, RCDD, CTS, PMP	37	5%	5	6
<b>Cost Estimator (AE Works)</b>	Bob Swearingen	44	10%	4	6

# Sara Lappano, PE

Vice President of Operations / Principal

Named to *Consulting Specifying Engineer's* notable "40 under 40" list in 2016, Sara has led with her passion for engineering and people to make a positive impact on the highly sustainable projects and teams she's led in her high performing career that spans numerous Living Building Challenge, LEED, and Net Zero Energy Buildings, as well as campus and city-scale decarbonization strategies.

A known industry leader of Low-Carbon/Net Zero Energy Buildings and Campus Infrastructure, Sara has dedicated her career to solving complex building problems with holistic approach and design. Experience includes design leadership for a diverse range of medical, research, and testing laboratory facilities for institutional, federal and commercial clients throughout the U.S.



Virginia Tech, Institute for Critical Technology and Applied Science\*

## Relevant Experience

### YEARS EXPERIENCE

23 years

### TIME WITH AE WORKS

3 years

### EDUCATION

Masters of Architecture  
Engineering with emphasis  
in Lighting/Electrical  
Design

### CERTIFICATIONS

Registered Engineer: DC  
(██████████, exp. 8/31/24),  
MD (██████████, exp. 1/7/24),  
VA (██████████ exp.  
9/30/24)

### ARTICLES & PRESENTATIONS

DC Sustainability Summit,  
*Solar PV Feasibility for  
High Rises*

**ALCOSAN Environmental Compliance Facility, Pittsburgh, PA:** Planning and design of three unique facility types, testing laboratory, office and a parking garage, to support Allegheny County Sanitary Authority (ALCOSAN) in achieving their \$2 billion Clean Water Plan. Incorporates many sustainable features, including green roof, controls, LED lighting and ultra-efficient HVAC. 54,000-SF Environmental Compliance Facility and 170,000-SF Parking Garage. Cost: \$42.8M (combined construction)

**National Institutes of Health (NIH), Bldg. 10 National Institutes of Mental Health, Radiochemistry Laboratory, Bethesda, MD:** Complex renovations to expand existing radiochemistry laboratory capability, adding two additional hot cells. Renovation design includes highly controlled pressurization and air flow in addition to laboratory gases (Compressed Air, Lab Vac, Helium, Argon, and Nitrogen). Size: 290-SF; Cost: \$400K (est.)

**Centers for Disease Control and Prevention (CDC), Building 141, Laboratory Space, Pittsburgh, PA:** Interior renovation to convert existing space into functional laboratories including metrology, fall arrest, microbiology, protective clothing, aerosol and prep as well as storage space. Building system improvements include backup generator replacement and mechanical upgrades for heat load, cooling and ventilation. Other improvements include access control and sound proofing. Cost: \$2.8M (est.)

**Virginia Tech, Institute for Critical Technology and Applied Science, Blacksburg, VA:** LEED-Gold certified building with laboratories supporting both applied and fundamental research. Building includes dedicated space for interdisciplinary research, along with common use rooms promoting connection and collaboration. Size: 42,189-SF \*

\*Indicates experience prior to AE Works

# DPOR License Lookup License Number [REDACTED]

## License Details

<b>Name</b>	LAPPANO, SARA ROSE
<b>License Number</b>	[REDACTED]
<b>License Description</b>	Professional Engineer License
<b>Rank</b>	Professional Engineer
<b>Address</b>	GALESVILLE, MD 20765
<b>Initial Certification Date</b>	2018-09-24
<b>Expiration Date</b>	2024-09-30

## Related Licenses <sup>1</sup>

License Number	License Holder Name	License Type	Relation Type	License Expiry
[REDACTED]	INTEGRAL GROUP LLC	Business Entity Branch Office Registration	Engineering	2024-02-29

Showing 1 to 1 of 1 entries

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DPOR License Lookup build 1,467 (built 2023-02-27 11:28:50).

# Michael Carroll, PE, DCEP LEED AP

## Project Manager

Michael, a Registered Professional Engineer, brings vast laboratory and mission-critical facility design and construction expertise. Michael's attention to detail provides reliable design and construction coordination to ensure efficient, on-budget, and on-schedule projects, prioritizing safety and leveraging team strengths. Recent experience includes managing on-call contracts for the CDC and National Institutes of Health, the world's premier research institution.



*ALCOSAN Environmental Compliance Facility*

## Relevant Experience

### YEARS EXPERIENCE

19 years

### TIME WITH AE WORKS

4 years

### EDUCATION

Bachelor Architectural Engineering, Mechanical Emphasis

### REGISTRATIONS

**Professional Engineer:** WV [REDACTED], exp. 12/31/24), MD, DC, VA, NY, PA, OH, GA; LEED AP (no exp.); Dept. of Energy Data Center Energy Practitioner (DCEP); OSHA 30-hour

### RELEVANT EXPERIENCE

- Large Development and Critical Infrastructure
- Project Management range of >\$1M to \$90M+

**ALCOSAN Environmental Compliance Facility, Pittsburgh, PA:** Planning and design of three unique facility types, testing laboratory, office and a parking garage, to support Allegheny County Sanitary Authority (ALCOSAN) in achieving their \$2 billion Clean Water Plan. Incorporates many sustainable features, including green roof, controls, LED lighting and ultra-efficient HVAC. **Size:** 54,000-SF Environmental Compliance Facility and 170,000-SF Parking Garage. **Cost:** \$42.8M (combined construction)

**NIH, Bldg. 21, Robotics Laboratory, Bethesda, MD:** Transformation of seven abated radiation labs into private design and fabrication space with offices for prosthetics development team. Full design and construction documents. **Size:** 1,369-SF, **Cost:** \$700K

**NIH Bldg 37 Renovation for Cryo-Electron Lab, Bethesda, MD:** Renovation of mechanical rooms to create advanced laboratory space. Laboratory provides cryo-electron microscopy and light imaging research functions. **Size:** 1,000-SF; **Cost:** \$550K

**NIH, Bldg. 10 National Institutes of Mental Health, Radiochemistry Laboratory, Bethesda, MD:** Complex renovations to expand existing radiochemistry laboratory capability, adding two additional hot cells. Renovation design includes highly controlled pressurization and air flow in addition to laboratory gases (Compressed Air, Lab Vac, Helium, Argon, and Nitrogen). **Size:** 290-SF; **Cost:** \$300K

**Centers for Disease Control and Prevention (CDC) - National Institute for Occupational Safety and Health (NIOSH) - Upgrade HVAC Animal Quarters, Morgantown, WV:** Design-bid-build project to upgrade the HVAC system in the animal quarters. AE Works developed a design to replace the controls system with a DDC system and other HVAC system improvements to improve functionality, reliability and energy savings. Phased construction. Cost: \$3M (est.).

**Search: Details**

<b>Name:</b>	MICHAEL JOHN CARROLL
<b>WV Professional Engineer:</b>	<b>PE License Number:</b> [REDACTED]
	<b>PE License Status:</b> Active
	<b>PE Issue Date:</b> 08/25/2020
	<b>PE Expiration Date:</b> 12/31/2024
<b>Continuing Education Claim:</b>	<b>Qualifying Hours from Last Renewal or Reinstatement:</b> 30.50
	<b>Carryover Hours for Next Renewal:</b> 0.50
	<b>Last Renewal or Reinstatement Date*:</b> 12/4/2022
<b>WV Engineer Intern:</b>	<b>EI Certification Number:</b>
	<b>EI Issue Date:</b>
<b>Primary Address of Record:</b>	[REDACTED]
<b>Primary Employer of Record:</b>	AE WORKS, LTD.
	<div style="border: 1px solid black; padding: 5px;"> <p>* This date reflects the most recent license renewal (or reinstatement) date for this licensee. Continuing education hours earned prior to this date may <b>not</b> be used for future renewals.</p> </div>

This data was retrieved on 12/7/2023.

# Thomas Wallof, AIA LEED AP

Architect

Thomas is focused on applying thoughtful design practices that balance aesthetics, functionality, and security in a sustainable manner. A Registered Architect, Thomas brings years of supporting laboratory renovation projects for the National Institutes of Health (NIH) and institutional and commercial clients. Responsible for the architectural design effort throughout the duration of a project, Thomas' attention to detail brings the project vision to life with distinct designs that capture what's important to end users.



*National Institutes of Health (NIH), Robotics Laboratory*

## Relevant Experience

### YEARS EXPERIENCE

16 years

### TIME WITH AE WORKS

4 years

### EDUCATION

Master of Architecture (MArch); Bachelor of Design with a Major in Architecture

### CERTIFICATIONS

Registered Architect: MD [REDACTED], exp. 9/28/24); LEED Accredited Professional ([REDACTED])

### EXPERIENCE

- Master planning
- Programming/Space Planning
- Existing Facility Survey
- Code Review and Survey
- Regulatory Agency

### **National Institutes of Health (NIH), Bldg. 21, Robotics Laboratory, Bethesda, MD:**

Transformation of seven (7) abated radiation labs into private design and fabrication space with offices for the prosthetics development team. Size: 1,000-SF; Cost: \$700K

### **NIH Bldg. 10 National Institutes of Mental Health, Radiochemistry Laboratory, Bethesda, MD:**

Complex renovations to expand existing radiochemistry laboratory capability, adding two additional hot cells. Renovation design includes highly controlled pressurization and air flow in addition to laboratory gases (Compressed Air, Lab Vac, Helium, Argon, and Nitrogen). Size: 290-SF; Cost: \$400K

### **NIH Bldg 10 B3 National Cancer Institute Spectroscopy Laboratory Renovation, Bethesda, MD:**

Renovate Spectroscopy Lab and Related Areas, including Study for installation of a Hyperpolarizer (Spinaliner) for the MRI system. Cost: \$550K (est.)

### **NIH Laboratory Renovations, Bethesda, MD:**

Projects included wet and dry lab design (BSL-2 and BSL-3), clinical space upgrades, office renovations for the National Cancer Institute, planning studies for the National Library of Medicine, hot cell construction for nuclear medicine as well as several confocal microscopy labs for NHLBI. \*

### **Walter Reed National Military Medical Center, Bethesda, MD:**

multiple CT/PetCT/ MRI-replacements. \*

### **CDC - National Institute for Occupational Safety and Health Building 141, Laboratory Space, Pittsburgh, PA:**

Interior renovation to convert existing space into laboratories. Laboratories include metrology, fall arrest, microbiology, protective clothing, aerosol and prep as well as storage space. Building system improvements include backup generator replacement and mechanical upgrades. Cost: \$2.8M (est.)



**Results for Active Licensed Architects: 1**

Name	City	State	Zip	Expiration	Category	Reg. #
THOMAS I. WALLOF		MD	20901	2024-09-28	ARCHITECT	

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# Matthew Murphy, PE

## Senior Electrical Engineer

Matthew is a Senior Electrical Engineer with a career that spans 30 years of experience on a diverse range of laboratory, infrastructure, and mission critical projects. He has led large-scale and highly complex government projects throughout the region. Experience includes upgrade of the West Virginia Lottery Headquarters' security system and CDC laboratory and infrastructure projects.

Matt will support the Project Manager in the production of electrical design deliverables necessary for the successful completion of the project. Matt will ensure that electrical standards are met within the framework of established QA/QC guidelines.



*ALCOSAN Environmental Compliance Facility*

### Relevant Experience

#### YEARS EXPERIENCE

32 years

#### TIME WITH AE WORKS

3.5 years

#### EDUCATION

Bachelor of Science,  
Electrical Engineering  
Technology

#### CERTIFICATIONS

Professional  
Engineer: PA (██████████),  
exp. 9/30/25),  
NJ (██████████), exp.  
4/30/24)

#### QUALIFICATIONS

- Electrical infrastructure: power, lighting, fire alarm systems
- Facility assessment
- Construction Period Services

**ALCOSAN Environmental Compliance Facility, Pittsburgh, PA:** Planning and design of three unique facility types, testing laboratory, office and a parking garage, to support Allegheny County Sanitary Authority (ALCOSAN) in achieving their \$2 billion Clean Water Plan. Incorporates many sustainable features, including green roof, controls, LED lighting and ultra-efficient HVAC. **Size:** 54,000-SF Environmental Compliance Facility, 170,000-SF Parking Garage. **Cost:** \$42.8M (combined construction)

**Centers for Disease Control and Prevention (CDC) - National Institute for Occupational Safety and Health (NIOSH) Campus Electrical Infrastructure, Morgantown, WV:** Design-bid-build project to upgrade the existing electrical distribution systems of the Morgantown, WV campus to support reliable service and safe operation of outdoor medium voltage 25KV switchgear, transformers, DS breakers, main switchboards for both buildings, automatic transfer switches for both buildings. AE Works developed a solution to upgrade the electrical infrastructure. Cost: \$4M (est).

**CDC - National Institute for Occupational Safety and Health Building 141, Laboratory Space, Pittsburgh, PA:** Interior renovation to convert existing space into laboratories. Laboratories include metrology, fall arrest, microbiology, protective clothing, aerosol and prep as well as storage space. Building system improvements include backup generator replacement and mechanical upgrades. Cost: \$2.8M (est.)

**West Virginia Lottery Security Enhancements, Charleston, WV:** Physical security improvements across five separate buildings to modernize the existing system into a fully integrated security system. AE Works security solution replaces door locks, security cameras, fire alarm, call boxes, panic buttons, a mass notification mechanism, and motion sensors. Cost: \$1.5M (est.)



**BUREAU OF PROFESSIONAL AND OCCUPATIONAL AFFAIRS**

P. O. Box 2649

Harrisburg, PA 17105-2649

12/07/2023

**License Information**

MATTHEW P MURPHY

EBENSBURG, Pennsylvania 15931

Board/Commission: State Registration Board for Professional  
Engineers, Land Surveyors and Geologists

Status Effective Date: 06/20/2002

LicenseType: Professional Engineer

Issue Date: 06/20/2002

Specialty Type:

Expiration Date: 09/30/2025

License Number: [REDACTED]

Last Renewal: 08/01/2023

Status: Active

**Disciplinary Action Details**

No disciplinary actions were found for this license.

This site is considered a primary source for verification of license credentials provided by the  
Pennsylvania Department of State.

# Andrej Cerni, PE

## Mechanical Engineer

A mechanical engineer with over 15 years of experience, Andrej has led mechanical design efforts on a range of projects for government agencies. Recent projects include upgrade of mechanical systems in occupied buildings, which involved thorough existing condition assessments and phased construction.

In his role as a Mechanical Engineer, Andrej provides engineering for various tasks, including Program of Requirements, guiding active projects through design and construction phases, feasibility studies and reports, field surveys, quality control and construction administration.



San Francisco VA Medical Center

### Relevant Experience

#### YEARS EXPERIENCE

16 years

#### TIME WITH AE WORKS

1 year

#### EDUCATION

Bachelor of Science

#### CERTIFICATIONS

Professional Engineer:  
 VA (██████████), exp. 12/31/24), MD (██████████), exp. 2/28/25), DC (██████████), exp. 8/31/24)

#### EXPERTISE

- Mechanical improvements, including energy efficiency upgrades
- Quality control of designs
- Construction administration

**Social Security Administration (SSA), Nationwide Projects:** Mechanical Engineer supporting all SSA offices nationwide. Work involved engineering oversight of Program of Requirements, active projects in design and construction phases, feasibility studies and reports, design recommendations, field surveying, design submission reviews and quality control of SSA projects, and construction administration.\*

**Lebanon VA Medical Center (VAMC), Correct HVAC SPS, Lebanon, PA:** Replace the Sterile Processing Service HVAC, meeting all ASHRAE requirements for ventilation, pressurization, temperature, and humidity. **Cost:** \$1M (est.)

**Federal Communications Commission (FCC) Headquarters, Washington, DC:** Responsible for leading mechanical design of the fit-out of the new construction headquarters. The modern space with full fiber optic technology conveys the agency's communications mission. The design also accommodates specialty spaces, including a mix of public access and security.\*

**San Francisco VAMC, Develop Record Drawings - Phase I, San Francisco, CA:** On-site investigation and verification of existing drawings and field conditions to develop and incorporate accurate as-constructed documentation for future use and phases via one Master File and set of Record Drawings. Size: 578,004-SF (combined); Cost: \$590K (Fee)

**Armed Forces Retirement Home Sheridan Building Renovations, Washington, DC:** Andrej was responsible for mechanical engineering design for this fast-tracked renovation of the Sheridan Building at the historic Armed Forces Retirement Home Campus. Facade upgrades and comprehensive MEP and telecom improvements deliver a modern retirement care facility with complete design delivered in 5 months. Size: 308,000-SF; Cost: \$96M (est.)

# DPOR License Lookup License Number [REDACTED]

## License Details

<b>Name</b>	CERNI, ANDREJ
<b>License Number</b>	[REDACTED]
<b>License Description</b>	Professional Engineer License
<b>Rank</b>	Professional Engineer
<b>Address</b>	SPRINGFIELD, VA 22152
<b>Initial Certification Date</b>	2018-12-12
<b>Expiration Date</b>	2024-12-31

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# David Sperry, Jr., RCDD, RTPM CTS, PMP

Senior Low-Voltage Systems Designer



David is a structured cabling subject matter expert with 35+ years of practical experience managing infrastructure projects and designing upgrade for information technology systems in diverse and complex environments. Projects include large-scale facility renovations, upgrades, and new construction. Recent experience includes upgrading the security systems at the West Virginia Lottery Headquarters and campus-wide telecom upgrades.



Bay Pines VAMC - Electronic Health Records Modernization

## Relevant Experience

### YEARS EXPERIENCE

36 years

### TIME WITH AE WORKS

1.5 years

### EDUCATION

Business Administration AA&S (in progress), Contracting Officer's Representative (COR) Level 1

### CERTIFICATIONS

- Registered Telecommunications Project Manager (RTPM [REDACTED], Exp:12/24)
- RCDD - Registered Communications Distribution Designer ([REDACTED], Exp:12/24)
- PMP - Project Management Professional ([REDACTED], Exp: 08/26)
- CTS - Certified Technology Specialist ([REDACTED], Exp: 06/25)

**West Virginia Lottery Security Enhancements, Charleston, WV:** Physical security improvements across five separate buildings to modernize the existing system into a fully integrated security system. AE Works security solution replaces door locks, security cameras, fire alarm, call boxes, panic buttons, a mass notification mechanism, and motion sensors. **Cost:** \$1.5M (est.)

**Armed Forces Retirement Home Campus-wide System Upgrade Projects, Washington, DC:** Campus-wide wireless security system study and upgrade included assessment and design of a campus-wide Patient Alert System. The design scope includes (16) new Telecommunications Rooms, new low voltage cabling infrastructure.

**Washington DC VA Medical Center, EHRM Infrastructure Upgrades, Washington, DC:** The project includes upgrading facility fiber and provide a redundant fiber run throughout the buildings to each IT closet, provide redundant fiber mains to the demarcation room from the provider point, install approximately 100 additional IT outlets, install approximately 75 new electrical outlets throughout the facility, provide additional outlets in each IT closet, upgrade facility power and HVAC distribution as required, physical security assessment, upgrades and hazardous material abatement. **Cost:** \$20M (est.)

**Providence VA Medical Center, Campus-wide Site Security, Providence, RI:** Facility assessment, planning, and design services to enhance the physical security and access control systems, which spans 37 buildings and 500,000-GSF. The design will replace the existing Physical Access Control System (PACS), locks and hardware, and Camera Systems. This includes upgrading servers, door hardware/interfaces, control panels, network backbone, and electrical wiring/power. **Cost:** \$10M (est.)

MENU



First Name  

Last Name \*

### Search

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David C Sperry  
RCDD (Expires On: 12/31/2024)  
RTPM (Expires On: 12/31/2024)  
Spotsylvania, VA, United States

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**[Education & Certification \(/education-certification\)](#)**

**[Conferences & Events \(/conferences-and-events\)](#)**

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**[Contact Us \(/contact-us\)](#)**

# Bob Swearingen

## Senior Cost Estimator

With over 40 years of cost estimating experience, Bob has industry knowledge of all project stages. Additionally, with years of construction experience, Bob brings a build-ability perspective to his estimating process. This results in detailed estimates that reflect first-hand knowledge of how a project needs to be built. He uses deep knowledge of government construction to prepare estimates for various laboratory project types. Estimating experience includes a range of educational, commercial, government, and public spaces ranging from \$150K to \$100M.



*CDC NIOSH Infrastructure Upgrades*

### Relevant Experience

#### YEARS EXPERIENCE

43 years

#### TIME WITH AE WORKS

2.5 years

#### EDUCATION

B.S in Mechanical Engineering  
Estimator Certificate - Carter School of Estimating

#### QUALIFICATIONS

- Depth of cost estimating for government clients
- Cost Estimates for WV Lottery, and laboratory and infrastructure projects for the CDC in Morgantown, WV

**CDC - National Institute for Occupational Safety and Health (NIOSH) - Upgrade HVAC Animal Quarters, Morgantown, WV:** Design-bid-build project to upgrade the HVAC system in the animal quarters. Cost estimating for a design to replace the controls system with a DDC system and other HVAC system improvements to improve functionality, reliability and energy savings. A phased construction approach will allow the facility to continue operations. Cost: \$3M (est.)

**CDC NIOSH, Study Expansion and Modernization of Inhalation Rooms, Morgantown, WV:** Cost estimating to support a study of the expansion and modernization of the AAALAC-accredited NIOSH Inhalation Laboratory Facility.

**CDC NIOSH, Building 141, Laboratory Space, Pittsburgh, PA:** Cost estimating for interior renovation to convert existing space into functional laboratories in the phase 2 portion of Building 141. Laboratories include metrology, fall arrest, microbiology, protective clothing, aerosol and prep as well as storage space. Building system improvements include backup generator replacement and mechanical upgrades for heat load, cooling and ventilation. Other improvements include access control and sound proofing. Cost: \$2.8M (est.)

**CDC NIOSH, Spokane Research Facility AHU Replacement, Spokane, WA:** Cost estimating to support evaluation of existing HVAC systems in use and recommendations for replacement systems that are more efficient, maintainable and reliable. Responsibilities include: ROM estimates and identification of HVAC options. **Cost:** \$1M (est)