



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

# Request for Quotation

RFQ NUMBER  
**GSD126401**

PAGE  
**2**

ADDRESS CORRESPONDENCE TO ATTENTION OF:  
**KRISTA FERRELL  
 304-558-2596**

RFQ COPY  
 TYPE NAME/ADDRESS HERE

SHIP TO

DEPARTMENT OF ADMINISTRATION  
 GENERAL SERVICES DIVISION  
 BUILDING FOUR  
 112 CALIFORNIA AVENUE  
 CHARLESTON, WV  
 25305 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
03/21/2012				

BIDDING DATE: **04/12/2012** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>NO CONTACT BETWEEN THE VENDOR AND THE AGENCY IS PERMITTED WITHOUT THE EXPRESS WRITTEN CONSENT OF THE STATE BUYER. VIOLATION MAY RESULT IN THE REJECTION OF THE BID. THE STATE BUYER NAMED ABOVE IS THE SOLE CONTACT FOR ANY AND ALL INQUIRIES AFTER THIS EOI HAS BEEN RELEASED.</p> <p>EXHIBIT 10</p> <p>REQUISITION NO.: .....</p> <p>ADDENDUM ACKNOWLEDGEMENT</p> <p>I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.</p> <p>ADDENDUM NO.'S:</p> <p>NO. 1 <i>RPH</i></p> <p>NO. 2 .....</p> <p>NO. 3 .....</p> <p>NO. 4 .....</p> <p>NO. 5 .....</p> <p>I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.</p> <p>VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE</p>						

RECEIVED  
 2012 APR 11 AM 7:58  
 WV PURCHASING  
 DIVISION

SEE REVERSE SIDE FOR TERMS AND CONDITIONS		TELEPHONE	DATE
FEIN	ADDRESS CHANGES TO BE NOTED ABOVE		

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



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

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 CHARLESTON, WV  
 25305 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/21/2012				

ISSUING DATE: **04/12/2012** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.</p> <p style="text-align: center;">             SIGNATURE  <b>J.K.M. Incorporated</b>            COMPANY  <b>4.10.2012</b>            DATE         </p> <p>NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE EOI.</p> <p>REV. 09/21/2009</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p> <p style="text-align: center;">NOTICE</p> <p>A SIGNED EOI MUST BE SUBMITTED TO:</p> <p style="text-align: center;">           DEPARTMENT OF ADMINISTRATION            PURCHASING DIVISION            BUILDING 15            2019 WASHINGTON STREET, EAST            CHARLESTON, WV 25305-0130         </p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

IRE	TELEPHONE	DATE
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FEIN ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



April 12, 2012

Ms. Krista Ferrell, Buyer Supervisor  
Purchasing Division  
2019 Washington Street  
Charlestown, WV 25305-0130

RE: RFQ GSD126401  
Architectural and Engineering Services Building 4 Renovation

Ms. Ferrell:

We were excited when we read your Request for Qualification. Your RFQ describes work with which we have substantial experience. We have completed multiple office building renovation projects, which are described in this response. We will execute this work with exceptional care from a broad base of specific knowledge.

IKM Incorporated has enjoyed a successful working relationship with the State of West Virginia on the addition to William Sharpe Hospital and we are poised to help you move forward with the renovation of Building 4. We have partnered with the local firm of ZDS Design/Consulting Services to create solutions that are functionally efficient, fiscally responsive and aesthetically superior. We have found that all of our projects benefit from hands-on, high-level attention throughout the project. IKM and ZDS have assigned our senior level experts to this project, and I will be directly responsible for the management, design and documentation of the entire project.

This project would receive significant and substantial attention of our firm. We have the requisite experience, knowledge base, and key personnel to work with you to make this project successful. We encourage you to carefully read our response to your request and call our references. If you have any questions, or if you need any additional information, please feel free to contact me. We are excited about the opportunity to help you with this project. I am confident that our team will exceed your expectations. Thank you for including IKM in your selection process.

Sincerely,  
IKM Incorporated



Roger Hartung, AIA, NCARB  
Principal

IKM Incorporated

One PPG Place  
Pittsburgh, PA 15222  
T: 412-281-1337  
F: 412-281-4639

www.ikminc.com

**IKM**  
architecture  
planning  
interior design





**Table of Contents**

Tab 1 Firm Overviews  
Concept

Tab 2 Firm/Team Qualifications  
Resumes

Tab 3 Project Organization  
Organization Chart  
Design Approach: Team's Ability to Provide Services

Tab 4 Relevant Experience

Tab 5 Professional References

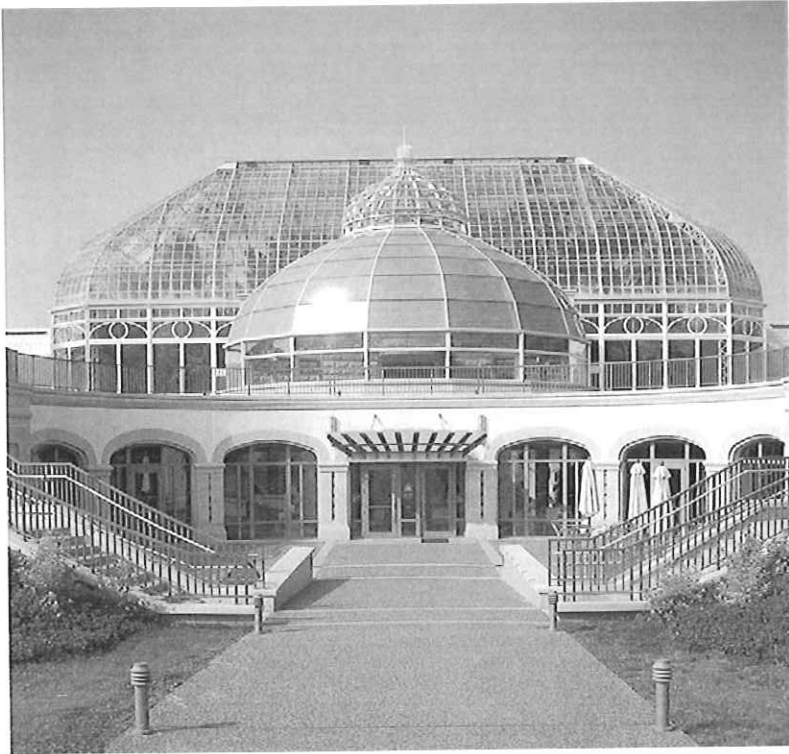
One PPG Place  
Pittsburgh, PA  
15222

T: 412-281-1337  
F: 412-281-4639  
[www.ikminc.com](http://www.ikminc.com)

## Firm History and Professional Services



architecture  
planning  
interior design



IKM Incorporated is an architectural, planning, and interior design firm that has been in continuous practice since 1911.

Over this long history, the firm has been responsible for such notable projects as the Pittsburgh Board of Education Administration Building, the Buhl Planetarium, and Chatham Village. Chatham Village has been recognized by the American Institute of Architects as one of two hundred significant architectural projects in the history of the United States.

The firm's portfolio exemplifies the reputation of excellence in executing high profile, high design commissions as exhibited by the award winning adaptive reuse of the historic Allegheny County Jail (A Pittsburgh landmark originally designed by H.H. Richardson), the renovation and addition to the Phipps Conservatory and Botanical Gardens, and the design of the Hillman Cancer Center for the UPMC Health System.

Since our inception, we have enjoyed a reputation for excellence in design and outstanding service to our many clients. Rather than completing commissions, we pride ourselves on building relationships.

Our clients include civic, healthcare and educational institutions; government; commercial clients; research and development clients; and developers.

With these strengths as our foundation, our commitment has been to create humane spaces for human beings.



**Firm Address:**  
One PPG Place  
Pittsburgh, PA 15222  
phone: 412.281.1337  
fax: 412.281.4639  
[www.ikminc.com](http://www.ikminc.com)

**Year Founded:** 1911,  
Pittsburgh, PA

**Number of Employees:** 36

**Principals:**  
John C. Schrott III, AIA, ACHA  
President, Principal

Jeffrey K. Brown, AIA, NCARB  
Principal

Joel R. Bernard, AIA, NCARB,  
LEED AP  
Principal

Roger P. Hartung, AIA, NCARB  
Principal

Michael P. McDonnell, AIA  
Principal, COO

## Awards & Recognition



architecture  
planning  
interior design



*Chatham Village*

### **2011 AIA Pittsburgh, Award of Excellence in Timeless Architecture**

Chatham Village

### **2010 Award of Excellence**

Associated Builders and Contractors, Inc.,  
Keystone Chapter  
Post Acute Rehabilitation Hospital, The Reading  
Hospital and Medical Center

### **2010 Leadership in Energy and Environmental Design (LEED®) Certification**

Westinghouse Corporate Headquarters Campus

### **2010 Leadership in Energy and Environmental Design (LEED®) Silver Certification**

Westinghouse Chattanooga Office Building

### **2010 Award of Excellence and Award of Merit**

Associated Builders and Contractors, Inc.,  
Keystone Chapter  
Lancaster General Women and Babies Hospital  
Focused Growth Expansion

### **2010 Award of Merit**

Associated Builders and Contractors, Inc.,  
Keystone Chapter  
Lancaster General Health Admitting Office Relocation

### **2010 Award of Merit**

Associated Builders and Contractors, Inc.,  
Keystone Chapter  
Memorial Hospital Fast ER

### **2009 AIA Pittsburgh, People's Choice Award**

West Virginia University Alumni Center

### **2009 Excellence in Construction \$10-\$25 Million**

Associated Builders and Contractors, Inc., WV Chapter  
West Virginia University Alumni Center

### **2008 Evergreen Awards First Place ecommercial category**

Phipps Conservatory and Botanical Gardens

### **2008 Award of Excellence**

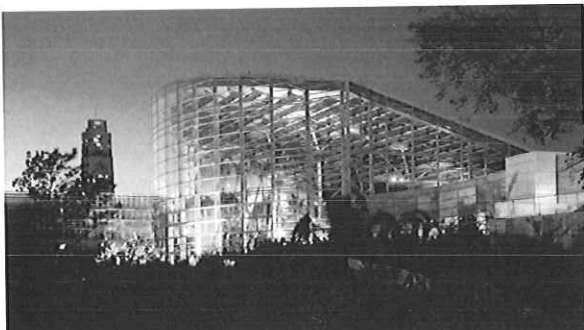
Associated Builders and Contractors, Inc.,  
Keystone Chapter



*Reading Post Acute Rehabilitation Hospital*



*West Virginia University Alumni Center*



*Tropical Forest, Phipps Conservatory*

## Awards & Recognition



architecture  
planning  
interior design



*Lancaster General Hospital Orthopedic Center*

### **2005 Center for Health Design, Architectural Showcase**

Hillman Cancer Center, UPMC Health System

### **2005 Leadership in Energy and Environmental Design (LEED®) Gold Certification**

McGowan Institute for Regenerative Medicine,  
University of Pittsburgh

### **2004 NAIOP "Driver of Development" Award**

National Association of Industrial and  
Office Properties (NAIOP)  
Hillman Cancer Center, UPMC Health System

### **2003 Circle of Design Excellence Award**

Hillman Cancer Center, UPMC Health System

### **Finalist Over \$5 Million 2003**

Master Builders' Association of Western PA  
Hillman Cancer Center, UPMC Health System

### **Finalist Over \$5 Million 2003**

Master Builders' Association of Western PA  
McGowan Institute for Regenerative Medicine

### **Western PA Golden Trowel Award, 2003**

Hillman Cancer Center, UPMC Health System

### **Western PA Golden Trowel Award, 2003**

Three Mellon Bank Center Lobby Renovations

### **Silver Award for Excellence - New Construction/ Renovation**

Retailing Excellence Award 2003  
"The Little Shop" Memorial Medical Center

### **Award of Merit for Innovation & Design of a Parking Facility**

The Pennsylvania Parking Association 2002 Awards  
First Avenue Parking Garage

### **Speculative Office Building of The Year 2002**

National Association of Industrial and  
Office Properties (NAIOP)  
Quantum I

### **Building of the Year Award, 2002**

Building Owners and Managers Association of Pgh.  
Adaptive Reuse of The Allegheny County Jail



*Hillman Cancer Center, UPMC Health System*



*McGowan Institute of Regenerative Medicine*



*Lancaster General Hospital Orthopedic Center*

## Awards & Recognition



architecture  
planning  
interior design

### **Finalist Under \$7 Million**

Master Builders' Association of Western PA  
The Institute - Clinic and OR-14

### **Finalist Excellence in Craftsmanship**

Master Builders' Association of Western PA  
International Brotherhood of Electrical Workers  
Local #5 Headquarters

### **Finalist Building Excellence Awards**

Master Builders' Association of Western PA  
The Western Pennsylvania Hospital  
Labor and Delivery Rooms

### **Honor Award: Excellence in Design**

Port Authority Transit, Allegheny County  
Pennsylvania Society of Architects  
Wood Street Subway Station

### **Honor Award**

American Institute of Architects, Pittsburgh Chapter  
Wood Street Subway Station

### **Building of the Year**

Building Owners and Managers Association of Pgh.  
The Pittsburgh Ballet Theater

### **Merit Award: Excellence in Architectural Design**

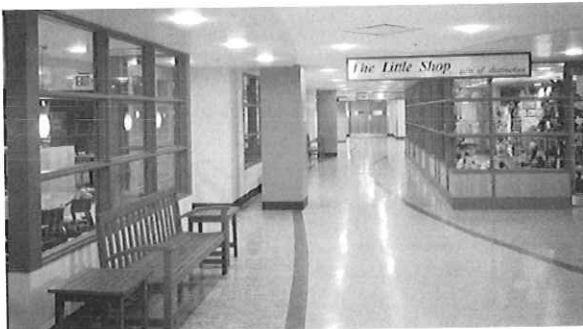
Pennsylvania Society of Architects  
The South Side Hospital

### **First Honor Award**

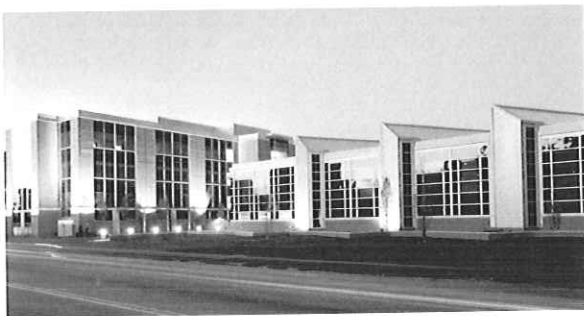
Pennsylvania Society of Architects  
Western Psychiatric Institute and Clinic,  
Parking Garage

### **Selected as one of two hundred significant architectural projects through the history of the U.S.**

American Institute of Architects  
Chatham Village



*"The Little Shop," Memorial Medical Center*



*International Brotherhood of Electrical Workers  
Local #5 Headquarters*



*Quantum One Office Building*

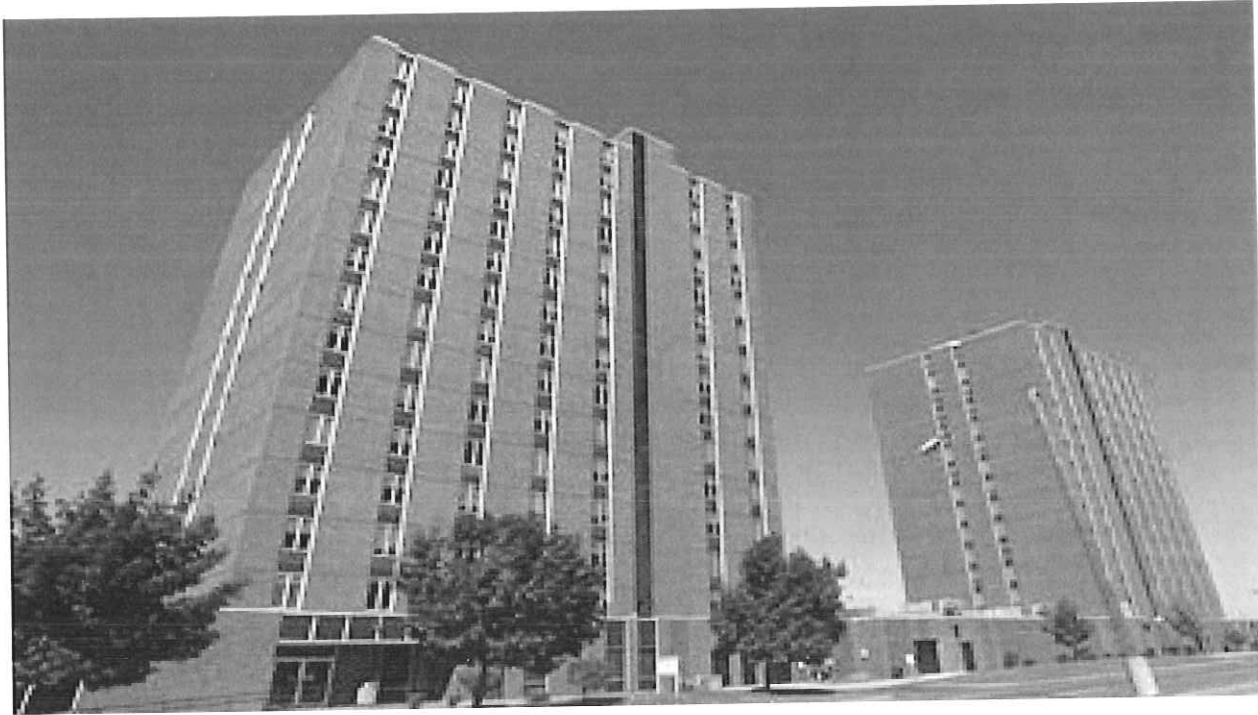


*Wood Street Station*



*Western Pennsylvania  
Hospital Parking Garage*





## ABOUT ZDS DESIGN/CONSULTING SERVICES

### ORGANIZATION

ZDS OFFERS AN EFFECTIVE ORGANIZATIONAL STRUCTURE; ONE THAT TAKES EACH PROJECT FROM INCEPTION THROUGH COMPLETION, WORKING AS AN EXTENSION OF THE CLIENT EVERY STEP OF THE WAY.

EXCELLENT MECHANICAL AND ELECTRICAL DESIGN RESULTS FROM AN EXPERIENCED TEAM, AS WELL AS LISTENING TO THE NEEDS OF THE CLIENT.

In 1983, Todd A. Zachwieja founded ZECO Consultants. In 1994 ZDS Limited Liability Company was incorporated in West Virginia using dba ZDS Design/Consulting Services, and was founded to provide design and consulting services. Today ZDS has four principals with over 100 years of technical expertise:

**Todd A. Zachwieja, PE, C.E.M., LEED AP, Chief Executive Officer,** brings with him over 30 years in the design and consulting business.

**Ted T. Zachwieja,** Principal over Construction Administration services, has over 50 years experience in the design and consulting business. He was owner of Ted T. Zachwieja & Company from 1962 to 1982.

**Daniel H. Kim, Ph.D.,** Manager of Strategic Planning, brings with him over 25 years in the design and consulting business and is one of the nation's leading experts in organizational management. He is also owner/founder of Pegasus Communications, Inc. from 1991 to present.

**Lori Zachwieja, CPA,** Chief Financial Officer, was cofounder of ZECO Consultants.

### SERVICES

MECHANICAL  
INDOOR AIR QUALITY  
ENERGY

ELECTRICAL  
COMMISSIONING



**INDOOR AIR QUALITY SERVICES**

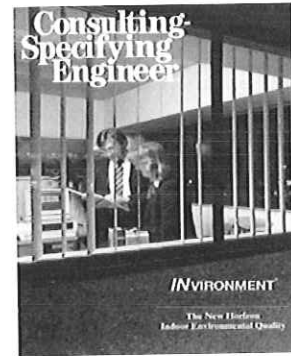
ZDS provides consulting engineering services for the indoor air quality (IAQ) environment. These services include: strategic planning for renovation and new construction projects; technical research and writing; specialized applications software development; corporate and professional training programs; publications support and fulfillment; and site-specific engineering and scientific consultation.

Todd Zachwieja, ZDS principal, is contributing editor for the following IAQ publications:

- Contributing Editor and Technical Review Panel for the publication of the INvironment™ Handbook of Building Management and Indoor Air Quality, by Chelsea Group and published for Powers Educational Services.
- Technical Review Panel for the Quarterly publication of the INvironment™ Newsletter, by Chelsea Group for Powers Educational Services.
- Ventilation for a Quality Dining Experience: a Technical Bulletin for Restaurant Owners and Managers, released in January 1993.
- The New Horizon: Indoor Environmental Quality, published as a supplement to the June 1993 issue of Consulting-Specifying Engineer magazine, a trade magazine distributed to roughly 50,000 engineers.
- Editorial Advisory Board member reviewing the articles of the monthly publication INvironment™ Professional.
- Editorial Advisory Board member of POWER PRESCRIPTIONS™ Indoor Air Quality Publication by Electric Power Research Institute.

- ZDS provides IAQ services for major corporations, government organizations and property owners to resolve their specific facility problems:
- Resolve the building's "sick building syndrome" complaints.
- Identify solutions to extensive biological contamination building related illnesses in renovated office buildings.
- Develop solutions for HVAC systems, temperature controls, equipment, operating and maintenance practices causing IAQ problems in schools and commercial buildings.
- Commission new and renovated facilities to minimize or eliminate IAQ issues before they become problems.
- Develop and establish master plans as well as conduct training seminars for IAQ of schools and commercial buildings.

As one of the nation's leaders in Indoor Air Quality, ZDS produces sophisticated technical expertise that enables our Client to be proactive in solving and preventing indoor environmental problems.



The ZDS team is trained and experienced in advising you of program options to incorporate energy efficiency and operational savings features into the design of your new construction and renovation projects. At ZDS, we view our role as helping you to define your own energy efficiency needs and goals through identifying energy savings options and providing supporting financial information. We then help you fit your energy efficiency needs and goals into a workable budget and schedule, and then design a program to fill those needs.

Sustainable "Green Building" design, including LEED's certification, recognizes the importance of commissioning. The design and construction industry have had start-up problems when a facility is occupied and construction deficiencies were not discovered until the contractor's traditional one-year warranty period expired. The mechanical and electrical systems have continued to become more complex with sophisticated control systems and equipment, and a mountainous amount of changing technology. If not properly addressed, building owners could face numerous operational problems from "Sick Building Syndrome," excessive energy costs, and uncomfortable indoor environments. Commissioning is the missing link between design and implementation.

Subsequent to joining ZDS, Todd Zachwieja established commissioning services for one of the nation's largest energy service companies. He is also a LEED's Accredited Professional. Many utility companies and building owners now require commissioning for the new or renovated facilities in order to maximize the use of their investments in their facilities and to obtain LEED's certification. The

commissioning process offers the following benefits:

- Improved comfort, serviceability and Owner understanding of systems and design intent.
- Added technical support for the Owner and being proactive in preventing new problems.
- Reduced maintenance and decreased expenses related to operating deficiencies.
- Early identification and resolution of system discrepancies while designers and contractors are still under contract and on the job.
- Verification of system performance while meeting financial restraints.
- Commission new and renovated facilities to minimize or eliminate IAQ issues before they become problems.

ZDS and its consultants offer commissioning services for their commercial and institutional clients, including meeting LEED's enhanced commissioning requirements. These services include strategic planning operations assistance for renovation and new construction projects. Commissioning services consist of construction document review, equipment performance testing, documentation of design criteria, value engineering, operational fine tuning, professional operations training programs and site-specific engineering consultation. Our project team has the unique experience of in-depth design knowledge and hands-on operations knowledge that fills in the gap between traditional design services and the building Owner's operational needs.

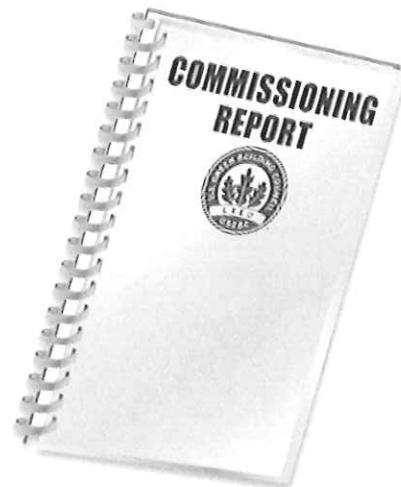
## NATIONAL RECOGNITION

The National Conference on Building Commissioning invited Todd Zachwieja, ZDS' owner, to speak. He jointly presented a paper with the Director of Maintenance of Charleston Area Medical Center's Memorial Division. The Tampa, Florida Conference involved experts nationwide.

The principal owners of ZDS and their consultants have extensive experience in building commissioning and have saved their customers hundreds of thousands of dollars in construction costs and operating costs through their efforts.

The design team at ZDS is the best to provide engineering services for your project. Satisfying our client's individual needs and distinct requirements is the foremost concern of ZDS.

The most important member of the design team is the client. We make every effort to involve our clients throughout the entire process, from the planning through the construction and beyond.



## Concept



architecture

planning

interior design

Understanding the goals of a project is critical. Building renovation requires extensive review of the existing conditions so that the recommendations made are ones that address the problems that present themselves. We will take care to do a thorough evaluation of the existing building including a functional analysis. We will review building code issues, accessibility, life-safety, mechanical, and electrical systems, and any other building issues that might present themselves as this review takes place.

Based on our review we will explore with you options taking into account both budget and schedule as well as your stated goal to bring the current building up to current office building standards. This part of the project is a collaborative one that will involve our project team as well as those that have been identified for your project team, and any other decision makers you might wish to include.

We will take into account the phasing of the construction so that the building can remain in service at all times. We will continue to work collaboratively with your project team to produce a set of plans that will delineate what the project looks like during each phase, so that the functionality of the building during each phase of construction can be evaluated. This evaluation will also include all building systems so that air temperature and humidity, electrical service, and life-safety systems are operational for each portion of the building that is to be occupied during each phase, which includes both renovated spaces as well as yet-to-be renovated spaces that will remain occupied during construction.

The product of the collaborative work effort will be a set of documents that will take into account creating a building that meets or exceeds current office building standards as well as the budget and the schedule. These documents will be able to be used for both competitively bidding the project as well as be a set of documents that can be used by you in the future.

ZDS Design/Consulting Services is pleased and proud to submit our statement of qualifications for your consideration. We have been involved with many LEED projects. We designed the existing central boiler heating system including tying in Building #4 as part of overall Capitol Campus HVAC renovations. We provided all the engineering design for the Campus Central Heating Plant and distribution system including Buildings #3, #4, #5, #6, #7, #8, #9 and #10. ZDS also provided a comprehensive study of Building #4's fire alarm, emergency power and sprinkler needs and have a good understanding of some of the challenges for renovating the facility which include the following:

1. Abate asbestos throughout the existing building for the proposed renovations.
2. Replace the emergency generator sized to meet current codes while addressing current State Fire Marshal requirements.
3. Incorporate a smoke management system into the proposed renovations to address the State Fire Marshal's requirements for high-rise facilities.
4. Provide a fire pump to meet the sprinkler requirements for the facility. The fire pump will need to be located in a dedicated fire rated room.
5. Upgrade the existing water supply to the building so it is large enough to supply a complete building sprinklers system.
6. Upgrade lighting to current technology due to the major improvements in lighting technology to meet LEED's Silver certification.
7. Replace the existing HVAC systems to current IAQ, energy efficiency and comfort standards to meet LEED's Silver certification for the facility.
8. Provide a new addressable fire alarm system that complies with the requirements of ADA, NFPA, WV State Fire Code and the authority having jurisdiction.
9. Incorporate the security goals for the overall capitol complex emergency broadcast system into the renovations.



We believe our successful experience in these previous projects makes us the best qualified to address the proposed *Bldg. #4 renovations*. We understand the Capitol Complex campus and how each facility integrates.

ZDS will provide comprehensive MEP engineering support for the proposed Building #4 renovations. We have provided these types of upgrades for many clients including, Kanawha County Commission, Laidley Tower, WVDHHR Hospitals, WVU, Ohio University, Washington & Lee University, Raleigh County Schools, and multiple buildings at the WV Capitol Complex. We understand the project needs. Our corporate office is located in Teays Point Industrial Park, 91 Smiley Drive, St. Albans, West Virginia, 25177; only minutes to the WV Capitol Complex which will aid in the communications. We have many licensed Professional Engineers in West Virginia and ZDS's personnel has worked from Hawaii to NY covering the USA.

**Personnel Assigned** The project is assigned to Todd Zachwieja, ZDS's principal in-charge of planning/design who will follow the project from inception through design. We assign the production staff according to the nature of the project and the work force necessary to meet the schedule. Ted Zachwieja is ZDS's Principal-in-Charge of overseeing the construction administration process and would attend the construction meetings while coordinating the design intent with Todd Zachwieja and other

ZDS provided engineering for upgrades for the WV Capitol Complex including Buildings #1, #3, #4, #5, #6, #7, #8 and #10 as part of a Performance Contracting team. We designed Building #11 HVAC Renovations and understand the campus chilled water loop system. We believe our knowledge and involvement in the Capitol Complex's facilities will help with the proposed renovations. Our work at Ohio University at both its Athens campus and Chillicothe campuses involved saving over \$2.5 million annually. Please review the enclosed article from the *College Planning & Management* on our work at Ohio University which states "ZDS, is worth the monies the university paid for their services. It was important to have somebody guide us through the process," says Sherwood Wilson, then Associate Vice President for Facilities and Auxiliaries.

We also provided comparable engineering renovations for the eight-story Judicial Annex facility in Charleston and HVAC/electrical renovations for Harris Hall at Marshall University. Many of our WV County Schools clients involved extensive MEP renovations totaling hundreds of millions in construction costs. These include Raleigh County School's Woodrow Wilson High School, Park Middle School, Shady Springs Middle School, Trap Hill Middle School, Randolph County School's Elkins Middle School, Webster County High School and many others. Ask the WV Department of Education and School Building Authority about our firm. Both have asked our participation in establishing design and construction guidelines for all schools in WV.

We believe that our combined specialties provide *WV Capitol Complex's Building #4 Renovations* with the best Engineering expertise to provide economical solutions for your specific projects needs. We look forward to meeting with you to discuss our team's qualifications and your needs further. If there are any questions, please do not hesitate to call.

Sincerely,



Todd A. Zachwieja, P.E., CEM, LEED AP  
Principal, Chief Executive Officer

G:\ZDS MARKETING\3-GOVERNMENTAL\WV Capitol Complex\Bldg #4 due 04-12-12\ZDS Approach.docx

## Firm/Team Qualifications



architecture  
planning  
interior design

- a. Contact: Roger Hartung, AIA, NCARB  
Principal in Charge  
IKM Incorporated  
One PPG Place  
Pittsburgh, PA 15222  
412-281-1337  
rhartung@ikminc.com
- b. See Enclosed Resumes
- c. See Enclosed Subconsultant Qualifications
- d. IKM has completed numerous projects of similar size and scope including a recently completed 96,000 complete interior renovation of a 1950s building on the campus of West Virginia University detailed in the relevant experience section of this submission.
- We are confident that we can handle this project in its entirety.
- e. We understand that any and all work produced as a result of this contract will become the property of the Agency and can be used or shared by the Agency as deemed appropriate.
- f. As the design professional, IKM is well versed in understanding the complex code requirements associated with construction in West Virginia. Our designs integrate these requirements from the concept stage to create successful solutions that are compliant to the respective codes.
- We have regular contact and an ongoing dialogue with the **State Fire Marshall's Office** and **Ronald Stricker of OHFLAC, Office of Health Facility Licensure and Certification**, (for healthcare specific projects) for review of drawings at different stages of design.
- We have completed many projects in **Morgantown**; we are working on projects in **Clarksburg**, and have completed projects in **Martinsburg** and **Athens, West Virginia**, as well.
- g. IKM does not have any litigation or arbitration proceedings, not vendor complaints with Agencies of the State of West Virginia.



## **Roger Hartung, AIA, NCARB**

*Principal in Charge*



architecture  
planning  
interior design

Mr. Hartung has over **25 years of architectural experience** encompassing all areas of design, management, administration and production. He is a Principal with IKM. Mr. Hartung is a **registered architect in the State of West Virginia** and is a member of the West Virginia Chapter of the AIA.

He has significant experience with large capital projects which often involve complex environments and phased construction schedules. In addition, he has completed a variety of projects for corporate, private and public institutions.

As the *principal-in-charge* Mr. Hartung has overall responsibility for the project, ensuring that it is staffed adequately with qualified persons, that the project is going smoothly, that it stays on budget and on schedule and that IKM is being responsive to the client. He oversees all project personnel, including consultants and attends key presentations to the client. He is responsible for all contractual arrangements with the client and consultants. Some of his relevant project experience includes:

**The Family Courts Division of the Court of Common Pleas, Adaptive Reuse of the Allegheny County Jail** – Project Manager for the award winning \$34 million design-build project that preserved noted architect H.H. Richardson's 1887 exterior and central rotunda, while inserting totally new construction within the building's shell. The facility houses Adult and Juvenile sections of the Family Division Court functions and features a secure corridor & elevator system, sally port, and private judge's floor. This project consolidated 400 court employees and operations from two separate courts facilities elsewhere.

**Louis A. Johnson VA Medical Center, Clarksburg Building Envelope Repair** – Principal in Charge providing detailed analysis and documentation with specific attention to roofing modifications associated with the masonry remedial work.

**West Virginia University, Erickson Alumni Center** – Principal in Charge of the design of a new \$19 million, 48,000 square foot Alumni Center evocative of the WVU main campus featuring monumental brick entry gates and a pedestrian-friendly piazza. The Center consists of a club lounge and conferences rooms on the ground floor, with administrative offices and a boardroom on the second floor.

**William Sharpe Psychiatric Hospital 50-Bed Addition** – Principal in Charge of a new \$11 million, 50-bed addition to the State run behavioral health hospital in West Virginia. Program elements include social noisy spaces, social quiet spaces, room for meals with servery and pantry, seclusion rooms, consultation rooms, video court room, exam rooms, sally port, security vestibule, intake exam room, offices for admissions,. The project also included revised site circulation, added parking and relocation of existing site utilities.

## **Joel R. Bernard, AIA, NCARB, LEED AP**

*Principal, Chief Office Planner*



architecture  
planning  
interior design

Mr. Bernard began his professional career in 1984; he has **28 years of experience**. He is currently a principal architect in the firm. He has worked on a broad range of project types, including corporate, banking, commercial, education, healthcare and housing. In addition to being an active member of the Pittsburgh Chapter of the American Institute of Architects, Mr. Bernard also holds National Council of Architectural Registration Boards (NCARB) certification and is a LEED Accredited Professional.

As the **Chief Office Planner**, Mr. Bernard will be involved in all aspects of the project from its earliest phases. He and other members of the design team will meet with key stakeholders to understand the project objectives. He will participate in interactive workshops to explore wish-list items and space needs, establish a hierarchy of priorities, and begin to formulate adjacencies based on feedback from management and user groups. He will draw upon his nearly 30 years experience in the field and more than one million square feet of office planning to guide design solutions that meet specific parameters relevant to the project. His recent project experience includes:

**Westinghouse New Corporate Headquarters Campus** – Principal in Charge for the nearly one million square foot new headquarters campus located in Cranberry Woods, PA. The project was planned in three phases and achieved LEED® Certification with US Green Building Council.

**Westinghouse Building Four** – Principal in charge for the design and documentation for the 120,000 square foot Building 4 on the Westinghouse Headquarters campus. Building Four was designed with many of the same energy efficient materials and systems used in Buildings 1, 2 and 3 to provide additional office space for their growing engineering and management staff.

**Westinghouse Electric Company, Renovation and Relocation of Cold Labs** – Principal in charge for the architectural planning and design of lab and office spaces including Electron Microscopy, Auger, Autoclave lab, instrumentation and calibration labs. Design work includes replacement of windows and complete envelope thermal barrier improvements required for laboratory climate control.

**Westinghouse Electric Company Expansion/Renovation of (RRAS) Repair, Replacement Automation Services** – Principal in charge of expansion and renovation of labs and office spaces including instrumentation and calibration labs. Design work includes replacement of windows and complete envelope thermal barrier improvements required for laboratory climate control.

**Veterans Administration, Pittsburgh Health Care System Data Center Consolidation** – Project Manager for the consolidation of three data centers for the healthcare system, involves the design of a \$5 million addition to house the appropriate hardware and engineering systems.

**Johathan M. Lusin, AIA, LEED AP**  
*Project Manager*



Mr. Lusin joined IKM in 2008 as a registered project architect with more than **10 years experience**. He has a diverse portfolio of project-types; a knowledge of the latest software tools for design and documentation; and, an appreciation of the value of sustainable design. Since joining the firm, Mr. Lusin has become a LEED Accredited Professional and brings his knowledge of green design to each project in which he is involved.

As **project manager**, Mr. Lusin represents the firm in all detailed communications with the client, consultants and contractors. He is in regular communication with the principal-in-charge and manages the project team, assuring timely decision making and information flow from the client to keep the project on schedule. He is also responsible for maintaining project data and documentation necessary to keep the project within budget and on time.

As a **LEED® accredited professional**, Mr. Lusin oversees the detailed execution of the project design as it relates to certification and documentation. He communicates regularly with the project team regarding the project's status and LEED scorecard and coordinates with the specifications writer to include appropriate materials to meet the client's sustainability goals and represents the firm during construction administration. Some of his relevant project experience includes:

**Westinghouse Corporate Headquarters Complex** – Project architect for the nearly one million square feet of new construction in three office buildings to accommodate the Westinghouse Electric Company's new corporate headquarters. The four building complex will house 4,500 personnel and achieved LEED Certification with the USGBC.

**West Virginia University White Hall** – Project Manager (during construction) and construction observation with management responsibilities for the complete interior renovation of the 96,500 square feet 1940s facility to serve the University's need for state of the art laboratory space for the Physics Department. The program calls for high-bay space for MRI and other research activities, a Class 10,000 Clean Room, and the design of isolated floor slabs to accommodate vibration sensitive equipment

**VA Clarksburg Parking Garage** – Project Manager for the design and construction of a new 500-car, 5-story parking garage located on the existing surface parking lot near the entrance to the hospital campus. The parking garage will be a pre-engineered precast concrete structure. Approx. \$10 million project.

**William Sharpe Psychiatric Hospital 50-Bed Addition** – Project Manager of a new \$11 million, 50-bed addition to the State run behavioral health hospital in West Virginia. Program elements include social noisy spaces, social quiet spaces, room for meals with servery and pantry, seclusion rooms, consultation rooms, video court room, exam rooms, sally

**Todd (Ted) A. Zachwieja**  
PE, C.E.M., LEED AP

**Chief Executive Officer**  
**Principal-in-Charge M/E/P Design**

Todd has more than 30 years of experience in the design, construction management, and specifications for mechanical engineering, heating, ventilating, air conditioning, plumbing, electrical, and lighting, as well as indoor air quality analysis and building system commissioning for educational, commercial, industrial and health care facilities. His specialties include mechanical engineering, HVAC systems master planning, conceptual design, energy conservation program development, commissioning and IAQ analysis relating to HVAC systems. He has extensive experience in industrial, commercial, hospitals and educational design.

Prior to joining ZDS, Todd Zachwieja coordinated millions in comprehensive energy conservation programs resulting in annual energy savings of millions per year and managed a profitable regional office for one of the country's largest energy service companies covering southeastern United States. He also developed computer programs for building energy analysis and monitoring and presented technical papers at regional and national conferences. Some of Todd's project experience includes:

#### GOVERNMENT AND COMMERCIAL

- Bank One – WV
- Bayer Material Science
- Calvert County Aquatic Center, MD
- Culture Center HVAC renovations
- General Motors Corporation of North America Re-commissioning Program
- Kanawha County Commission – 120,000 sf additions/renovations for the Judicial Annex/Kanawha County Courthouse – Charleston
- Kohl's
- Laidley Towers – Charleston
- Mercer County Courthouse Annex – Princeton
- Olin Corporation
- Phillip Morris USA
- Rhone-Poulenc
- Santa Anna Federal Building, CA
- State of WV Capitol Complex Central Heating Plant and Renovations
- Sears
- Saint Patrick Church Renovations
- Sacred Heart Pavilion
- Toyota Motor Manufacturer, WV Inc.
- Union Carbide/DOW
- United Center – Charleston
- Walker Machinery
- West Virginia Air National Guard
- West Virginia Army National Guard
- West Virginia Department of Transportation/DOH
- West Virginia Division of Protective Services
- West Virginia Higher Education Authority
- West Virginia General Services Division
- West Virginia Parkways Authority
- West Virginia Public Service Commission Headquarters
- West Virginia State Capitol Complex renovations
- Yeager Airport

Todd also designed one of the largest geothermal heat pump applications in the mid-Atlantic region, and commissioned HVAC systems and mechanical engineering at many General Motors' facilities in North America.



#### EDUCATION

Bachelor of Science in Mechanical Engineering from West Virginia Institute of Technology in 1982

Masters of Science in Engineering Management from the University of West Virginia College of Graduate Studies in 1989

#### REGISTRATIONS

West Virginia, No. 10,127

Certified Energy Manager (C.E.M.), National Certification

LEED® Accredited Professional, National Certification through USGBC

Georgia, No. 18253

Kentucky, No. PE-17961

North Carolina, No. PE-017445

Ohio, No. E-53587

Pennsylvania, No. PE-040929-R

South Carolina, No. 25985

Virginia, No. 0402 025427

## Ted T. Zachwieja

### Principal-in-Charge Construction Administration

Ted has over 52 years of experience in mechanical and electrical systems design and construction administration. His specialties include the design and development of mechanical and electrical systems, master planning and budgeting for mechanical and electrical systems, and management of complex design and construction projects. He is also a Codes and Standards Specialist. Ted has been involved in all aspects of mechanical and electrical design and construction since 1958, including machine design, structural design and design of heating, ventilating, air conditioning, plumbing, fire protection and electrical systems.

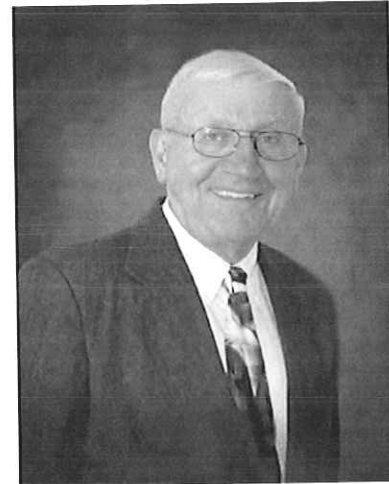
Ted's experience includes work for U.S. Steel, Union Carbide, Rhone-Poulenc, Bluefield Regional Medical Center, Charleston Area Medical Center, United Hospital Center, Kanawha County Schools, Marshall University, West Virginia Capitol Complex, West Virginia Institute of Technology, West Virginia University, Bank One and many others in the private sector. Ted's design regarding Chase Towers – Charleston included conducting a comprehensive energy audit, design of a Building Automation Energy Management System, HVAC renovations, design of flat plate heat exchanger system for the perimeter fan coil units and design of the boiler replacement.

Ted was involved with the mechanical and electrical renovations for the State of West Virginia Division of Culture and History as part of a total \$4.5 million project. The indoor air quality, temperature and humidity each were not in accordance with good design practices for this type of structure. ZDS was commissioned to correct these deficiencies while conserving energy.

Ted was selected as one of three engineers to train and teach a course designed by the Department of Energy and American Society of Heating, Refrigeration and Air Conditioning Engineers for emergency building temperature restrictions.

Prior to forming ZDS, Ted was regional manager for a hospital design firm and responsible for designing, construction management and project management for over \$200 million in hospital and health care facilities. The facilities were located over the eastern United States.

Ted's most recent health care experience includes lighting projects and various studies for seven hospitals for the West Virginia Department of Health and Human Resources – Jackie Withrow Hospital, Beckley; Hopemont State Hospital, Terra Alta; John Manchin, Sr. Health Care Center, Fairmont; Lakin State Hospital, West Columbia; Mildred Mitchell-Bateman Hospital, Huntington; Welch Community Hospital, Welch; and William R. Sharpe, Jr. Hospital, Weston. Other health care experience includes millions in renovation and new construction design for Charleston Area Medical Center's (CAMC) Special Care Facility, Bluefield Regional Medical Center, Monongalia General Hospital, Montgomery General Hospital, United Hospital Center, St. Mary's Hospital, Summersville Memorial Hospital, Thomas Memorial Hospital, Webster Memorial Hospital, Cabell Huntington Hospital, Welch Emergency Hospital Surgicare Center, VA Hospital - Clarksburg, VA Hospital - Huntington, Mercy Medical Center, and Webster Memorial Hospital.



#### EDUCATION

Bachelor of Science in Mechanical Engineering, West Virginia Institute of Technology, 1958

#### PROFESSIONAL AND COMMUNITY AFFILIATIONS

Construction Specifications Institute  
(Charter Member)

American Society of Mechanical  
Engineers

American Society of Heating,  
Refrigeration & Air Conditioning  
Engineers (ASHRAE)

WV Mountaineer Chapter ASHRAE  
Past President and Charter Member

Association of Energy Engineers

Association of Hospital Engineers

WV Society of Hospital Engineers

Professional Affiliate Member of AIA

WV Association of Physical Plant  
Administrators

**Ted A. Zachwieja III****Systems Administrator  
M/E/P Designer**

Ted has over four years of experience and has completed extensive Building Information Modeling studies through Autodesk. He also had special courses in Advanced Computational Techniques, Control Systems, Design Project Management, Design Optimization, Measurement Instruments and Controls, and Sound Attenuation. Ted also has extensive studies in several of the leading engineering programs: Autodesk Revit software, AutoCAD, Pro-Engineering software, ANSYS, Lab View, MATLAB, and complete training in Microsoft Office Software. He also has experience in IT systems and administration. The experience encompasses development and deployment of a central server to networked computer systems, strategic development for a truly mobile employee, and research and development of new project management tools.

Ted's project experience includes the commissioning and design for heating, ventilating, air conditioning, plumbing, electrical and lighting systems for educational, health care, industrial and commercial facilities. He also maintains an active membership to the ASHRAE professional society. He maintains an active continuing education towards today's standards and codes.

Some of Ted's project experiences include the following:

**COMMERCIAL and INDUSTRIAL**

- West Virginia Air National Guard Maintenance Hangar, Charleston, WV
- West Virginia Air National Guard Fuel Cell Hangar, Charleston, WV
- Bayer Material Science
- I-70 Welcome Center, WV
- West Virginia State Capital Complex Central Heating Plant

**HEALTH CARE**

- West Virginia Department of Health and Human Resources Hospitals:
  - Jackie Withrow Hospital, Beckley
  - Hopemont State Hospital, Terra Alta
  - John Manchin, Sr. Health Care Center, Fairmont
  - Lakin State Hospital, West Columbia
  - Mildred Mitchell-Bateman Hospital, Huntington
  - Welch Community Hospital, Welch
  - William R. Sharpe, Jr. Hospital, Weston

**EDUCATIONAL**Schools

M/E/P design for schools in the following West Virginia counties includes:

- Greenbrier West High School Additions/Renovations, WV
- Davis-Thomas Elementary/Middle School Renovations, WV
- South Charleston High School Renovations, WV
- Glade Elementary/Middle School Renovations, WV
- Elkins Middle School Renovations, WV
- Jaeger/Panther Elementary School, WV

**EDUCATION**

Bachelors of Science in Mechanical Engineering from Rochester Institute of Technology, Rochester, NY

**PROFESSIONAL AFFILIATIONS**

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)



**James E. Watters****Project Manager  
Production Manager**

Jim has over 35 years experience in design and implementation of HVAC, plumbing and electrical systems including nine years in the construction industry. He has a comprehensive knowledge of construction documents, contracts, and development of cost estimates, budgets and schedules. Jim's strengths reside in his ability to manage projects and people in an organized and cost-effective manner. Jim has been involved with the design and production of mechanical and electrical drawings including HVAC, plumbing, fire protection, lighting, electrical power and specialized systems. He has worked with and managed engineers in projects for health care, educational and commercial buildings in the states of West Virginia, Ohio, Kentucky, Virginia, Georgia, New York, Arizona, Illinois and Massachusetts. He has extensive experience in energy savings' programs for HVAC, plumbing and electrical systems in hospitals, state and government office buildings, school systems, and manufacturing facilities, as well as managing performance contracts for the state of Georgia totaling \$10,000,000 in construction costs on various projects.

Through the years, Jim has researched and implemented into practice International Building Codes, NFPA Codes, National Electrical Codes, Life Safety Codes, IES standards, AIA Guidelines for Design and Construction, and the evolving ADA standards. Some of Jim's HVAC, plumbing, fire protection and electrical project experience includes the following:

**GOVERNMENT AND  
COMMERCIAL**

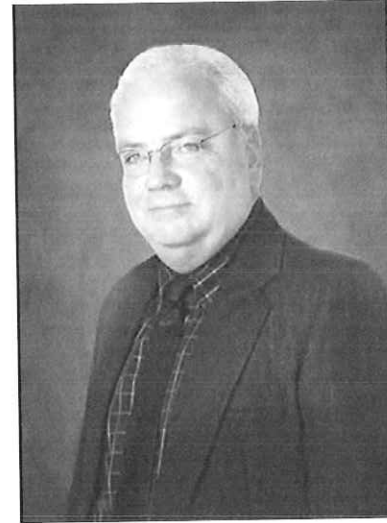
- Boyd County, Kentucky Judicial Center
- Fenway Park in Boston - Lightning protection and grounding study
- Kanawha County Commission Judicial Annex Renovations
- Tucker County Board Office Boiler Retrofit
- VA Hospital, Huntington
- West Virginia Department of Military Affairs and Public Safety Maintenance Facility in Eleanor
- West Virginia Department of Transportation Burnsville Rest Area and domestic water pumping station
- West Virginia Division of Culture and History Fire Alarm/Sprinkler upgrades

**EDUCATIONAL**

- Elkins Middle School HVAC and electrical renovations
- Marshall University Smith Hall Renovations
- Marshall University Student Housing in Huntington
- New Jaeger/Panther Elementary School
- Paul Blazer High School in Ashland
- Pleasant Hill Elementary School renovations in Calhoun County
- Ritchie County Middle/High School

**HEALTH CARE**

- Charleston Area Medical Center Memorial Division in Charleston
- Charleston Area Medical Center General Division in Charleston
- Charleston Area Medical Center Women's and Children's Hospital in Charleston
- Kings Daughters Medical Center in Ashland
- St. Mary's Medical Center in Huntington
- West Virginia Department of Health and Human Resources:
  - Jackie Withrow Hospital, Beckley
  - Hopemont State Hospital, Terra Alta
  - John Manchin, Sr. Health Care Center, Fairmont
  - Lakin State Hospital, West Columbia
  - Mildred Mitchell-Bateman Hospital, Huntington
  - Welch Community Hospital, Welch
  - William R. Sharpe, Jr. Hospital, Weston

**PROFESSIONAL AND  
COMMUNITY AFFILIATIONS**

Member of the National Fire Protection Association (NFPA)

Member of the Health Care Section of the NFPA

Member of the Illuminating Engineering Society (IES)

Past member of the Institute of Electrical Engineers (IEE)

Past member of the American Society of Plumbing Engineers (ASPE)

**Jennings L. Davis II, P.E., CIE****Mechanical Engineer**

Jennings has more than 20 years of experience in the design, project management and construction of heating, ventilating and air conditioning (HVAC), plumbing, electrical and specialized systems for healthcare, institutional and commercial facilities. His professional experience includes 11 years as an Owner's Representative at West Virginia University (WVU) in the positions of Staff Engineer and Construction Project Manager, 5.5 years as Mechanical Engineer for the West Virginia Department of Education (WVDE), and six years as a Project Engineer with a design and consulting engineering firm.

During his employment with WVU, Jennings was responsible for management of major repair and capital construction projects designed by outside Architectural and Engineering firms with budgets ranging from \$50,000 to \$37,000,000, as well as the design of smaller in-house projects ranging from \$10,000 to \$500,000. While working for the WVDE, he was responsible for quality control of design documents for various construction projects; troubleshooting maintenance for HVAC controls and for Indoor Air Quality (IAQ); recommissioning of HVAC systems to original design parameters; recommendations for HVAC operational and energy savings procedures; and training of maintenance personnel. He investigated facilities concentrating primarily on HVAC operation and occupant safety. Tasks included IAQ measurements such as temperature, humidity and carbon dioxide; HVAC equipment visual inspection; life safety assessment; and building component checks.

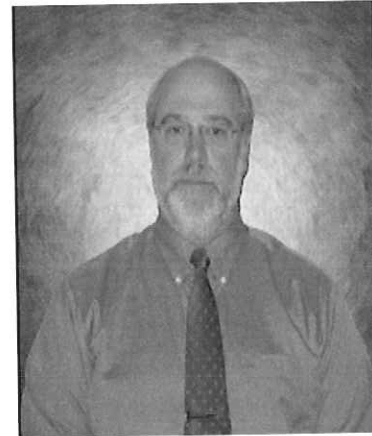
As a Project Engineer, Jennings specializes in developing scope, budget and design parameters; establishing program requirements through interaction with Owners and other Team members; design reviews; budget analysis and control; schedule control; complete design oversight and task assignment; and project closeout. Some of the projects he has been involved with include numerous renovation projects at several VA Medical Centers including multiple radiology room/suite installations and renovations, MRI's, X-ray and CT Scanners, Emergency Department renovations, numerous hospital out-patient treatment areas and specialty clinic renovations, a new \$4.4 million Hospice facility at the VA Medical Center in Coatesville, Pennsylvania, and a new \$5 million Medical Office Building for Somerset Hospital in Somerset, Pennsylvania.

Other projects include a \$37 million addition and renovation to WVU's Wise Library, a \$2.1 million chiller replacement for WVU's Engineering Sciences Building, a new primary 23kV power feed to the existing sub-station for the WVU Coliseum, engineering design for a hydrogenation reactor laboratory for WVU's Engineering Research Building, an \$8 million HVAC and sprinkler renovation for WVU's Armstrong Hall and HVAC design for transmitter station for the West Virginia Public Broadcasting Station.

A more complete list of Jennings' clients includes the following:

**SCHOOLS AND UNIVERSITIES**

- West Virginia University (WVU)
  - Wise Library addition and renovation
  - Engineering Sciences Building chiller replacement
  - Coliseum's new primary 23kV power feed to existing sub-station
  - Engineering Research Building hydrogenation reactor laboratory
  - Armstrong Hall HVAC and sprinkler renovation
- Shepherd University Ikenberry Hall HVAC Renovation

**EDUCATION**

BS in Mechanical Engineering from West Virginia University

**REGISTRATIONS**

Professional Engineer West Virginia No. 15060

Professional Engineer Pennsylvania No. PE062186

Professional Engineer Virginia No. 040028

**PROFESSIONAL AFFILIATIONS**

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

**James W. Lowry, P.E.****HVAC, Fire Protection, Plumbing  
and Commissioning Engineer**

James has seven years of experience and has completed extensive HVAC design training at Carrier Training Center, Syracuse, New York, and hydronic design/applications at the B&G Training Center, Chicago, Illinois. He also had special courses in Finite Element Analysis, Vibration Analysis, Fluid Power, Automatic Controls, Industrial Instrumentation, and Programmable Logic Controllers (PLCs).

James' experience includes the design for mechanical engineering, heating, ventilating, air conditioning, plumbing, electrical and lighting for educational, health care, industrial and commercial facilities. He specializes in HVAC, fire protection and plumbing design and commissioning. He researches and applies International Building Codes, NFPA, ASHRAE standards and the AIA Guidelines for Design and Construction of Health Care Facilities.

Some of James' project experience includes the following:

**EDUCATIONAL**

- Concord University Technology Center
- Davis Thomas Elementary/Middle School
- Eastern Greenbrier Middle School addition
- Elkins Middle School HVAC/electrical renovations
- Glade Elementary/Middle School renovations
- Greenbrier West High School additions/renovations
- Harvard University
- Jaeger/Panther Elementary School
- Independence Middle School
- James Monroe High School HVAC renovations
- Man/Central Elementary addition
- Marshall University
- New McDowell County Southside K-8 School
- Park Middle School HVAC renovations
- Pleasant Hill Elementary renovations
- Ritchie County Middle/High School HVAC/plumbing renovations
- Shady Spring Elementary School
- Smithville Elementary School additions/renovations
- South Charleston High School
- Tucker County High/Career Center HVAC renovations
- West Virginia University Institute of Technology – Engineering Building Evaluation
- Woodrow Wilson High School HVAC/electrical renovations

**INDUSTRIAL**

- Bayer Material Science
- West Virginia Higher Education Policy Commission (WVHEPC) South Charleston Tech Center – Campus Comprehensive Infrastructure Evaluation

**EDUCATION**

BS in Mechanical Engineering from  
West Virginia University Institute of  
Technology, Montgomery, WV in 2004

**REGISTRATIONS**

West Virginia State Board of  
Registration for Professional Engineers

Professional Engineer West Virginia  
No. 18948

**PROFESSIONAL AFFILIATIONS**

American Society of Mechanical  
Engineers (ASME)

American Society of Heating,  
Refrigeration and Air Conditioning  
Engineers (ASHRAE)

**David G. Dial, P.E.****Senior MEP Engineer**

David has over twenty-eight years of experience in the design and commissioning of mechanical and electrical systems. He provides HVAC, electrical and plumbing design services for a variety of clients in West Virginia. His background includes managing operating and maintenance repair and construction services for HVAC, plumbing, electrical and maintenance. He has managed grounds maintenance, security staff, information technology, IT NASA network, video surveillance and telephone systems.

David has experience in Maintenance Engineering in plumbing, HVAC, clean room design, dust collector selections, steam and condensate flow measurement, transfer of steam production from in-house to private contractor, athletic field lighting design, and farm pump water design. He has even completed a successful energy grant application from the U.S. Department of Energy. His Environmental Design experience includes PCB remediation, Air Pollution Control Commission annual reporting, removal of underground fuel storage tanks/pumps, installation and testing for radioactive material, conversion of a fleet of vehicles to operated dual fuel (gasoline and natural gas) including training, designing a filling station, custom built compressor station, cylinder operations area, filling post and monitoring of natural gas usage.

David has been involved in the design, document development, contract administration and recommissioning of the structural, mechanical and electrical disciplines of several WVU projects including Downtown Steam Tunnel Assessment, Coliseum Tunnel Redesign, Towers Exercise Room, Brooks Clean Room, lighting retrofits at Brooks Hall, exterior lighting for Mountainlair Parking Garage, cooling towers replacement at the Chemistry Annex, replacement of electric hot water boilers with natural gas pulse steam boilers, HVAC controls for Allen Hall, measure flow for sub metering/billing for campus steam/condensate systems, PCB removal from electrical equipment on campus, and power/cooling for a data Center at the WVU/NASA facility.

Other project experience includes design for Trinity High School's HVAC, plumbing and electrical system, industrial dust collector system for the Percival Dust Collector and replacement of rigging of a 2500 seat auditorium. As a production engineer, David optimized design of medical quality cryogenic freezers, incubator and shaker including scheduling the freight trucks, quality assurance of sheet metal shipments, writing repair manuals and setting up insulation.

**EDUCATION**

Bachelor of Science Mechanical Engineering, West Virginia University, 1978

Masters of Science Environmental Engineering, West Virginia University, 1980

**REGISTRATION**

Professional Engineer, West Virginia, No. 11692

**Project Organization**



**State of West Virginia  
Department of Administration  
Capitol Complex Building #4  
Project Team**

**IKM Incorporated  
Architects of Record**

**Roger Hartung, AIA, NCARB**  
*Principal in Charge*

Joel R. Bernard, AIA, LEED AP  
*Chief Office Planner*

**Jonathan Lusin, AIA, LEED AP**  
*Project Manager*

**M/E/P  
Engineers**

**ZDS Engineering**

Todd Zachwieja, PE  
*Principal*

Location of offices where work will be managed and performed:

**IKM Incorporated**  
One PPG Place  
Pittsburgh, PA 15222

**ZDS Engineers**  
91 Smiley Drive  
St. Albans, WV, 25177

## Design Approach: Team's Ability to Provide Services



architecture  
planning  
interior design

### Design Approach- Collaborative Discovery Process

The process we propose is an interactive one, we work with the client, the user groups and the stakeholders to create a project that satisfies the goals and objectives outlined in the RFP or project scope definition. We will explore issues relevant to the project such as the traffic patterns, connectivity, ADA issues, your service delivery model, your mission statement as well as many other topics may be discussed during this collaborative discovery process.

### Concept Phase

We propose convening all the stakeholders in 'charette' workshops during the Concept Phase. Simply put, the goal of a Charette process is to build on strengths, eliminate weaknesses and create a compelling concept and vision for this project. The most successful charettes, we have found, follow a simple three-step process of: (1) Understanding; (2) Exploring; and (3) Deciding.

These three steps require the participation of "stakeholders" if the process is to achieve a successful building and meet the institution's long-term goals.

In the first step—*Understanding*—the design team seeks to learn everything it can about the site, the programs, and the context. In effect, the goal is to create a balance sheet of strengths and weaknesses for each of the above issues and at the same time to identify the goals and design principles that should guide the design process. Some of the information that the charette team analyzes is objective or "hard" data (base maps, past master plans, existing conditions, square footage requirements, base-line environmental practices, energy use, etc.); some is subjective or "soft" data collected from stakeholders (perceptions, hopes, fears, goals, etc.). All of the information will be used to further a more complete understanding of each of the major issues.



In the next step—*Exploring*—the design team creates alternative "solutions" based on the information that has been gathered and analyzed. These solutions address not only the design of physical space, but also the design of the experience within that space. Design alternatives are reviewed with stakeholders and compared. Comparison with "benchmark" facilities researched by the design team could be brought into play at this point if the team feels that this would facilitate honing in on the most appropriate solution. Each option is evaluated for strengths and weaknesses based on the agreed goals and design principles. The first two steps in the charette process are





## Design Approach - Collaborative Discovery Process



architecture  
planning  
interior design



cost estimate and a Redi-Check quality control review at the end of this phase.

### Construction Documents

As the final phase of the design phase begins, after approval of the design development by the client, we propose a less frequent meeting schedule with the end users and core team. This phase is focused on documenting and detailing all the decisions that have been previously made, coordinating disciplines and establishing a completed biddable set of documents. Some end-user and core team meetings will be required as update meetings. We have found that this continues the spirit of cooperation that has been fostered throughout the process and is an outward expression of the respect that the design professional has for this team approach of design and problem solving. We will provide a Redi-check quality control review and a final cost estimate prior to bidding.



### Bidding and Negotiation

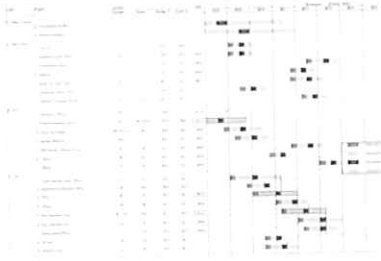
The IKM team will provide a complete set of drawings and specification in order to obtain accurate and competitive bid proposals from the contractors. We will work with the client to review all bids and assist in awarding and preparing contracts for construction.



### Construction Phase Services

We view the construction phase as an important part of the process and we take our job seriously in representing our clients interests during construction. We will be on campus on a regular basis for construction meetings and reviews and we will be available for RFI's throughout construction schedule. We will review the project to ensure the project is being built as designed and specified in the drawings.

## Schedule and Budget Control



### Schedule

The IKM Team has a firm commitment to adequate and appropriate staffing, and rigorously monitors staffing as compared to the status of ongoing work and project workload. Corporate policy requires biweekly updating of staffing and workload projections so that internal tracking systems for IKM staffing reflect the latest available information. This overlay with the team meetings with all the consultants where project and task scheduling are addressed, monitored and adjusted to keep the prearranged schedule in place. This allows project teams to be supplemented to meet surges in workload or unexpected deadlines. Our Team has a firm commitment to provide adequate resources in personnel, technology and finances.

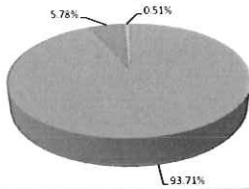


### Budget

Projects of this magnitude require diligent control of the projected construction costs as it relates to budget. Our project control system follows a pre-established format. Our system combines financial monitoring with an assessment of progress, client satisfaction, and technical performance.

The initial step is the Owner's establishment of a budget. This often is in place prior to the retention of the design professional. If it is not, the Project core team (Owner, Architect and Construction Manager) needs to establish a realistic budget based on the scope of work. IKM has found success in utilizing a third party estimator in the process. We engage them with team and work through refining a scope to establish an initial estimate based on square footage. This estimate will include an agreed upon 'design' contingency which is a separate item from the construction contingency. This is in place to cover the unknowns of the design due to the preliminary nature of the estimate.

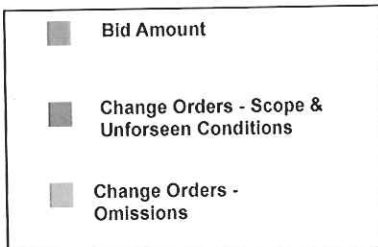
West Penn Hospital Acute Rehab



As the project moves through the design phases, the estimate is revisited at the 30%, 60% and 90% stages. Each successive stage adds more detail. The accuracy level increases as more information and detail are developed. As that accuracy level increases, the design contingency decreases.

As each of the phases we recommend that an estimate is establish by the third party estimator, who is a consultant to the design team as well as having the construction manager producing an estimate. These two estimators need to have an agreement as to format so that they are comparable. An estimate reconciliatory meeting where a phase final estimate can be developed.

That meeting is a venue to establish any value modification required to ensure the project remains within the budget parameters. These



## Office Design Experience



architecture  
planning  
interior design



**Alcoa**  
Business Service Center  
North American Data Center

**Allegheny General Hospital**  
Corporate Offices  
Billing Department Relocation  
East Wing Professional Offices  
Education & Conference Center  
Greensburg Medical Offices  
Main Entrance/Lobby Renovation  
South Tower Professional Offices

**Allegheny Health Education and Research Foundation**  
Corporate Offices

**Allegheny Intermediate Unit**  
Corporate Office Building



**Carnegie Mellon University**  
Offices of the Physical Plant Department

**Carnegie Mellon University, Craig Street Office Building Design**  
Office building design/feasibility

**Cercone Professional Office Building**  
Office Building

**Charles Cole Medical Office Building**  
Medical Offices

**Commonwealth Technology Center**  
Data Center and Offices

**Conemaugh Health System**  
Administrative Offices

**CORE Office Building**  
Office building design study



**Eye & Ear Institute**  
Professional Office Building

**Ex One**  
Incubator Office Building

**Federal North Development**  
Office & Research Complex

## Office Design Experience



architecture  
planning  
interior design



**PPG Strongsville**  
Office Renovations

**Raccoon Township Community Center**  
Community Center And Township Business Offices

**Renaissance Orthopedics**  
Administrative Offices

**Richland Primary Care North**  
Medical Offices

**Schneider Downs**  
Corporate Office Renovations

**Shadyside Hospital**  
Corporate Offices Renovation  
Professional Office Building

**Slippery Rock University**  
Administrative Offices

**Tri State Surgery and Medical Office Building**  
Medical office building

**Quantum One**  
Office Building

**University Of Pittsburgh, Health Sciences Department**  
Administrative Offices Senior Vice Chancellor of Health Sciences  
Biomedical Science Tower III Interiors

**UPMC Horizon**  
Medical / Administrative Offices

**UPMC Passavant Cranberry Medical Office Building**  
Office building

**VA Pittsburgh Healthcare System, Data Center**  
Data Center, offices

**Victaulic Company of America**  
Office Building

**Westinghouse Corporate Headquarters (Buildings 1-3)**  
Office Building, Executive offices, open-plan offices, data center,  
conference rooms, cafeteria, servery, fitness facilities



# Allegheny County Jail Adaptive Reuse Project

Pittsburgh, Pennsylvania



architecture  
planning  
interior design



## Award-Winning Design

**Best Rehabilitation/Restoration/  
Renovation**  
National Design-Build Institute Award  
Design-Build Education and Research  
Foundation

**Reconstruction Project Award**  
Building Design & Construction  
Magazine

**Historic Preservation Construction  
Project Award**  
Preservation Pennsylvania and the  
Pennsylvania Historical and Museum  
Commission

**Preservation Award**  
Historic Review Commission of  
Pittsburgh

**Commendation**  
*Pittsburgh History and Landmarks  
Foundation*

**Merit Award**  
AIA Pennsylvania

**Honor Award**  
AIA Pittsburgh

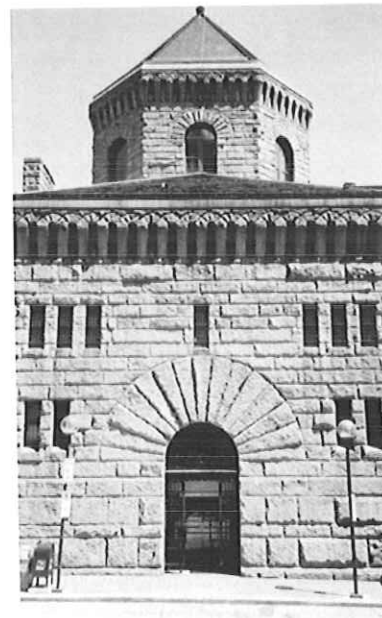
**Building Excellence Award,  
Design-Build**  
Master Builders Association of Western  
Pennsylvania

**TOBY – The Office Building of the  
Year, (Government Building)**  
BOMA – Building Operating and  
Managers Association

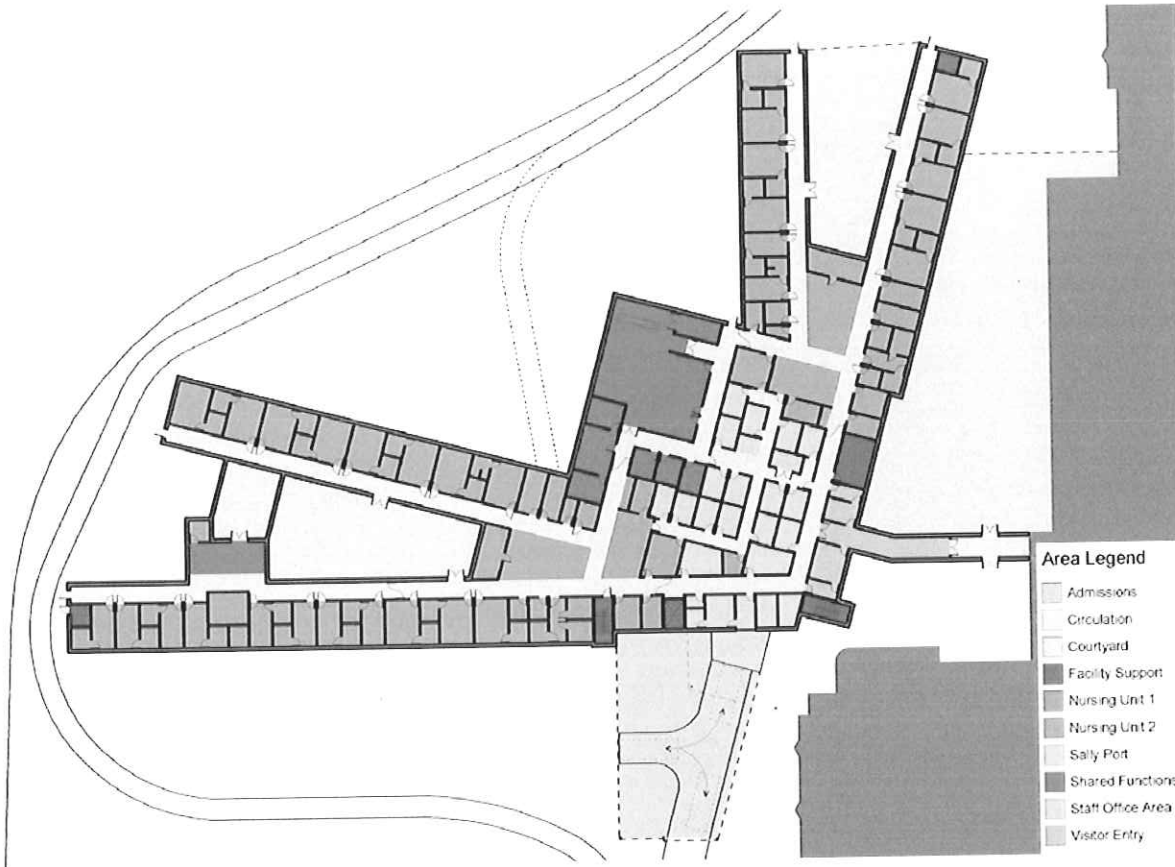
**Finalist**  
Business Week Architectural Record  
Awards

IKM Incorporated designed the conversion of the National Historic Landmark Allegheny County Jail into a facility for the Family Division of the Court of Common Pleas.

Our design for the jail reuse project is based on appropriate degrees of preservation, restoration and adaptation. The new spaces include court and hearing rooms, offices, separate waiting areas (for witnesses, victims and defendants), holding areas, separate entrances, secure corridors, and judges' chambers and security clearance areas and guard stations. The



# William Sharpe Psychiatric Hospital 50-Bed Addition Weston, West Virginia



IKM was chosen as the result of a competitive selection process to design a 31,000 square foot \$11,000,000 50 bed addition to William Sharpe Hospital in Weston West Virginia.

William Sharpe is a State run hospital that is exclusively for behavioral health patients. Though the Hospital cares for civil patients a majority of the patients are forensic patients, meaning they are there by court order. Included in the patient population are; those not guilty by reason of mental illness and, individuals that are to be restored to competency in order to stand trial.

A separate area was created for patients with extreme behavioral problems. This area has single

bed rooms. Previously the staff had to "block" rooms for these patients, which meant using double patient rooms as singles.

Safety for both the patients and the staff was paramount in the design. Visibility and line of sight issues were taken into account. The Nurse Station was seen as a hub of activity, a location that could view all of the social spaces, including those outdoors, and a safe place for the staff. Security was an important component of safety. Access control to each area had to be reviewed in great detail. Some outdoor areas are internal to the building so that elopement is less of a risk.

Visitors to the addition pass through a secure vestibule into a

designated visitors' area.

The addition contains the admissions area for the entire Hospital. Therefore a sally port, security vestibule, intake exam room, and office for admissions were included.

Also included in the program are a separate room for meals with a servery and pantry, social noisy spaces, social quiet spaces, seclusion rooms, consultation rooms, offices, conference rooms, video court room, exam rooms, and various support functions. This project also included revised site circulation, added parking, and relocation of existing site utilities.

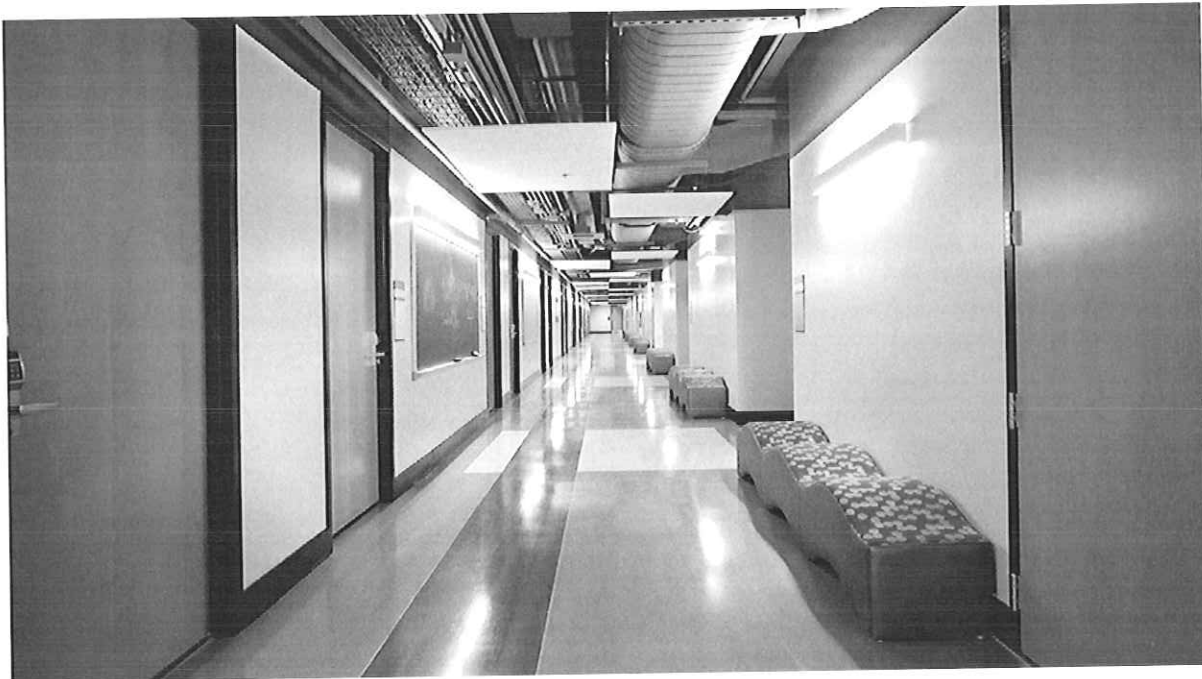


# West Virginia University White Hall, Office and Laboratory Renovations

Morgantown, West Virginia



architecture  
planning  
interior design



White Hall is a six-story classroom building originally constructed in 1942 as the Mineral Industries Building. IKM was initially selected for a project that included a thorough evaluation of all building components including ADA evaluation, building envelop, life-safety code, and building functionality and MEP evaluation to prepare the building to serve the University's need for additional office and laboratory space in the future. This included the preparation of the building to meet the current life safety needs and be suited for office and laboratory fit out.

The building is slated to become the new school of the Department of Physics. To make the building support the new state of the art offices, classrooms and laboratories a complete demolition of the interior components and a rehabilitation of the building envelop was required.

The building was essentially taken down to its bare bones of exterior skin, roof, foundation and stairwells. All interior partitions were removed included the interior face of the exterior walls. Hazardous material was remediated and IKM coordinated the work of the environmental abatement contractor with that of the demolition contractor. The original windows were removed and replaced with double pane energy efficient units. The masonry was repointed and repaired. This also included replacing deteriorated steel lintels, cleaning of the brickwork, removal of the limestone parapet to repair roof, and chemical wash down of the limestone to clean and restore its appearance.

The University retained the IKM team to design the complete interior renovations of the 96,000+ square feet to accommodate the relocation of the Department of Physics. This included the design

# Westinghouse Headquarters Complex

Cranberry Township, Pennsylvania



architecture  
planning  
interior design



Due to factors including significant renewed growth in the nuclear service industry, in March of 2007, Westinghouse Electric Company chose to relocate its corporate headquarters from the Monroeville area to a new office park development north of Pittsburgh.

IKM as part of a joint venture team with a local engineering firm designed the new Westinghouse Corporate Headquarters complex.

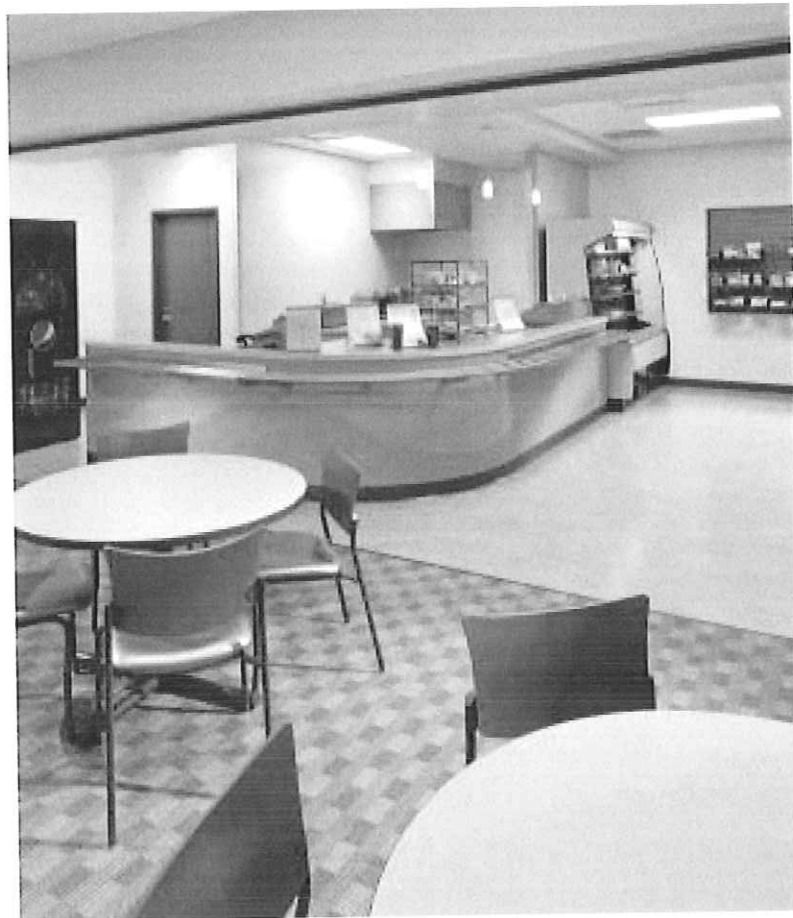


The nearly 1 Million square foot campus is located in Cranberry Woods, an office park development in Butler County Pennsylvania. The project was planned in three phases with building one completed in Phase 1 with occupancy beginning in June 2009. Buildings 2 and 3 were completed in 2010.

## Westinghouse Headquarters Building #4 Cranberry Township, Pennsylvania



architecture  
planning  
interior design



As Westinghouse began to move in to their new Corporate Headquarters in Cranberry Woods Park, the company realized that their growth was quickly outpacing the capacity of buildings 1, 2 and 3, of their new corporate headquarters campus. They needed additional office space for their growing engineering and management staff, and they needed it in a hurry.

Based on the recent success of the buildings, and the established relationships and working knowledge of the client, the codes, and the site, the Ferchill Group, as the developers, hired IKM Architects with LLI Engineering

and Civil & Environmental Consultants to produce the design documents for the 120,000 square foot Building 4 on the campus. From design start date to tenant move-in was 15-1/2 months. An aggressive schedule required by Westinghouse to meet their occupancy timetable was achieved by the design team working together.

Building Four was designed and built with many of the same energy efficient materials and systems used in Buildings 1, 2 and 3. Although the client elected not to submit Building 4 for LEED Certification, it would have easily earned that credential, since

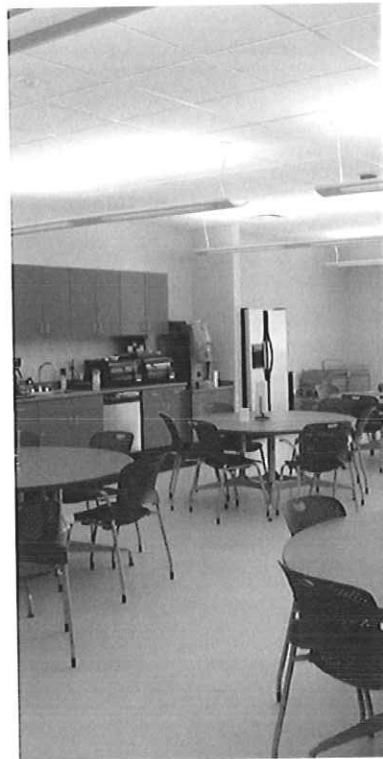
Buildings 1, 2 and 3 have recently completed USGBC review and are now Certified.

The result is a building which not only meets the client's expanding space needs as well as their aggressive schedule and budget but also it complements the architecture of the corporate campus, extending the design language and aesthetic to a new, fourth facility.

## Westinghouse Ongoing Services Work Various Locations



architecture  
planning  
interior design



IKM built a relationship with Westinghouse Electric Company with the successful completion of the new one million square foot corporate headquarters. The design team continues to provide professional services for a variety of renovation, addition, planning, and documentation projects including the following:

**Westinghouse Repair, Replacement and Automation (RRAS) Services** – IKM provided conceptual plans for 200,000 square foot replacement facility for RRAS a single organization with a full range of nuclear instrumentation and control products and services and the knowledge base of nearly 700 personnel; with more than 500 engineers, technicians and service support personnel on the Waltz Mill, PA campus.

**RRAS Services** – Construction documents were prepared and delivered for 5,000 square foot EMA lab at the New Stanton, PA facility.

**Boiling Water Reactor (BWR) Training Facility** – Construction documents were prepared for 60,000 square foot industrial high-bay, steel building renovation in Chattanooga, TN.

**BWR Offices** – Construction documents for a 10,000 square foot free standing office building on Chattanooga, TN site.

**Fuels Group** – Tenant fit-out construction documents including raised floor test bed labs comprising 50,000 square feet in Charlotte, NC.

**Polar Crane Facility** – programming study for main crane assembly, high bay space of 33,000 square feet; machine shop and locker room facility of 9,200 square feet; two-story office infill building including core and shell of 7,800 square feet; and sand blast and paint building of 9,000 square feet in Ashland, VA.

**Hot Cell and Lab Facility** – Programming Study for new 38,000 square foot building on the Waltz Mill, PA campus.

**Cold Labs** – Substantial renovations to the 25,000 SF 301 Building in Churchill, PA which contains Offices and Laboratory space for the research and testing departments of the Nuclear Services Group.

# Office Space Planning, PPG Complex

Pittsburgh, Pennsylvania



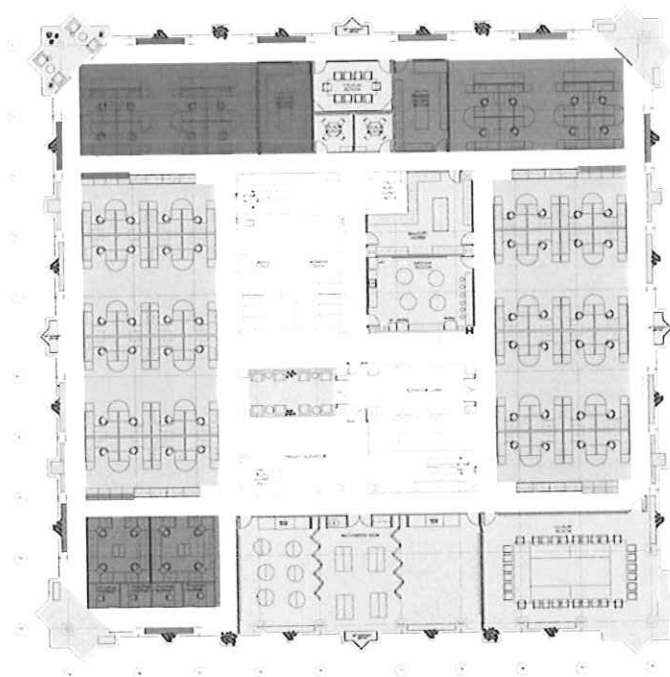
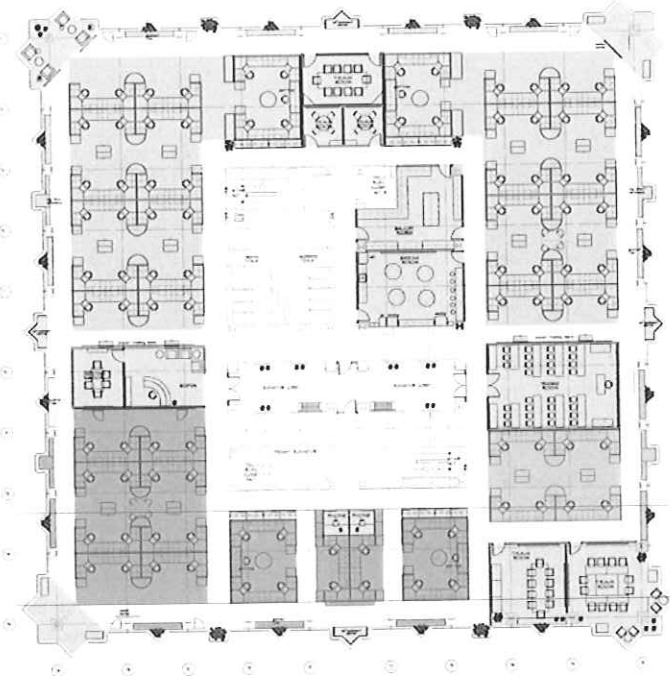
architecture  
planning  
interior design

IKM has a continuing services contract with Grubb and Ellis for interior design, space planning and construction documentation at the six-building PPG Complex, the jewel of downtown Pittsburgh.

In performance of this work, IKM is an integral member of the Real Estate Services Team, interfacing with the leasing agents, building and facilities managers, and operations staff. Preliminary plans are drawn to meet prospective tenants requirements as an aid to help them visualize themselves in the space. Upon lease execution, finish selections are made from the IKM/PPG building standards materials or upgrades as directed by the tenant's budget guidelines.

Full construction documents are prepared and construction administration is provided on an as needed basis. IKM is the landlord's representative for all work in the complex and when interface is required with the tenant's facilities department or architect, IKM is engaged in this effort.

Projects performed have included work from 1,500 square foot space plans to 120,000 SF master plans. The work performed for Allegheny Technologies, Inc. (ATI), American Business Inc., Land America, LaSalle Bank, Reliance, Resources connection, Robert Half International, Tighe Evans, UPS, Wachovia and Zeve & Company are a few of the planning, design, estimating, furniture refurbishment and relocation and construction administration projects rendered.





## Mellon Financial Executive Boardroom Pittsburgh, Pennsylvania



architecture  
planning  
interior design



IKM was commissioned to design the interior renovation of the Executive Boardroom for Mellon Financial. The result is a world-class A/V configuration designed within an impeccably finished conference facility. The main conference table seats 32 individuals with expansion seating for up to 12 guests. Each seat at the main table is equipped with a microphone and is accommodated by one of the ten large screen video monitors for audiovisual and teleconferencing capabilities. Shared monitors and microphones are available for the guest seating. The projector is

concealed in the ceiling and all other equipment is sensitively integrated. High-end finishes include solid cherry wood and anigre veneers for all millwork and inlaid leather writing surfaces. Controlled lighting is designed to accommodate various levels of on-screen presentation along with automatic blinds and window coverings. The boardroom is adjacent to executive dining and private breakout rooms and is connected by a monumental stair to executive offices and two large committee rooms below. The floor below also contains the A/V and teleconferencing control center.



**Mellon III Building - 525 William Penn Place**  
*Pittsburgh, Pennsylvania*



architecture  
planning  
interior design

IKM Incorporated was commissioned to improve the visual appeal of the lobby space to a Class A upscale office and improve overall leaseability of the Three Mellon Building located at 525 William Penn Way.



As a 1950s era building, the office tower had no defined entrance element; it was a 40-story monolith. The building's exterior was designed with tightly closed vertical piers that resulted in small window openings and permitted little if any recognition of the lobby to the passer-by. The lobby interior before renovation included dark surfaces with stainless steel accents. The overall space was dim and uninviting; receiving little natural light because of its east facing direction and shadowed by the nearby Two Mellon/Union Trust Building. Overall, the space did not speak to the contemporary marketplace.



IKM's design approach was to infuse the space with natural light by removing a series of non-structural columns and create a new structural glass window wall to the street. Natural light was augmented with artificial lighting to play on a theme of light and brightness. On the exterior, stainless steel was utilized in a horizontal wedge-shaped canopy to become the signature entry element on the façade. The canopy holds the back-lit building address with a contemporary, high tech flare and reflects accent lights built in a planter bench below.

## State Office Building Pittsburgh, Pennsylvania



architecture  
planning  
interior design



*Exterior view before Renovation*



Referred to by a Pittsburgh newspaper as the "25 Floor Slum", the State Office Building had become an "eyesore" at Pittsburgh's Point. Though it was not 25 floors, the facade was characterized by irregularly faded blue panels and slabs of marble which had delaminated and were temporarily held in place with sheets of plywood.

But the problems were not merely aesthetic. The "first generation" curtainwall, designed in 1954, leaked air and water. Many windows were no longer operational - some could not be closed, some could not be opened. These conditions, coupled with inadequate

insulation and a deteriorating HVAC system, added substantially to fuel and maintenance costs and resulted in worker inefficiency.

The design goal was to improve the building both operationally and visually. Operationally, it needed to be easier to maintain and more energy efficient. Visually, it needed to respond to its prominent position at the gateway to the city. A key ingredient in the solution was to keep the fully occupied building completely operational and weather-tight throughout construction.

A bold solution was developed. The strong horizontal expression of the tower was generated by the

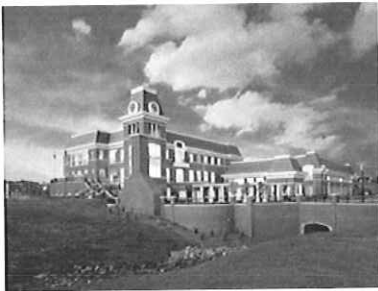
decision to maintain the existing window plane. As no monies had been allocated for interiors, this would minimize related interior renovation. To keep the building weather-tight and reduce staff disruption, insulated metal panels were located in front of the existing curtainwall panels which remained in place. These divergent planes were brought together by polished stainless steel head and sill pieces to add interest and sparkle to the facade.

The goals of budget, efficiency and image were met with a unique curtainwall design, simple yet elegant materials and unadorned bold lines and shapes.

## West Virginia Work



architecture  
planning  
interior design



**Concord University, Athens, West Virginia**  
Alumni Center and Interfaith Chapel



**Martinsburg Projects, Martinsburg, West Virginia**  
Medical Office Building  
Tristate Ambulatory Surgery Center

**Monongalia General Hospital, Morgantown, West Virginia**  
Ambulatory Care Center  
Medical Office Building  
Surgery Department addition/renovation  
Cardiac Post Anesthesia Care Unit

**Putnam General Hospital, Hurricane, West Virginia**  
OR Renovation

**United Hospital Center, Clarksburg, West Virginia**  
Medical Office Building programming



**VA Medical Center Clarksburg, West Virginia**  
IDIQ Contract  
Master Facility Plan  
Parapet Renovation  
Patient Unit Renovation



**West Virginia University Hospitals, Morgantown, West Virginia**

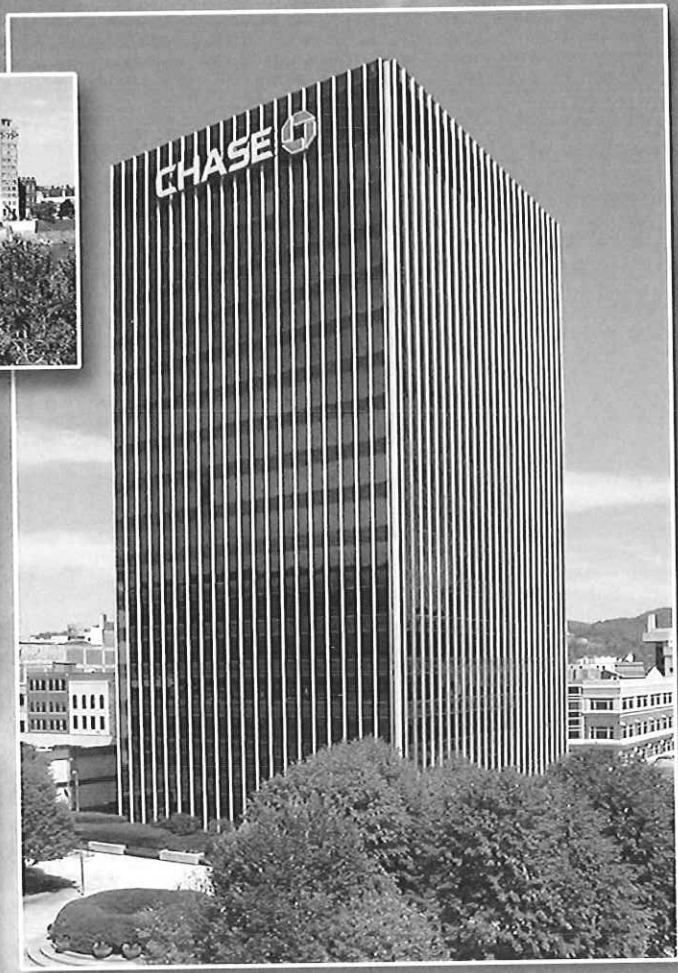
- Master Facility Plan
- 8<sup>th</sup> Floor Inpatient Bed Fitout
- Cardiothoracic Unit renovation
- Cardiac Holding renovation
- Neonatal Intensive Care Unit
- OR Corridor renovation
- Parking Deck Study
- Pediatric Unit Study
- Post Anesthesia Care Unit
- Diagnostic Imaging Waiting
- Eye Clinic Elevator
- Interventional Radiography Study
- Administrative Office Renovation
- Dietary Ware Wash Renovation
- Pediatric Protective Environment Suite
- Behavioral Health Holding Suite
- Chestnut Ridge Addition and Renovation
- Clinical Lab relocation Study
- Childrens Hospital Renovation/Entry Study

# Engineering for Commercial Facilities

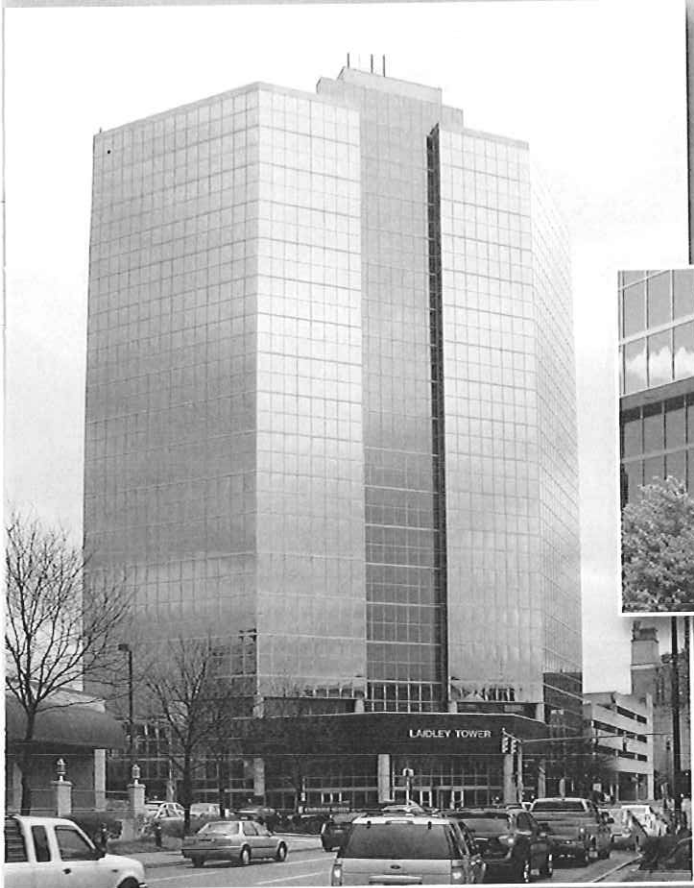
ZDS project experience includes a wide variety of commercial buildings — office, retail, judicial, banking, dining, technical and other facility types.

## Bank One/Chase

A Charleston skyline focal point, the Chase tower (formerly Bank One) contains 271,000 feet of professional office space.



ZDS replaced the core central AC system for the entire building.



## Laidley Tower

One of the State's tallest buildings rising 18 stories high.

ZDS provided the Master Engineering Planning for the whole structure.

ZDS upgraded the core Mechanical/Electrical and Plumbing systems as well as customized tenant build-out renovations.



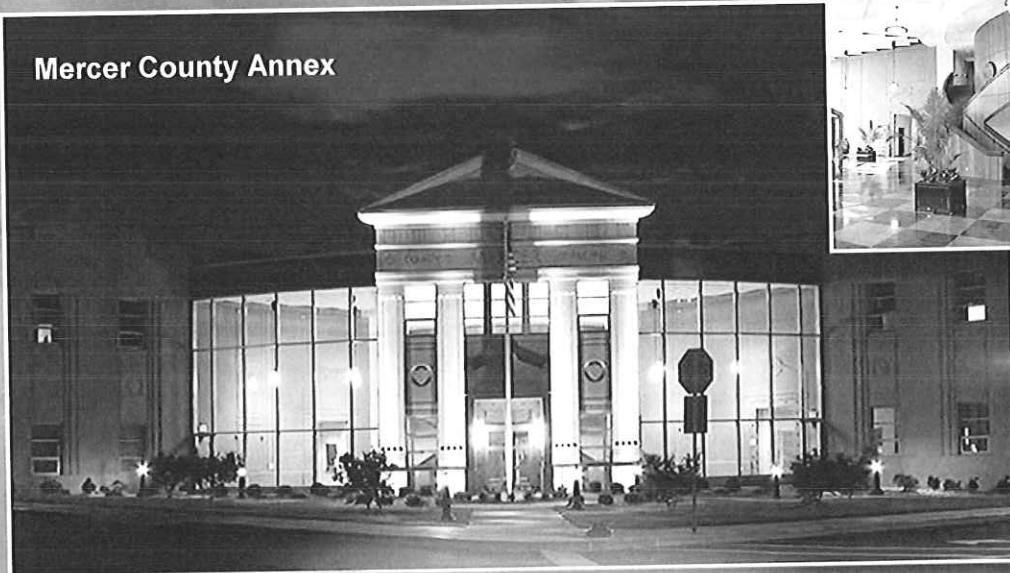
Design/Consulting Services



ZDS provided engineering planning, design, bidding and construction administration services for HVAC, Electrical, Plumbing and Fire Protection.

ZDS evaluated the existing structure's potential power needs and incorporated those in the new Judicial Annex's electrical systems while providing emergency power.

### Mercer County Annex



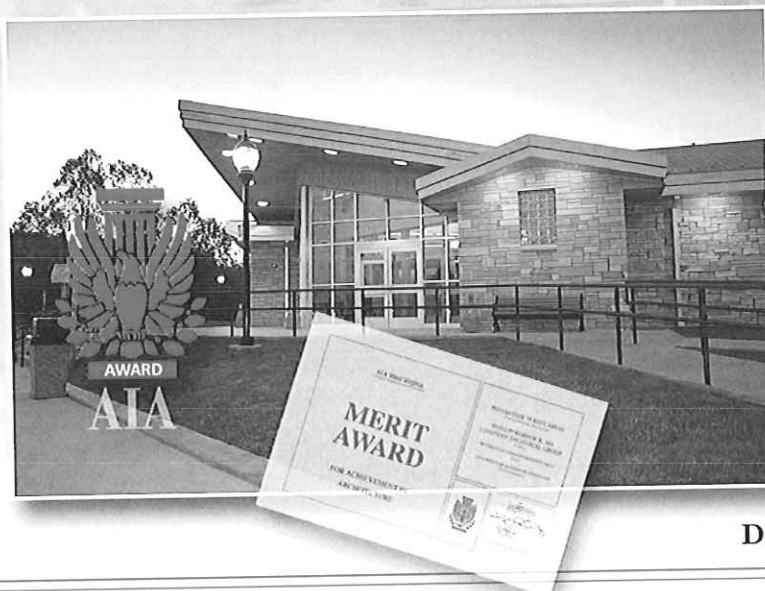
### West Virginia Museum of Culture and History

Renovations save the Museum nearly \$153,000 in annual energy costs while preserving the State's priceless collection with proper HVAC, humidification, lighting, electrical and power generator systems.



ZDS engineered the prototype for all of the Welcome Centers and Rest Areas throughout West Virginia.

AIA recognized the Burnsville Rest Area with a Merit Award.



Design/Consulting Services

# ZDS LEED Project Experience



**Air National Guard—130th Airlift Wing at Yeager Airport, Phase I and Phase II Aircraft Maintenance Fuel Systems Hangars and Shops**  
Registered for Two LEED Air Force Silver Certifications



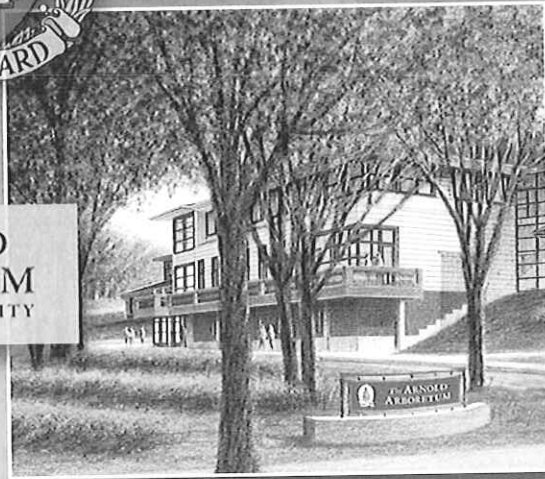
Design/Consulting Services



# ZDS LEED Project Experience

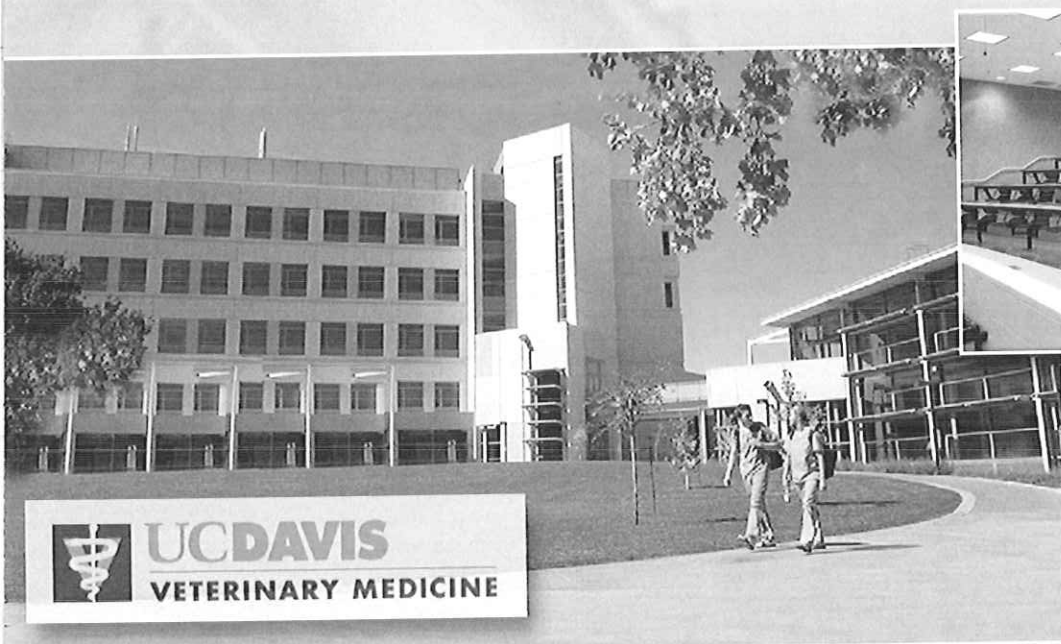


The **ARNOLD**  
**ARBORETUM**  
of HARVARD UNIVERSITY



Harvard University  
Arnold Arboretum Weld Hill Research and  
Administration Building

LEED Gold Candidate



**UC DAVIS**  
VETERINARY MEDICINE



Design/Consulting Services

University of California Davis Campus School of Veterinary Medicine  
Adapted LEED Principles Including Commissioning

## Professional References



architecture  
planning  
interior design

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