ZDS
Design/Consulting Services MECHANICAL . ELECTRICAL . INDOOR AIR QUALITY . ENERGY . COMMISSIONING
91 Smiley Drive St. Albans, WV 25177 Phone: 304-755-0075 Fax: 304-755-0076 Email: ZDSDesign@aol.com

June 15, 2010

Department of Administration
Purchasing Division, Building 15
2019 Washington Street East
Charleston, WV 25305-0130

RE: **EOI HHR10103 for Professional Services - Jackie Withrow & Hopemont Hospital**

We have enjoyed working with West Virginia State agencies and hope to have the opportunity to working on these in partially ARRA funded projects. We have provided the professional services for heath care and both State and Federal agencies. We also have active projects near both Jackie Withrow Hospital and Hopemont Hospital. We have been to both facilities to understand your needs and believe our knowledge would make our team an excellent fit for the proposed capital improvements

Enclosed are seven copies of the team's proposal for Professional Services for Engineering/Architectural projects for ***Jackie Withrow Hospital and Hopemont Hospital***. Our team of professionals is dedicated to performing quality professional services taking into account clients' needs, scheduling and budgets A brief description of the organization of our team and their services are described in ***Section II.***

TEAM EXPERIENCE – SECTION III: **ZDS** and its consultants, Paradigm Architecture and Pinnacle Environmental, have extensive experience in renovation design including extensive Health Care retrofit projects involving energy and operating savings. **ZDS** is recognized for its specialties in mechanical design, electrical design, indoor air quality services, energy conservation/performance contracting and commissioning services for Commercial, Health Care and Educational facilities. Retrofit projects comprising over 70% of all work for the firm. **ZDS** principals Ted Zachwieja and Todd Zachwieja specialized in energy conservation in health care design prior to establishing **ZDS** and were involved in hundreds of millions in health care renovations, new construction and Performance Contracting. Some previous experiences include HVAC systems upgrades at three of the Charleston Area Medical Center facilities saving nearly $800,000 annually, HVAC renovations for the eight story Judicial Annex Facility for the Kanawha County Commission, many schools HVAC renovations up to $10,000,000 per project including Raleigh County, Ritchie County, Tucker County and Webster County, and HVAC renovations for the West Virginia Capitol Complex saving millions in energy and operating costs in Charleston.

Our Team has the best expertise to provide economical solutions to your specific projects needs. We have been extremely effective in the past by acting in our client's behalf to incorporate new proven technologies and management methods that have saved our clients substantial money in the construction costs and operating costs. We pride ourselves in being viewed as an extension to the client's staff and successfully incorporating pertinent information about their facility into any proposed solution.

ZDS has many successful years of professional experience with local & state agencies including recent **ARRA funded projects**. Some recent ARRA funded projects with Government agencies include the VA Huntington Hospital steam distribution upgrades, VA Huntington Hospital water line upgrades, Raleigh

TABLE OF CONTENTS

County Schools Woodrow Withrow High School HVAC/Electrical Renovations, Beckley, WV, Davis Thomas Elementary/Middle School HVAC/Electrical Renovations, Glade Elementary-Middle School HVAC/Electrical Renovations, and Marshall University Science Building chiller plant renovations.

PROFESSIONAL QUALIFICATIONS – SECTION IV: **ZDS** Design/Consulting Services and their consultants have registered professionals in all of the required disciplines to effectively execute the requirements of the project, including:

- **Mechanical HVAC/Plumbing Engineers**
- **Electrical Engineers**
- **Architects, and historical preservation**
- **Industrial Hygienists**

We believe that our specialties in HVAC/Electrical Design, Energy Management, Planning and Codes make us most qualified to work on these types of projects. We continue to have an excellent working relationship with the State Fire Marshal, Office of Health Facility Licensure & Certification, the West Virginia Department of Education and the State of West Virginia. Below is a partial listing of the **ZDS** Project Team. Detailed resumes are in ***Section IV***.

Ted T. Zachwieja:	**ZDS *Principal-in-charge of Construction Administration*** with over 45 years of experience in M/E design. *Ted was one of three engineers selected by the Department of Energy to train those who manage buildings to conserve energy.*
Todd A. Zachwieja:	**ZDS *Principal-in-charge of Design and Project Management*** with over 28 years of experience in M/E design, energy management, IAQ and commissioning. *Nationally recognized for expertise in IAQ, LEED and Certified Energy Manager. Received "Legend in Energy" by AEE in 2007 and 2008.*
Jim Watters:	**ZDS *Production Manager*** with over 35 years of experience in mechanical, electrical and plumbing design and construction experience.
K. Mark King, PE:	**ZDS *Professional Engineer*** with construction experience as a master electrician and in electrical design.
Paul Walker, AIA:	**Paradigm Architecture** President and Principal-in-charge of Architecture with over 27 years of experience and founder of Paradigm Architecture. Located in Morgantown, WV
David H. Snider, AIA:	**Paradigm Architecture** Project Manager for Architecture with over 24 years of experience extensively in health care
Chris Belcher:	**Pinnacle Environmental Consultants** Founder and President specializing in asbestos management, lead based paint management and the full range of environmental services with over 21 years of experience.

We have also worked on health care projects for CAMC, United Hospital Center, Webster Memorial Hospital, and many others. We encourage you to call our references and ask how well we worked with their staff, about our technical strengths and our ability to work with contractors to provide the Owner with a quality project. Paradigm Architectural references are at the end of ***Section II***. Please feel free to contact some of the following references about **ZDS'** work:

1. Dr. Mark Manchin, Executive Director School Building Authority, previous superintendent of both McDowell Co. Schools and Webster County Schools at (304) 558-2541
2. Mr. Bill Elswick, formerly at CAMC and WV Dept. of Education, at 304-382-9907

3. Mr. Racine Thompson, Asst. Superintendent, Raleigh County Schools at (304) 256-4500, ext 3326
4. Mr. Steve Boyes, Project Mgr, VA Huntington Hospital at (304) 751-0825
5. Mr. Rick Hicks, Superintendent with Tucker County Schools, at (304) 478-2771, ext. 146
6. Mr. Tony Crislip, Manager, Marshall University at (304) 696-6241
7. Mr. Ron Stricker, Office of Health Facility Licensure & Certification, at (304) 558-0050

Our team of professionals are dedicated to performing quality design services, taking into account clients' needs, scheduling and budgets.

CONSTRUCTION MANAGEMENT & RECOGNITION - SECTION V

Our team has over four decades of experience in West Virginia, giving us the local understanding of your needs. Construction management is through senior staff with a Principal in charge of the process. Any proposed modifications to the Mechanical/Electrical systems of your existing buildings require careful planning and phasing to minimize disruption to occupancy and use of the buildings. We assume that the projects will require the buildings to remain occupied during the construction period. We have extensive renovation experience, including phasing construction, to minimize these potential disruptions.

We saw the condition of the steam boiler at Jackie Withrow Hospital and understand the urgency for addressing the heating plant. Our approach is different than the traditional A/E role; we have actual operational experience, not just design experience. We design the improvements and can commission the Mechanical/Electrical systems. By commissioning the systems, we fine-tune the building mechanical equipment to actual conditions and assist the building personnel after occupancy to improve comfort, provide training, and minimize operating costs.

We believe the best engineers lead the industry in applying innovative ideas and concepts while adhering to proven approaches. ZDS was selected as the premier engineer in the region to establish a pilot 500-ton geothermal heat pump system for Webster County High School that saved them over 40% off their utilities' costs annually and serves as a pilot for all schools in the State of WV.

ZDS is continually bidding numerous projects in a wide variety of disciplines and as a result has a wealth of information to use in projecting an opinion of probable construction costs. This wide range of experience gives the team the knowledge it needs to identify key elements of a project that may be especially sensitive to current price volatility in the construction industry. **ZDS and their consultants have an excellent track record of completing projects on time and in budget.**

We have staff ready and willing to start on your project. We believe that our combined specialties provide ***Jackie Withrow Hospital and Hopemont Hospital*** with the best expertise to provide economical solutions for your specific project's needs. ***Section IV*** includes details on how we do it and also includes some of our Team members' recognition and national publications which show the depth of experience we have to offer.

We look forward to having an interview with you to further discuss our Team's qualifications and your needs. If there are any questions, please do not hesitate to call.

Sincerely,

Todd A. Zachwieja

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

RFQ No HHR10103

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate

DEFINITIONS:
"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement

Under penalty of law for false swearing (***West Virginia Code*** §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated

WITNESS THE FOLLOWING SIGNATURE

ZDS
Design/Consulting Services
91 Smiley Drive
St. Albans, WV 25177

Vendor's Name: ZDS

Authorized Signature: Todd C. Zachary Date: 6/11/10

State of West Virginia

County of Putnam, to-wit:

Taken, subscribed, and sworn to before me this 11 day of June, 2010

My Commission expires November 1, 2014

AFFIX SEAL HERE

NOTARY PUBLIC Patricia Hart

OFFICIAL SEAL
Notary Public, State Of West Virginia
PATRICIA HART
105 Mesa Drive
St. Albans, WV 25177
My Commission Expires Nov. 1, 2014

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	PAGE
HHR10103	1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
ROBERTA WAGNER
304-558-0067

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

SHIP TO
HEALTH AND HUMAN RESOURCES
OFFICE OF PROPERTY MANAGEMENT
VARIOUS LOCALES AS INDICATED

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
05/20/2010				

BID OPENING DATE: 06/15/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
001	1	JB		EOI		

A&E SERVICES FOR JACKIE WITHROW HOSPITAL CAPITOL IMP

RECEIVED
2010 JUN 14 AM 8:02
WV PURCHASING DIVISION

EXPRESSION OF INTEREST
(EOI)
PROFESSIONAL ARCHITECTURAL/ENGINEERING SERVICES

THE WEST VIRGINIA STATE PURCHASING DIVISION FOR THE AGENCY, THE WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN SERVICES, IS SOLICITING EXPRESSIONS OF INTEREST TO PROVIDE ARCHITECTURAL CONSULTING AND ARCHITECTURAL & ENGINEERING SERVICES FOR PRIORITIZING THE CAPITAL IMPROVEMENTS FOR JACKIE WITHROW HOSPITAL FOR THE REDUCTION OF ENERGY COST ASSOCIATED WITH UPGRADES AND REDESIGN OF CURRENT HEATING, VENTILATION, AND AIR CONDITIONING SYSTEMS, PER THE ATTACHED SPECIFICATIONS.

TECHNICAL QUESTIONS CONCERNING THIS SOLICITATION MUST BE SUBMITTED IN WRITING TO ROBERTA WAGNER VIA MAIL AT THE ADDRESS SHOWN IN THE BODY OF THIS EOI, VIA FAX AT 304-558-4115, OR VIA EMAIL AT ROBERTA.A.WAGNER@WV.GOV. DEADLINE FOR ALL TECHNICAL QUESTIONS IS 06/02/2010 AT THE CLOSE OF BUSINESS. ANY TECHNICAL QUESTIONS RECEIVED WILL BE ANSWERED BY FORMAL ADDENDUM ISSUED BY THE PURCHASING DIVISION AFTER THE DEADLINE HAS LAPSED

NOTICE

A SIGNED EOI MUST BE SUBMITTED TO:

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE Joel C. Fochtman TELEPHONE 304-755-0075 DATE 6/11/10

TITLE Principal FEIN 550735995

ADDRESS CHANGES TO BE NOTED ABOVE

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

GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia

2. The State may accept or reject in part, or in whole, any bid

3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required $125 fee

4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30

5. Payment may only be made after the delivery and acceptance of goods or services

6. Interest may be paid for late payment in accordance with the ***West Virginia Code***

7. Vendor preference will be granted upon written request in accordance with the ***West Virginia Code***

8 The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes

9 The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller

10. The laws of the State of West Virginia and the ***Legislative Rules*** of the Purchasing Division shall govern the purchasing process

11. Any reference to automatic renewal is hereby deleted The Contract may be renewed only upon mutual written agreement of the parties

12. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order

13. HIPAA BUSINESS ASSOCIATE ADDENDUM: The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at **www.state.wv.us/admin/purchase/vrc/hipaa.htm** and is hereby made part of the agreement Provided that the Agency meets the definition of a Cover Entity (45 CFR §160 103) and will be disclosing Protected Health Information (45 CFR §160 103) to the vendor

14. CONFIDENTIALITY: The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www state wv us/admin/purchase/privacy/noticeConfidentiality pdf

15. LICENSING: Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities

16. ANTITRUST: In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division Complete all sections of the quotation form

2. Items offered must be in compliance with the specifications Any deviation from the specifications must be clearly indicated by the bidder Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid The Purchasing Division may waive minor deviations to specifications

3. Unit prices shall prevail in case of discrepancy All quotations are considered F O B destination unless alternate shipping terms are clearly identified in the quotation

4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O Box 50130, Charleston, WV 25305-0130

5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W Va C S R §148-1-6 6)

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

Request for Quotation

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HHR10103	2

ADDRESS CORRESPONDENCE TO ATTENTION OF:
ROBERTA WAGNER
304-558-0067

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

SHIP TO
HEALTH AND HUMAN RESOURCES
OFFICE OF PROPERTY MANAGEMENT
VARIOUS LOCALES AS INDICATED

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
05/20/2010				

BID OPENING DATE: 06/15/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT

DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
BUILDING 15
2019 WASHINGTON STREET, EAST
CHARLESTON, WV 25305-0130

THE EOI SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE EOI MAY NOT BE CONSIDERED:

SEALED PROPOSAL

BUYER: ROBERTA WAGNER-FILE 22

EOI NO : HHR10103

EOI OPENING DATE: 06/15/2010

EOI OPENING TIME: 1:30 PM

PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR EOI:

#304-755-0074

CONTACT PERSON (PLEASE PRINT CLEARLY):

Ted (Todd) Zachwieja

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE Ted R Zachwieja | TELEPHONE | DATE 6/11/10

TITLE Principal | FEIN 550735995 | 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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RFQ NUMBER	PAGE
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ROBERTA WAGNER
304-558-0067

VENDOR:

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LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
	****** THIS IS THE END OF RFQ HHR10103 ****** TOTAL:					

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: Ted A. Sohn TELEPHONE: 304-755-0075 DATE: 6/11/10

TITLE: Principal FEIN: 550735995

ADDRESS CHANGES TO BE NOTED ABOVE

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DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
05/26/2010				

BID OPENING DATE: 06/15/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT

ADDENDUM NO. 1

1. TO ADD AN ADDITIONAL LOCATION, HOPEMONT HOSPITAL, TO THIS EOI, AS AN ADD ALTERNATE, PENDING RECEIPT OF FUNDING APPROVAL FOR ARRA REVIEW COMMITTEE.

2. ADDENDUM ACKNOWLEDGEMENT IS ATTACHED. THIS DOCUMENT SHOULD BE SIGNED AND RETURNED WITH YOUR BID. FAILURE TO SIGN AND RETURN MAY RESULT IN DISQUALIFICATION OF YOUR BID.

EXHIBIT 10

REQUISITION NO.: HHR10103

ADDENDUM ACKNOWLEDGEMENT

I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.

ADDENDUM NO.'S:
NO. 1 .....
NO. 2 .....
NO. 3 .....
NO. 4 .....
NO. 5 .....

I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF TH

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE X Ted R Zocha TELEPHONE 304-755-0075 DATE 6/11/10

TITLE Principal FEIN 550735005

ADDRESS CHANGES TO BE NOTED ABOVE

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I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

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5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W. Va. C.S.R. §148-1-6.6).

State of West Virginia
Department of Administration
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ADDRESS CORRESPONDENCE TO ATTENTION OF:
ROBERTA WAGNER
304-558-0067

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

SHIP TO
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OFFICE OF PROPERTY MANAGEMENT
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DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
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LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT

ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.

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 INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.

Todd J. Zahnes
SIGNATURE

ZMM
Design/Consulting Services
91 Smith Drive
COMPANY
St. Albans, WV 25177

6/11/10
DATE

NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE BID.

REV. 09/21/2009

END OF ADDENDUM NO. 1

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE Todd J. Zahnes TELEPHONE 304-755-0075 DATE 6/11/10

TITLE Principal FEIN 550735005 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
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ROBERTA WAGNER
304-558-0067

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

SHIP TO
HEALTH AND HUMAN RESOURCES
OFFICE OF PROPERTY MANAGEMENT
VARIOUS LOCALES AS INDICATED

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
05/26/2010				

BID OPENING DATE: 06/15/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		EOI		

A&E SERVICES FOR JACKIE WITHROW HOSPITAL CAPITOL IMP

****** THIS IS THE END OF RFQ HHR10103 ****** TOTAL:

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE [signature] TELEPHONE 304-755-0075 DATE 20/11/10

TITLE Principal FEIN 550735005

ADDRESS CHANGES TO BE NOTED ABOVE

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

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.

In 1983, Todd A. Zachwieja founded ZECO Consultants. In 1994 **ZDS** Limited Liability Company was incorporated in WV using dba **ZDS Design/Consulting Services**. This company was founded to provide design and consulting services. Today there are 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 28 years in the design and consulting business.
- **Ted T. Zachwieja,** Principal over Construction Administration services with over 45 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 22 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 and cofounder of ZECO Consultants

ZDS is a consulting engineering firm specializing in the following areas:

MECHANICAL
ELECTRICAL
INDOOR AIR QUALITY
COMMISSIONING
ENERGY

Each new project is assigned to a principal in-charge who will follow the project from inception through commissioning.

We assign the production staff according to the nature of the project and the work force necessary to meet the schedule. The Principal in charge of that project determines if consultants are needed and coordinates all areas. After bidding, a Principal of **ZDS** coordinates visits to the job site regularly, all the way through the post warranty inspection.

"Excellent mechanical and electrical design results from an experienced team, as well as, listening to the needs of the Client."

ZDS believes in the team approach when providing engineering design and consulting services. We start with *our client* as the number one member on our team. We listen to the **needs** and **concerns** of our client and that becomes the basis for our design. Our design expertise includes:

MECHANICAL DESIGN

- Heating & Ventilation
- Air Conditioning
- Piping
- Environmental Controls
- Process Controls
- Refrigeration
- Plumbing
- Medical Gases
- Sprinkler-Fire Protection
- Master Planning

ELECTRICAL DESIGN

- Power Distribution
- Interior Lighting
- Exterior Lighting
- Emergency Power
- Communications
- Technology
- Fire Alarm
- Security
- Life Safety
- Master Planning

ZDS provides comprehensive design services. We have experience and specialties in indoor air quality, energy management and commissioning, along with traditional mechanical and electrical design experience dating back as far as 1958. We offer a complete package.

We work with all levels of the client's staff: the building owner, the budget supervisor, the operating and maintenance staff and others impacted by the project. We recognize the maintenance and operating staff live with the design long after the project's completion. We listen to and work with those who will continue to operate and maintain the equipment. We find that proper communication benefits the client throughout the design process and beyond.

ZDS design team provides a total system evaluation for cost effective selection, installation, and ease of maintenance for both new systems and retrofit of in-place systems.

Design begins with *our client*. Our staff meets with our client to review their concerns, budgets and schedules. The ZDS design team reviews the *entire* picture, and ends with "A Total Design."

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 *IN*VIRONMENT Ò *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 *IN*VIRONMENT™ *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 *IN*VIRONMENT™ *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 organization, 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.

At **ZDS**, our engineering staff integrates energy efficiency into each project design to provide you, our client, with the added value that you expect and deserve. The **ZDS** team approach represents a tremendous amount of experience in designing energy efficient facilities. **ZDS** offers a comprehensive range of energy management services that includes:

- **P**roviding detailed analysis of facilities.
- **R**ecommending sound and proven energy saving solutions.
- **I**mplementing energy management improvements
- **D**etermine, quantify and assist in securing available Utility & Government grants.
- **E**valuating and documenting utility savings.

Todd Zachwieja received *AEE's LEGENDS IN ENERGY AWARD* in 2007 and 2008 for lifetime achievements in energy. The **ZDS** team members take pride in the quality of their projects and have been responsible for designing and implementing numerous energy management programs. These programs are providing significant energy improvements and include; optimizing, central utility plant equipment, control systems, air handling systems, lighting systems, and other energy consuming equipment. Recent projects include:

- Interconnecting boilers and chiller plant systems.
- Designing Geothermal HVAC systems
- Optimizing HVAC equipment and operating sequences.
- Installing Direct Digital Control (DDC) Energy Management Systems
- Replacing inefficient lighting equipment with energy efficient ones.
- Converting constant speed air handling equipment and pumping systems to variable speed operation.
- Modifying air handling equipment from 100% outside air to return air operation.
- Implementing heat recovery units into HVAC equipment.
- Improving laundry, kitchen and other process application efficiencies.

In addition to the energy management projects outlined above, the **ZDS** team members have extensive experience in identifying and implementing energy efficient operating and maintenance measures. These are typically low cost or no cost measures that include:

- Inspecting, calibrating temperature controls and adjusting outdoor air dampers.
- Commissioning economizer cycle operation.
- Testing steam traps and pressure relief equipment operation.
- Enabling heating and cooling equipment only when required.

The **ZDS** team is trained and experienced in advising you of program options to incorporate energy efficiency and operational saving 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 saving options and providing supporting financial information. We then help you to 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 constructions' deficiencies that were not discovered until the contractors traditional one-year warranty period expires. 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 consists 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 Owners operational needs

NATIONAL RECOGNITION

The National Conference on Building Commissioning invited Todd Zachwieja, **ZDS**'s 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 Design/Consulting Services** 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.

The **ZDS** design staff continuously provides engineering design services value well into the millions of dollars on a variety of project types. Designing expertise goes as far back as 1958. Through the efforts of our staff, project locations include:

West Virginia	Virginia	North Carolina	Georgia
Kentucky	Ohio	Pennsylvania	Florida
Illinois	Connecticut	Texas	Michigan
New York	Wisconsin	Massachusetts	Indiana
Colorado	Tennessee	Maryland	Washington DC
California	Hawaii	South Carolina	

Our clients can rest assured that the design team will be available. Not just for the year or two that we are involved in the initial design and construction, but also for years that follow as questions arise about your facility. A good-engineered system and its equipment should last 15 to 40 years. Why not select a design firm with experienced staff committed to their projects with a comparable track record.

Our design team will provide comprehensive services utilizing experienced staff through planning; cost estimating, engineering, coordination of bidding, regular site visitation during construction and specifications for equipment. You, ***our Client***, will greatly benefit from a *single point of responsibility* for every need your project may have.

Our staff has the expertise with codes and standards. We have extensive experience in conducting engineering code surveys of existing facilities. Our staff has excellent working relationships with the West Virginia Fire Marshal's Office and the West Virginia Department of Health.

In addition to comprehensive Engineering services from an experienced design team, another major consideration in the selection of your engineer and design staff should be their track record. **ZDS** organization has an unbeatable, long running, and well-known track record for meeting ***our Client's*** needs, on time and within budget with outstanding quality.

We view these characteristics as the foundation of Quality. We look forward to the opportunity to discuss our ideas with you and assist you by providing solutions for your needs with a full range of services from Planning to Commissioning.

Firm History

Paradigm Architecture

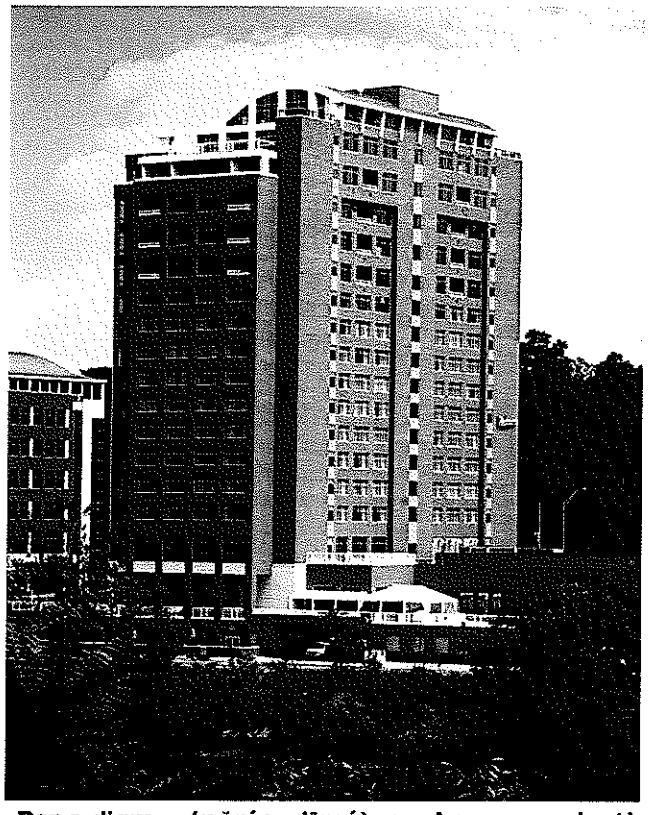
Paradigm Architecture was formed in October of 2000 by a group of likeminded individuals who believe that architecture provides the opportunity to practice the career that we love. We as individuals and as team members of a firm have a responsibility to exhibit that passion in the manner in which we live our lives.

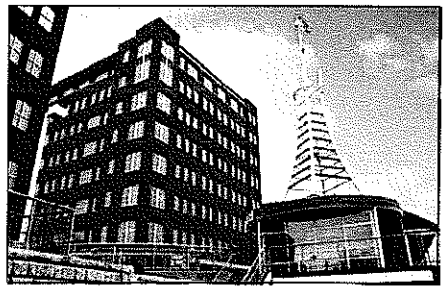
We chose the name Paradigm because it means a model that serves as an example:

This represents our highest ideals .
that our architecture would serve as an example
that our client service would serve as an example
that our service to our God would serve as an example

Originally established in Birmingham, Alabama, Paradigm Architecture expanded in 2002 by opening an office in Morgantown, West Virginia. Our staff of eleven includes five registered architects, one intern architect, three CAD designers, and two administrative assistants. We utilize the most current technical hardware and software including AutoCAD, Revit, 3D site and building rendering programs, and Speclink specifications software.

It is our belief that we should assemble consultants that are uniquely skilled to satisfy the particular requirements of a project. We have close professional relationships with many engineers and specialized consultants and choose those that we feel will best serve the technical specialization, location of the work and sometimes even personality of the client. We choose not to work with firms who do not share our commitment to service and quality.



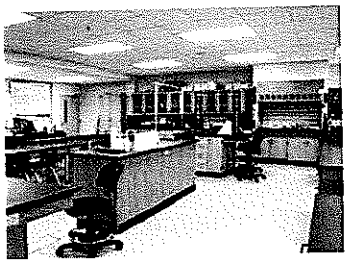


Waterfront Marina

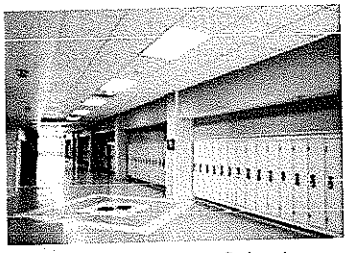
Par·a·digm - (păr´e-dīm´) *n.* **An example that serves as pattern or model.**

Firm Profile

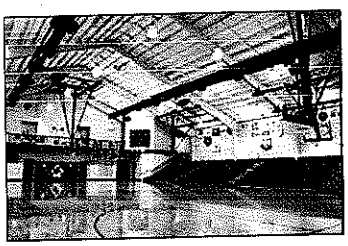
Paradigm Architecture



Trinity Christian School



Trinity Christian School



Trinity Christian School

Paradigm by definition means an example that serves as pattern or model. The goal of Paradigm Architecture is to be an example in client service, design quality, and technical proficiency. We practice architecture. For every project, Paradigm works closely with the unique requirements of the particular client to design a structure that reflects both the appropriate image and proper function to optimize the working or living environment.

EXPERIENCE

Paradigm Architecture has experience in a broad range of project types. This work includes private individual, corporate, governmental, educational, and institutional clients.

Institutional

Medical and retirement life care projects dominate our staff's institutional portfolio. Medical projects include outpatient surgery centers, patient care rooms, emergency medicine, surgery suites, labor & delivery suites, Magnetic Resonance Imaging, X-ray diagnostic services, and heart catheterization spaces for hospital clients, radiation and chemotherapy treatment areas in cancer centers, and professional medical office space for private physicians. Retirement life care facilities range from independent elderly housing and assisted living facilities to full nursing care centers. We are currently working on open end contracts both with Russell Medical Center and Lanier Hospital.

Educational

Educational experience includes administrative office space, parking facilities, student housing, libraries, student centers, athletic facilities, classrooms, and research laboratory facilities. We have worked on campuses that include: West Virginia University, Fairmont State University, Davis and Elkins College, The College of West Virginia, Hampden Sydney College, Wake Forest University, Ayers State Technical College, The University of North Carolina at Greensboro, and The University of Alabama at Birmingham. Paradigm's staff has also been involved in educational facilities at the elementary and high school level including new and renovated buildings.

Religious

Paradigm has had the distinct privilege of working on a variety of churches and other religious projects. Among them are: Chestnut Ridge Church, Goshen Baptist Church, Daniels Missionary Baptist Church, The Greek Orthodox Church, A Flame for Christ Ministries, Southridge Church, Family Life Assembly, Faith United Methodist Church, and Chestnut Mountain Ranch in West Virginia and Mountaintop Community Church, Fullness Christian Fellowship, Cahaba Ridge, A Church with a Vision, and The Foundry in Alabama.

Par·a·digm - (păr'e-dīm') *n.* An example that serves as pattern or model.

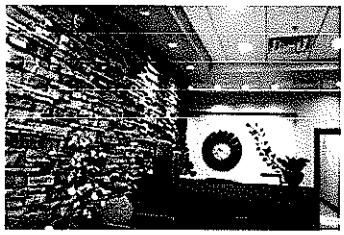
Firm Profile

Paradigm Architecture

Russell Medical Center

Governmental

Members of Paradigm have been involved in various government projects at the Federal, State, and Local levels. Federal Clients include the GSA, Social Security Administration, Federal Bureau of Investigation, Drug Enforcement Agency, Small Business Administration, Mine Safety and Health Administration, USDA, and DOE. These projects range from new construction for new buildings to tenant fitups in shell buildings. State and local agencies include Department of Natural Resources, multiple higher education clients, Morgantown Chamber of Commerce, and Trussville City Hall.



Glenmark Office Building

Residential

Paradigm's residential experience spans a variety of client types. Student Housing/ dormitory facilities for higher education, hotel projects, elderly housing, and private residential that includes single family homes, townhouses, and high end condominium units.

Corporate

Paradigm has designed entire office buildings as well as tenant fit-up spaces for clients such as Jackson Kelly PLLC, A.G. Edwards, Acordia, Petroplus & Associates Inc., National Biometric Security Project, Simpson & Osborne, DMJM Harris, and the West Virginia University Foundation. Projects also include banking regional and branch offices.

Food Service

We have been privileged to design many Food Service facilities. These include many private restaurants as well as large, full service commercial catering kitchens and banquet facilities accommodating up to 1,500 guests at a time. Examples of these facilities include Two Waterfront Place Hotel and Conference Center, Morgantown Event Center, Regatta Bar and Grille, Rat Pack Lounge, Boathouse Bistro, Sargasso Restaurant, Trussville Family Center, Mountaintop Community Church's Family Life Center, and Shono's Restaurant. In addition, we are currently designing additions and renovations to Cacapon Resort, which includes updating the existing commercial kitchen and dining facilities.

WVU Downtown Student Housing

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Sustainable Design

Paradigm Architecture

LEED / Green Building

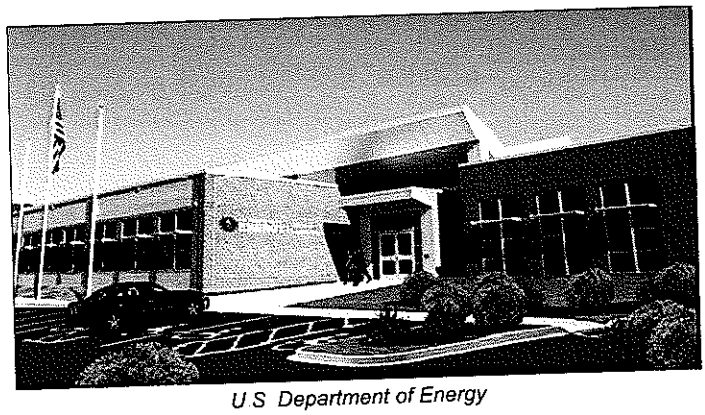
Today, everyone is concerned with energy conservation, life cycle analysis, and green building techniques; and Paradigm Architecture is no different. We have completed two projects that are or will be LEED Certified.

U.S. Department of Energy Office of Legacy Management, Morgantown, WV
(LEED Gold Certification is pending)

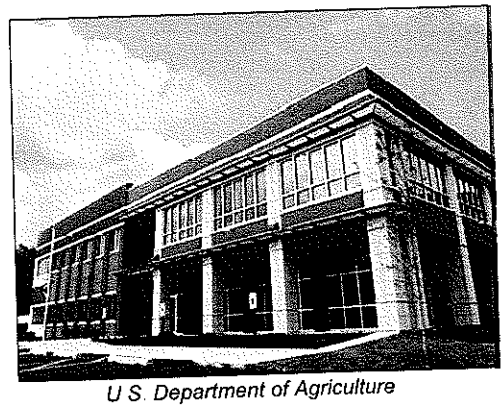
U.S. Department of Agriculture Office Building, Morgantown, WV
(LEED Certified)

In addition, we have been able to assist clients who are interested in applying green building techniques such as improving the energy efficiency of the building and reducing long term life cycle costs, even though they may not wish to pursue LEED Certification. We have one LEED Accredited Professional on staff and others who are pursuing green building education. All of our consultants have experience with not only green building construction but also life cycle cost evaluations, value engineering, and materials/systems comparisons in order to give the Owner the best value in a project.

Although this is only a summary of our quality control and management procedures, we hope it has helped you gain insight into the services that we provide. We also actively review our internal operations and gather feedback from clients, consultants and contractors. We will quickly make firm wide adjustments when we see areas that could be improved in order to continue providing excellent service. We think this model of excellent service is acknowledged by our continued and growing list of repeat clients. We welcome you to call any of our references for further insight into how we may best serve you.



U.S. Department of Energy



U.S. Department of Agriculture

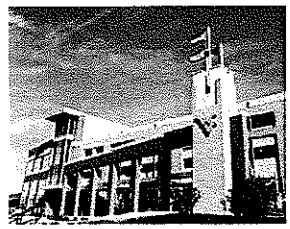
Par·a·digm - (păr′e-dīm′) *n.* **An example that serves as pattern or model.**

References

Paradigm Architecture

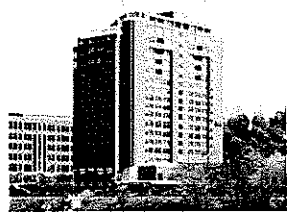
Mr. John Thompson
Manager of Construction Services
West Virginia University
979 Rawley Avenue
Morgantown, West Virginia
(304) 293-3625

West Virginia University Intermodal Garage



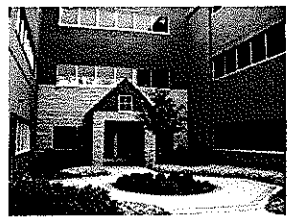
Mr. G. Richard Lane II, AICP
Petroplus Lane, LLC.
150 Clay Street, Suite 200
Morgantown, West Virginia
(304) 284-5000

Waterfront Place



Mr. Jim Peace, CEO
Russell Medical Center
3316 Highway 280
Alexander City, Alabama 35010
(256) 329-7100

Russell Medical Center



Mr. James Decker
Fairmont State University
1201 Locust Avenue
Fairmont, WV 26554-2470
(304) 367-4100

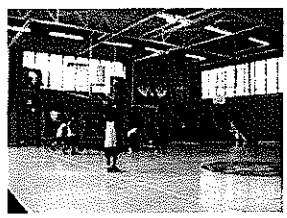
Fairmont State University Conference Center

Mr. Brian Johnson
Bright Enterprises
PO Box 460
Summersville, WV 26651
(304) 872-3000 Ext. 219

Glade Springs Clubhouse Expansion

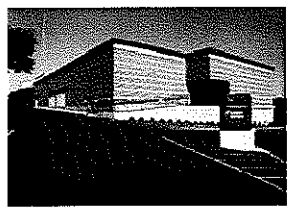
Ms. Lou Ann Wagoner
Superintendent
Alexander City Board of Education
375 Lee Street
Alexander City, AL 35010
(256) 234-8600

Benjamin Russell High School Addition and Renovations



Ms. Kelli Powers, CEO
George H. Lanier Memorial Hospital
4800 48th Street
Valley, Alabama 36854
(334) 756-1428

Lanier Hospital

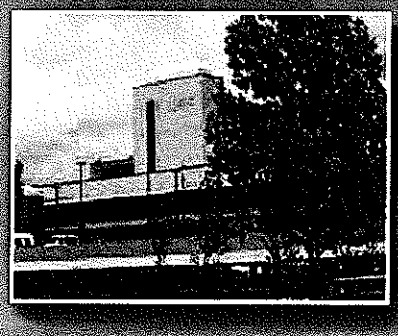


Par·a·digm - (păr´e-dīm´) *n.* An example that serves as pattern or model.

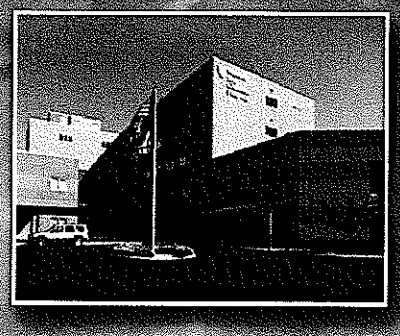
Engineering for Health Care Facilities

Our project experience includes engineering for three divisions of CAMC, the largest health care provider in West Virginia.

CAMC General Division



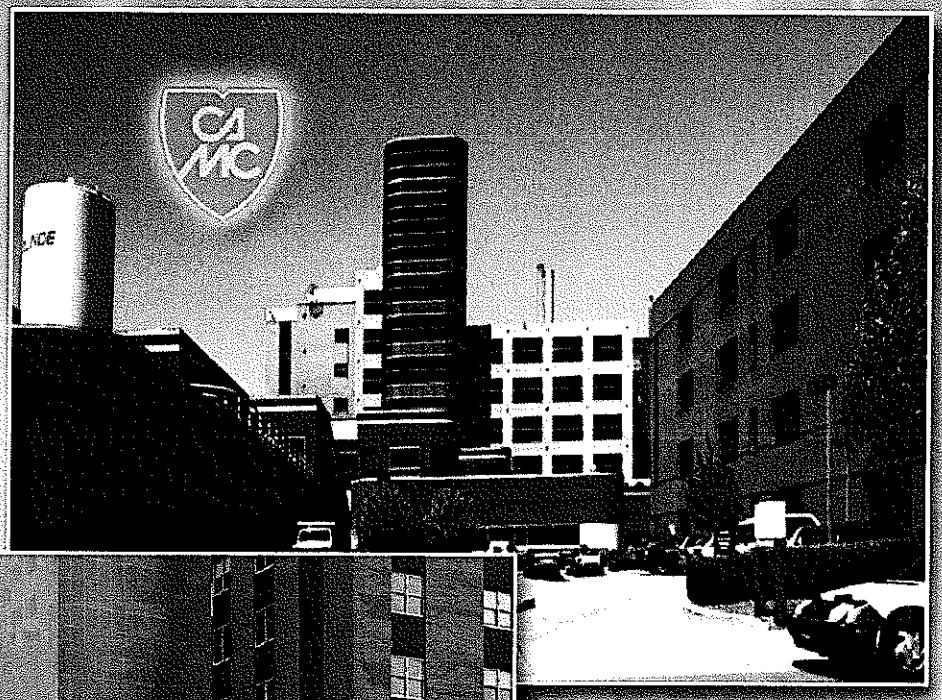
CAMC Memorial Division

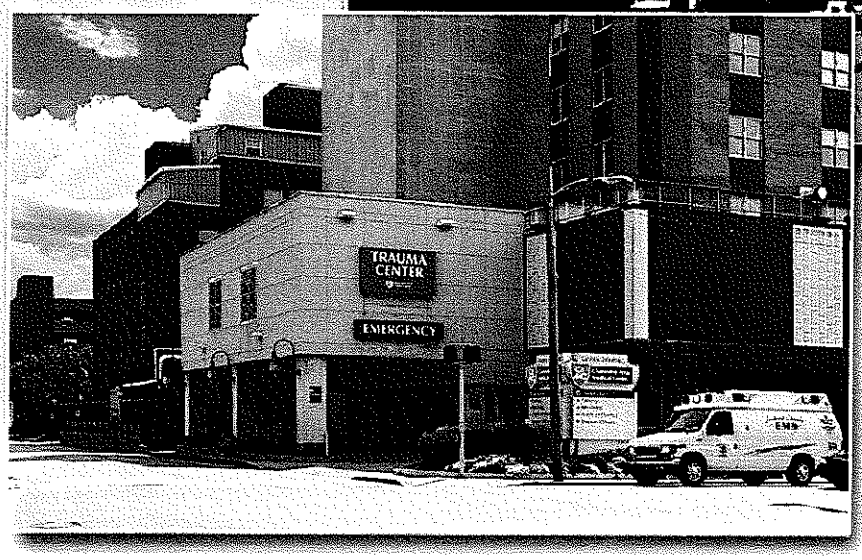


CAMC Women and Children's Hospital

CAMC General Division

Energy program saved CAMC approximately $800,000 annually—plus it paid for the improvements made to the mechanical, electrical and controls systems.





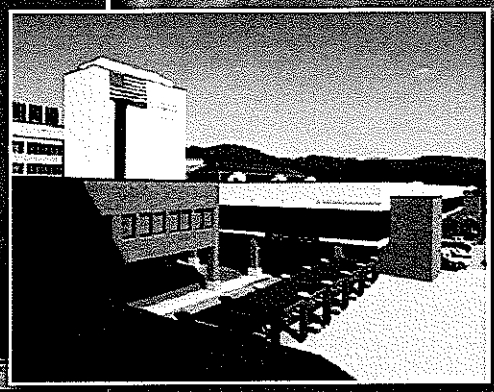
ZDS

Design/Consulting Services

91 Smiley Drive, St. Albans, WV 25177 • (304) 755-0075 • www.zdsdesign.com

Engineering for Health Care Facilities

Our project experience includes engineering for three divisions of CAMC, the largest health care provider in West Virginia.

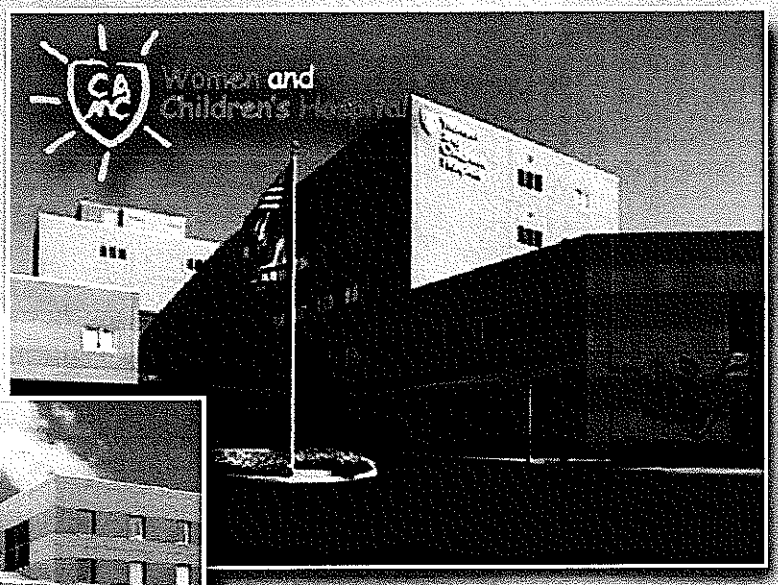


Hospital Renovations:

Special Care Facility, Physical Therapy, Emergency Room Retrofit, South Patient Retrofit, Medical Records and District Chiller Plant Replacement and Interconnect

Hospital Renovations:

LDRP Additions, NICU and PICU, Emergency Room, Patient Rooms, as well as the District Chiller Plant Replacement & Interconnect

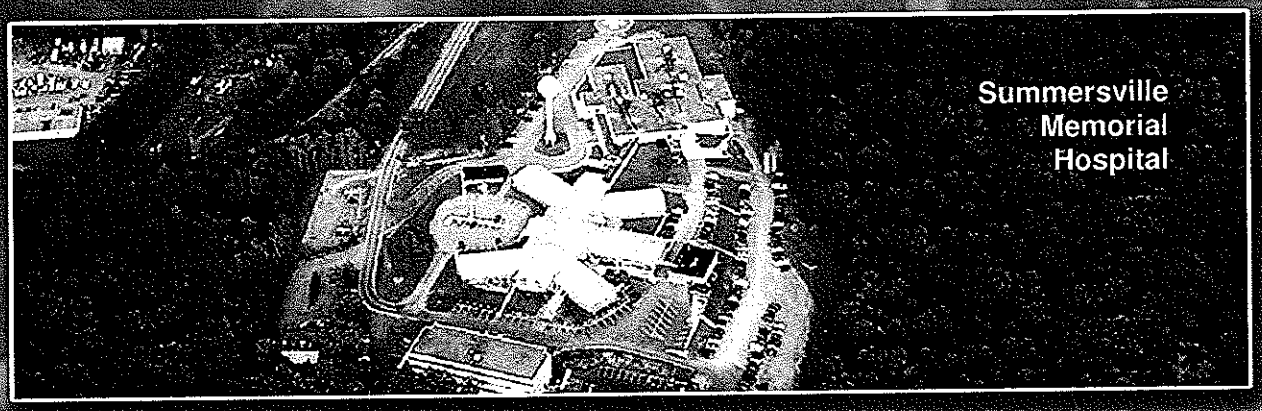


Since 1982, ZDS principals have provided engineering services while meeting stringent health care requirements and safety of the patients for CAMC.

ZDS

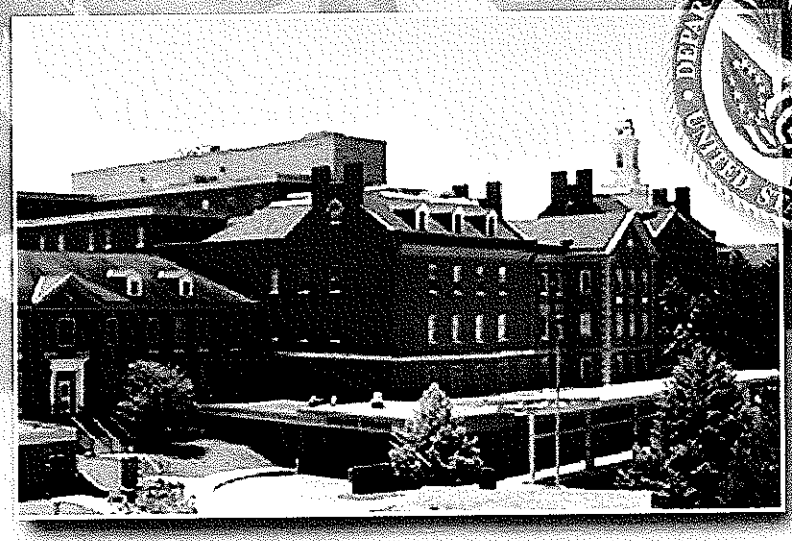
Design/Consulting Services

91 Smiley Drive, St. Albans, WV 25177 • (304) 755-0075 • www zdsdesign.com



Summersville
Memorial
Hospital

Hopemont
State Hospital



Veterans Affairs
(VA)
Hospital
Administration

ZDS

Design/Consulting Services

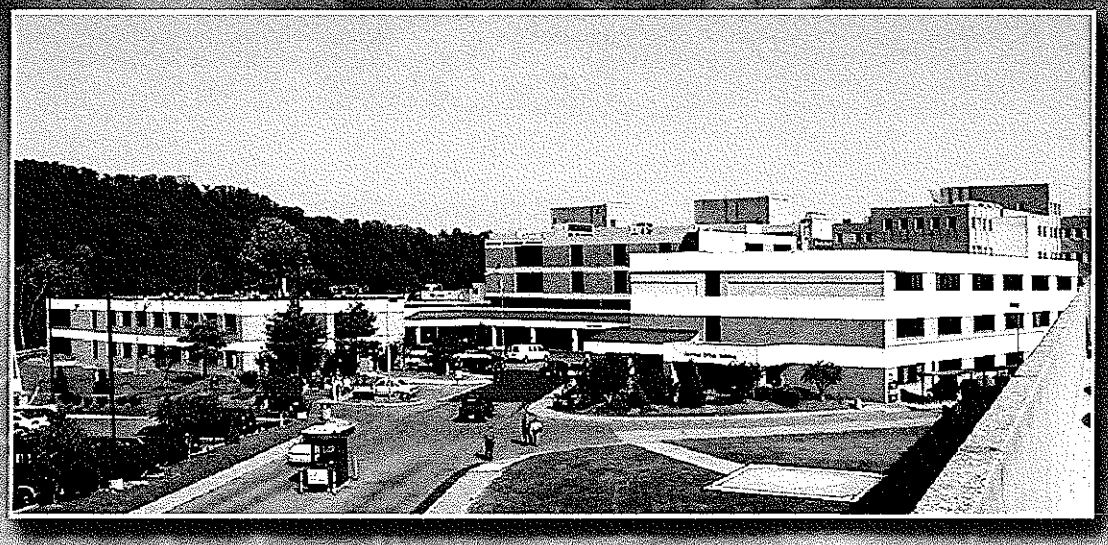
91 Smiley Drive, St Albans, WV 25177 • (304) 755-0075 • www zdsdesign.com

Engineering for Health Care Facilities

ZDS project experience includes over 100 million square feet of facility space.

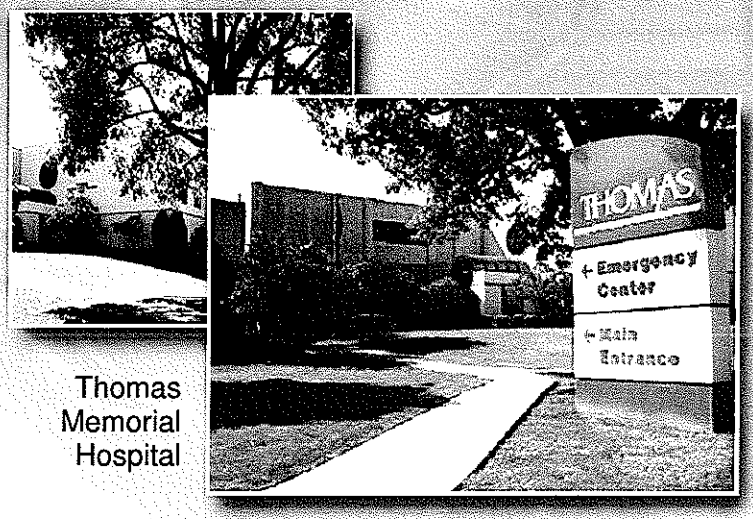
United Hospital Center

HVAC/Electrical renovations and energy savings

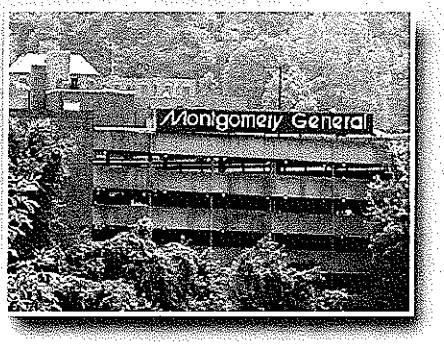


Bluefield Regional Medical Center

HVAC Renovations



Thomas Memorial Hospital



Montgomery General Hospital

Webster County Memorial Hospital

ZDS

Design/Consulting Services

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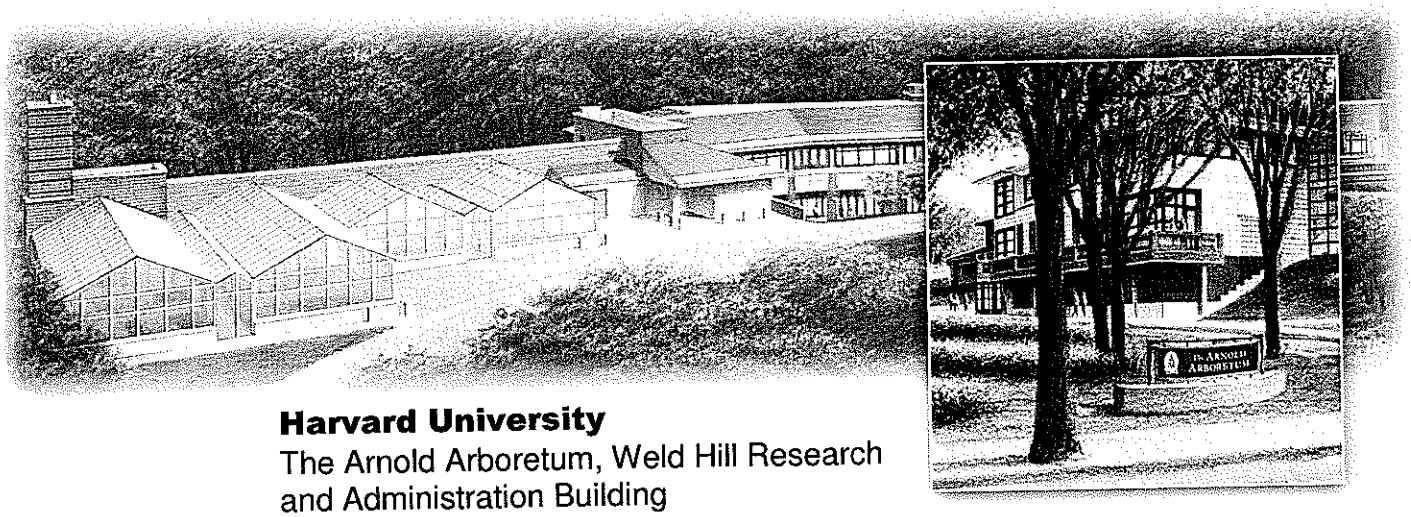
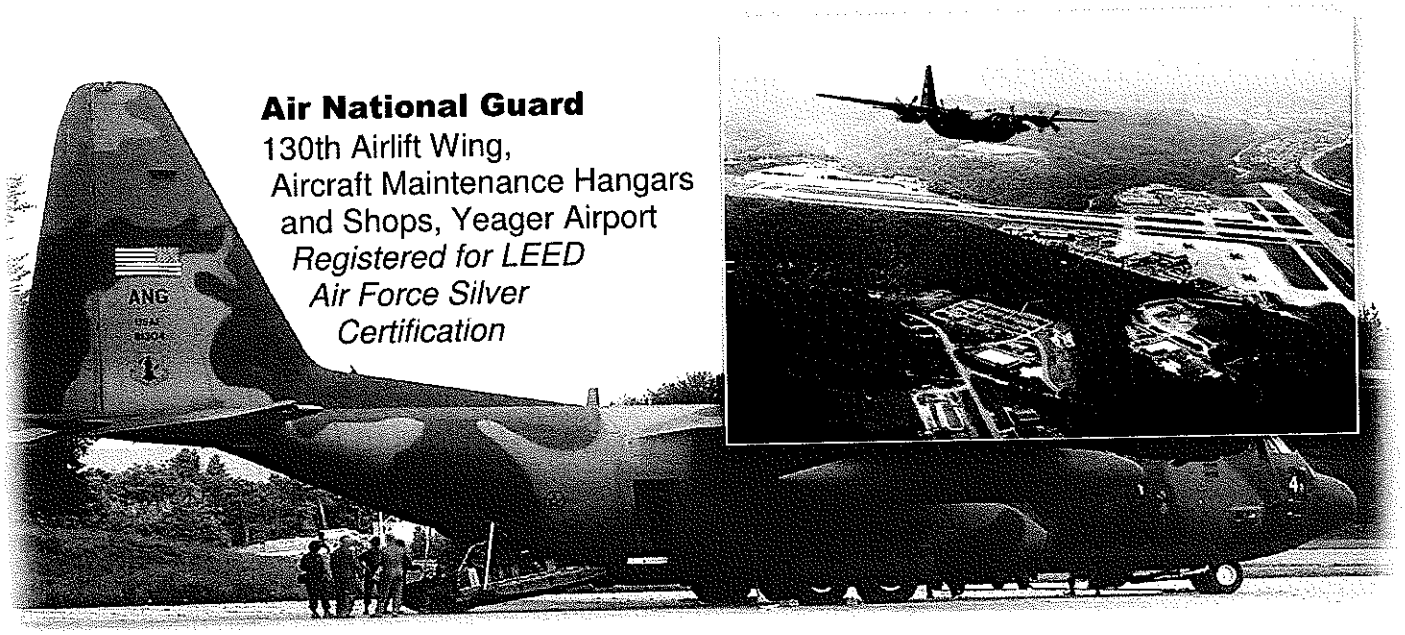
ZDS Project Experience — LEED



Harvard University
The Arnold Arboretum, Weld Hill Research and Administration Building
LEED Gold Candidate

Air National Guard
130th Airlift Wing, Aircraft Maintenance Fuel Systems Hangars, Yeager Airport
Registered for LEED Air Force Silver Certification

Air National Guard
130th Airlift Wing,
Aircraft Maintenance Hangars and Shops, Yeager Airport
Registered for LEED Air Force Silver Certification

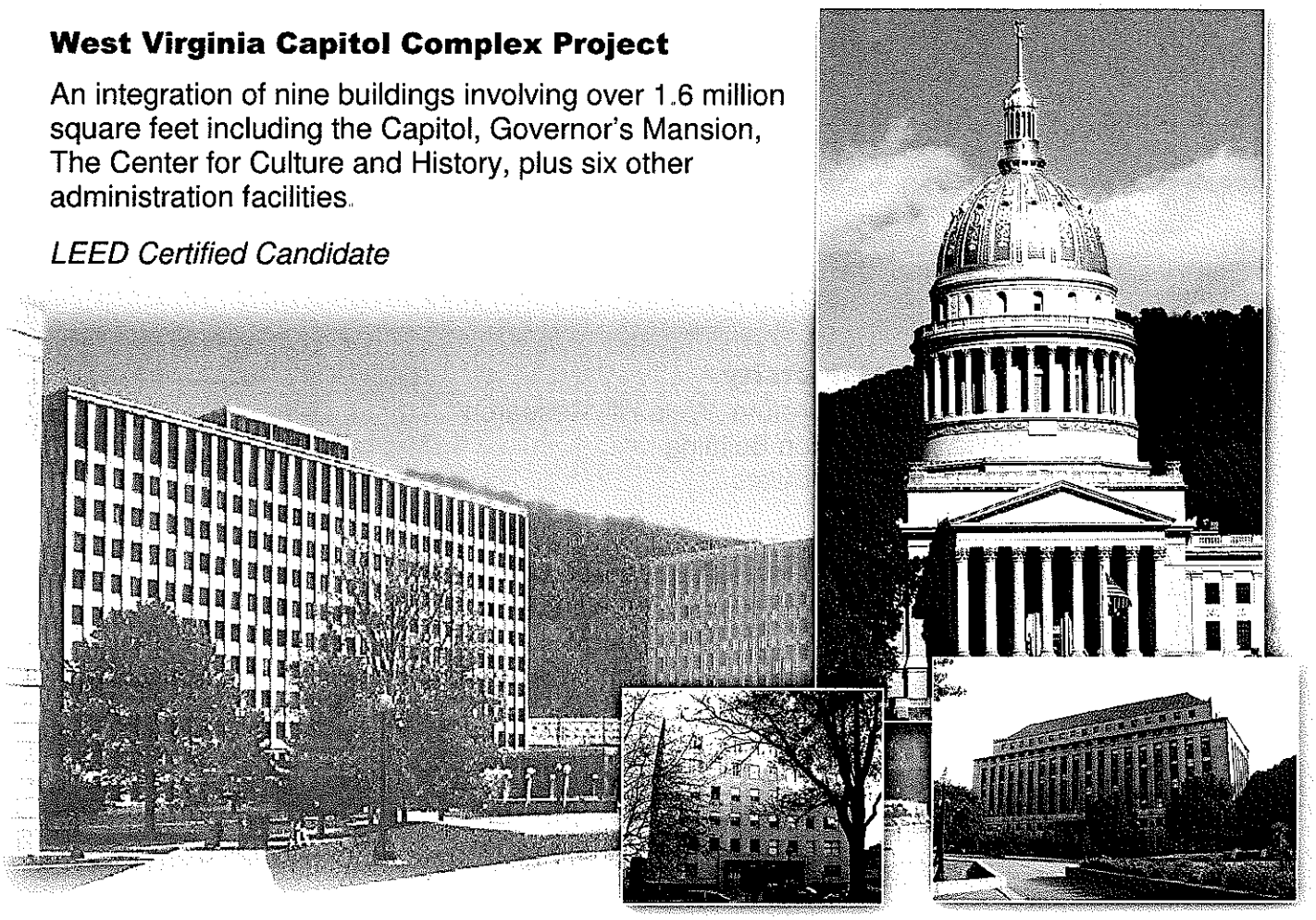


ZDS Project Experience — LEED

West Virginia Capitol Complex Project

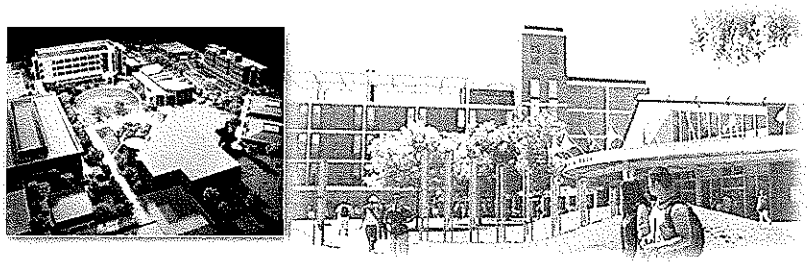
An integration of nine buildings involving over 1.6 million square feet including the Capitol, Governor's Mansion, The Center for Culture and History, plus six other administration facilities.

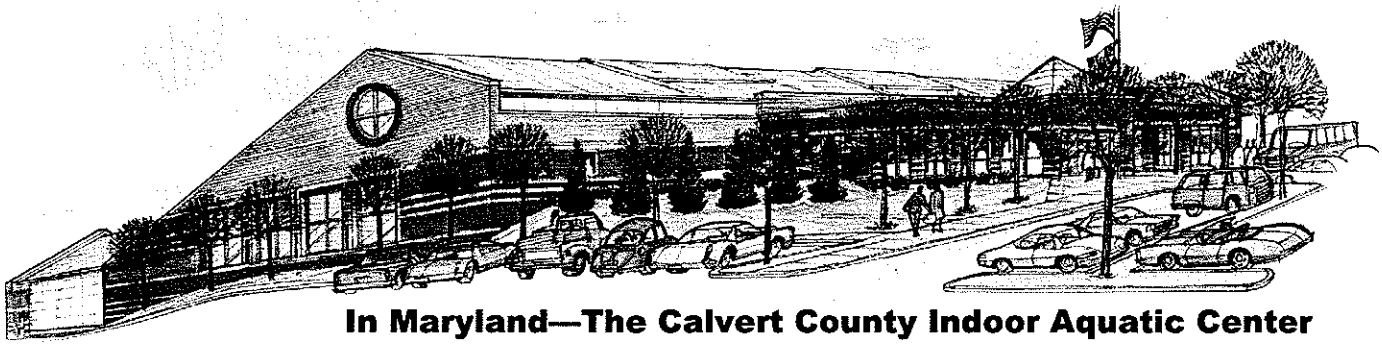
LEED Certified Candidate



ZDS Projects with Adapted LEED Principles including Commissioning

University of California
Davis Campus
Veterinarian Facility



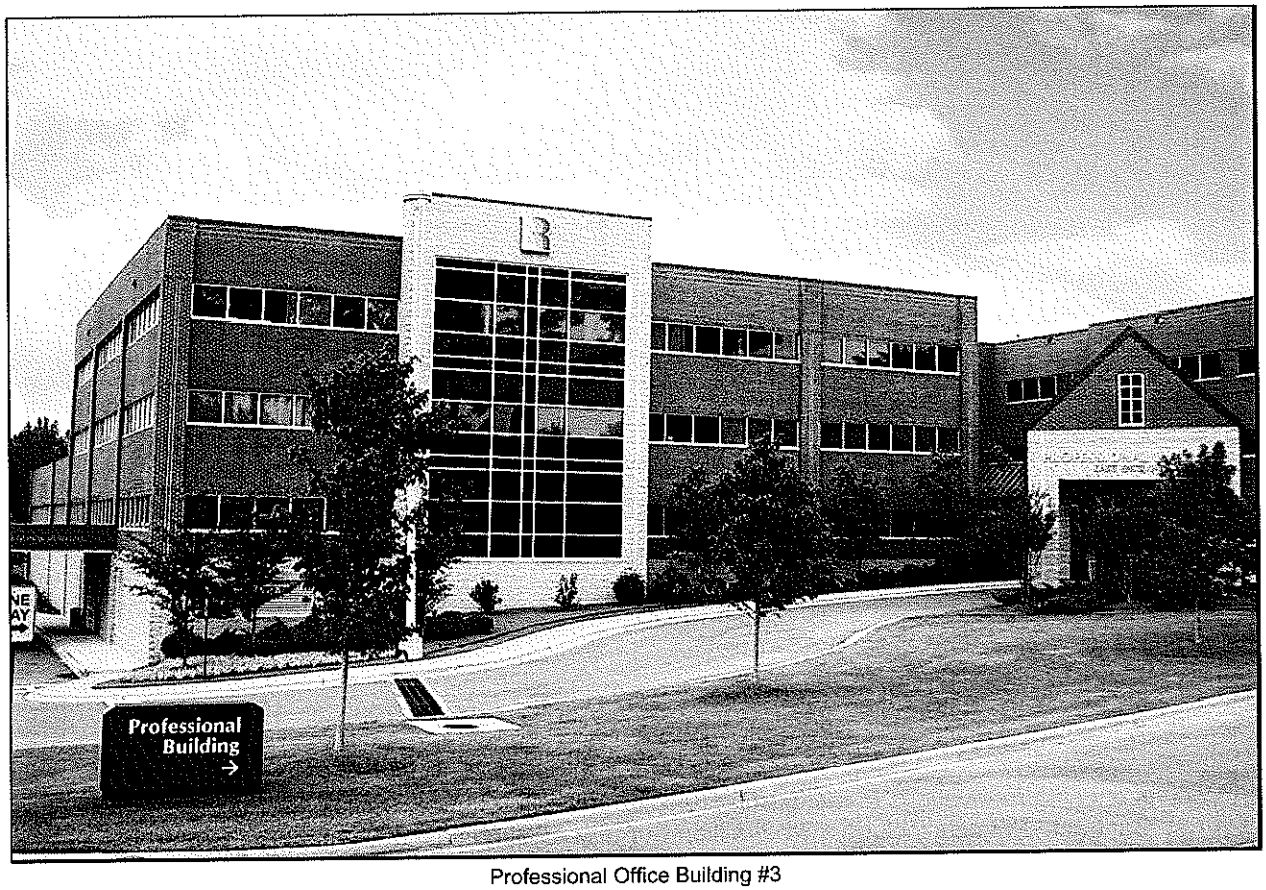


In Maryland—The Calvert County Indoor Aquatic Center
The largest capital project facility the county has ever undertaken

Paradigm Architecture

Russell Medical Center
Additions and Alterations

Alexander City, Alabama



Professional Office Building #3

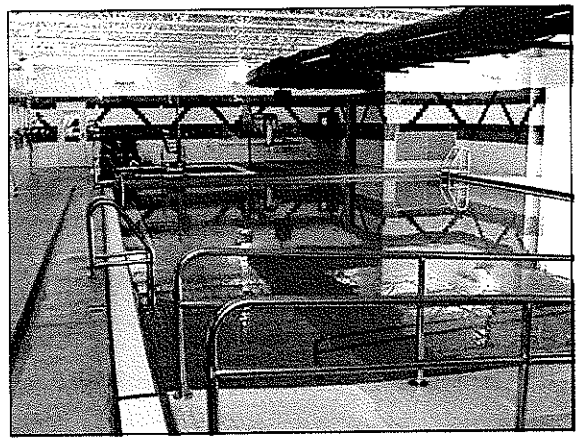
Working under an open end contract, various renovations to Russell Medical Center have been ongoing. These projects involved redesigning all major departments and services including: various doctors' suites, physical therapy, lab, open MRI addition, emergency department, sleep lab, pre-admit testing and satellite lab, women's center, hospice, PET scan, pharmacy, site improvements for new roads, parking, and landscaping.

Owner: Russell Medical Center

Project Manager: David H. Snider, AIA
Project Architect: Grant T. Gramstad, AIA

Completed: Varies from 2000 to current
Cost: ranges from $200,000 to $5 million
Size: 145,787 Square Feet
Delivery Type: Varies

Contractor: Various

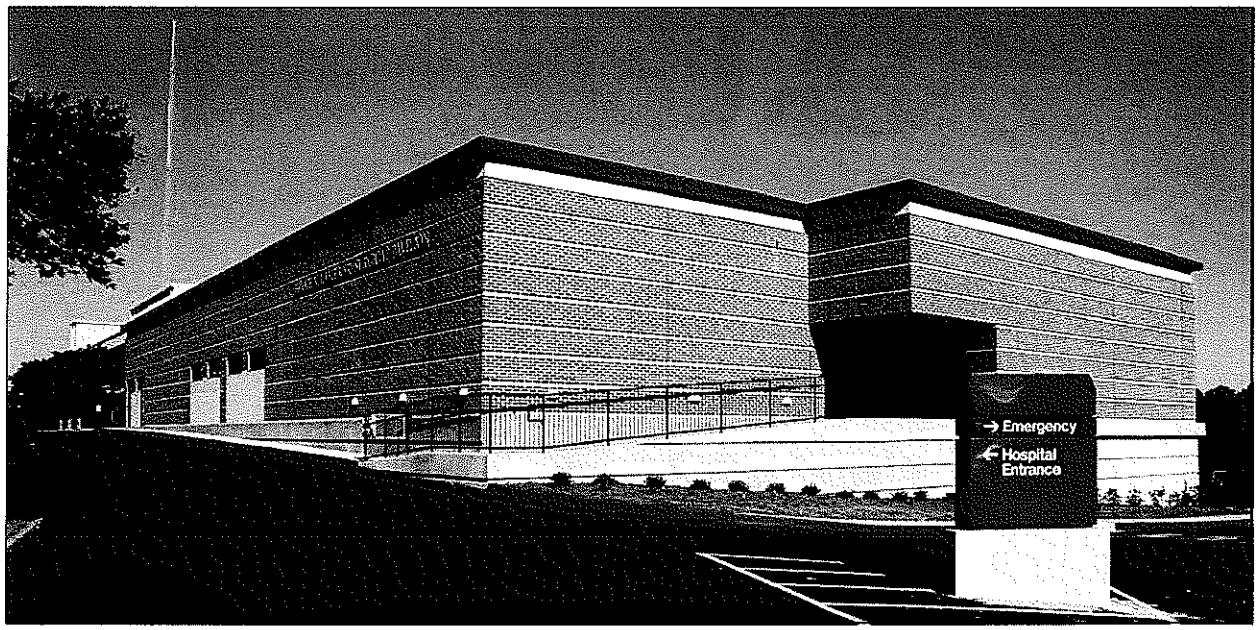


Physical Therapy

Paradigm Architecture

Additions and Alterations to George H. Lanier Memorial Hospital

Valley, Alabama



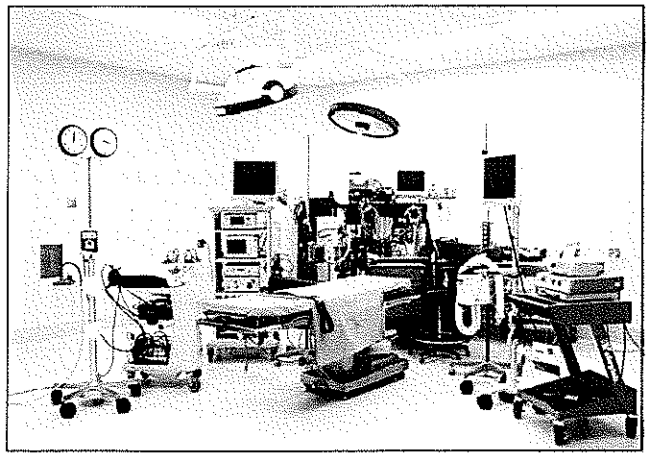
Various ongoing renovations to the existing hospital since 2003 under a currently managed Open-End Contract. Projects include a $4.2 million Surgery Addition completed in 2006, $1.2 million Cardiopulmonary / Pharmacy Renovations completed in 2008, $1.6 million ICU Renovations completed in 2008, and $1.1 million Emergency Department Renovations estimated to be completed in 2010

Owner: George H. Lanier Memorial Hospital

Project Manager: David H. Snider, AIA
Project Architect: Grant T. Gramstad, AIA

Estimated Completion: Ongoing
Cost: $8.1 Million
Size: 32,952 Square Feet
Delivery Type: Design-Build-Negotiated

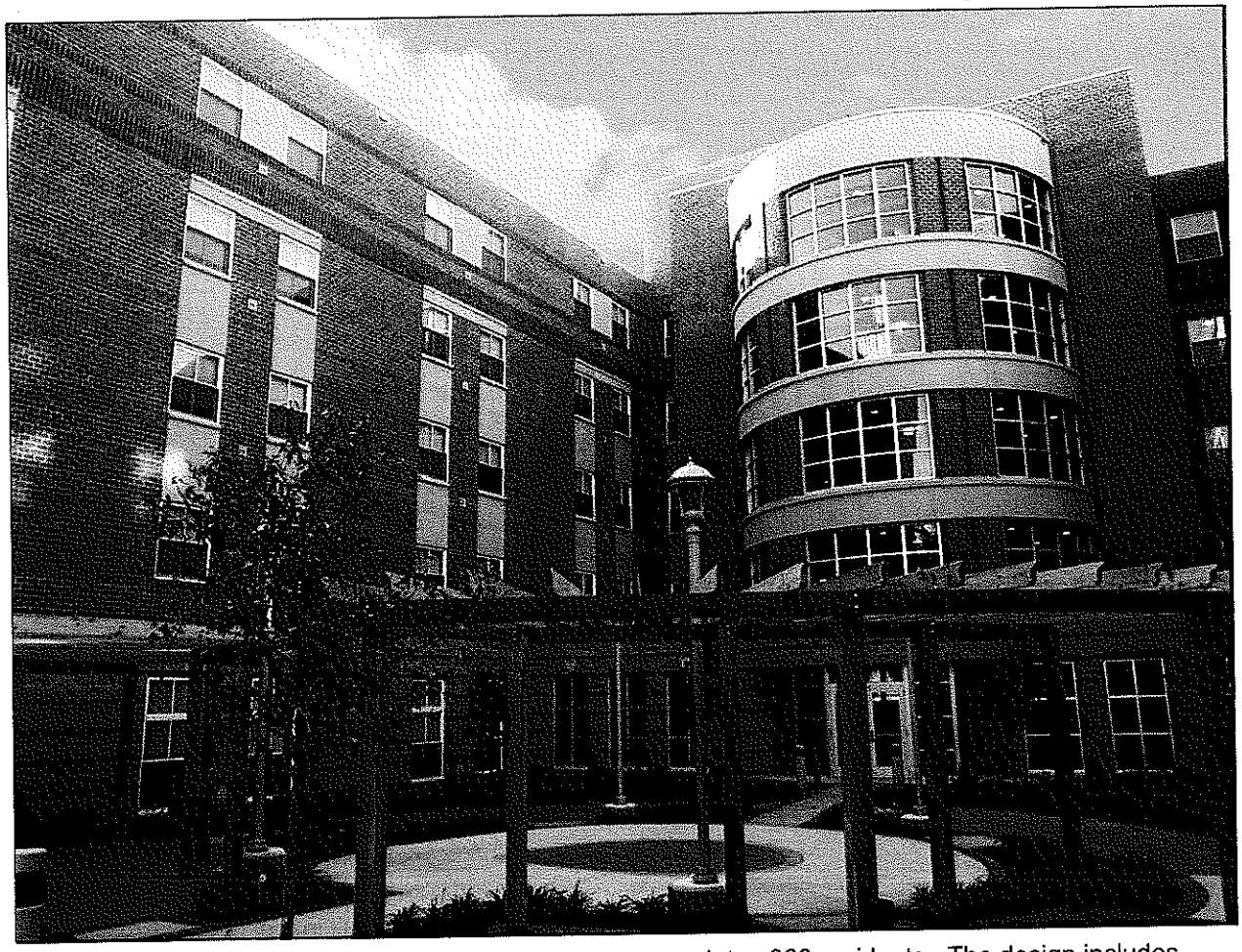
Contractor: Batson-Cook Construction



Paradigm Architecture

West Virginia University
Downtown Student Housing

Morgantown, West Virginia



This new five story student housing building accommodates 360 residents. The design includes apartments for Resident Hall Coordinators and Resident Facility Leaders, a multi-purpose room, laundry facility, administrative offices, fellowship advising, and honors college administration.

Owner: West Virginia University

Design Architect: Paul A. Walker, AIA
Project Manager: David H. Snider, AIA
Project Architect: Grant T. Gramstad, AIA

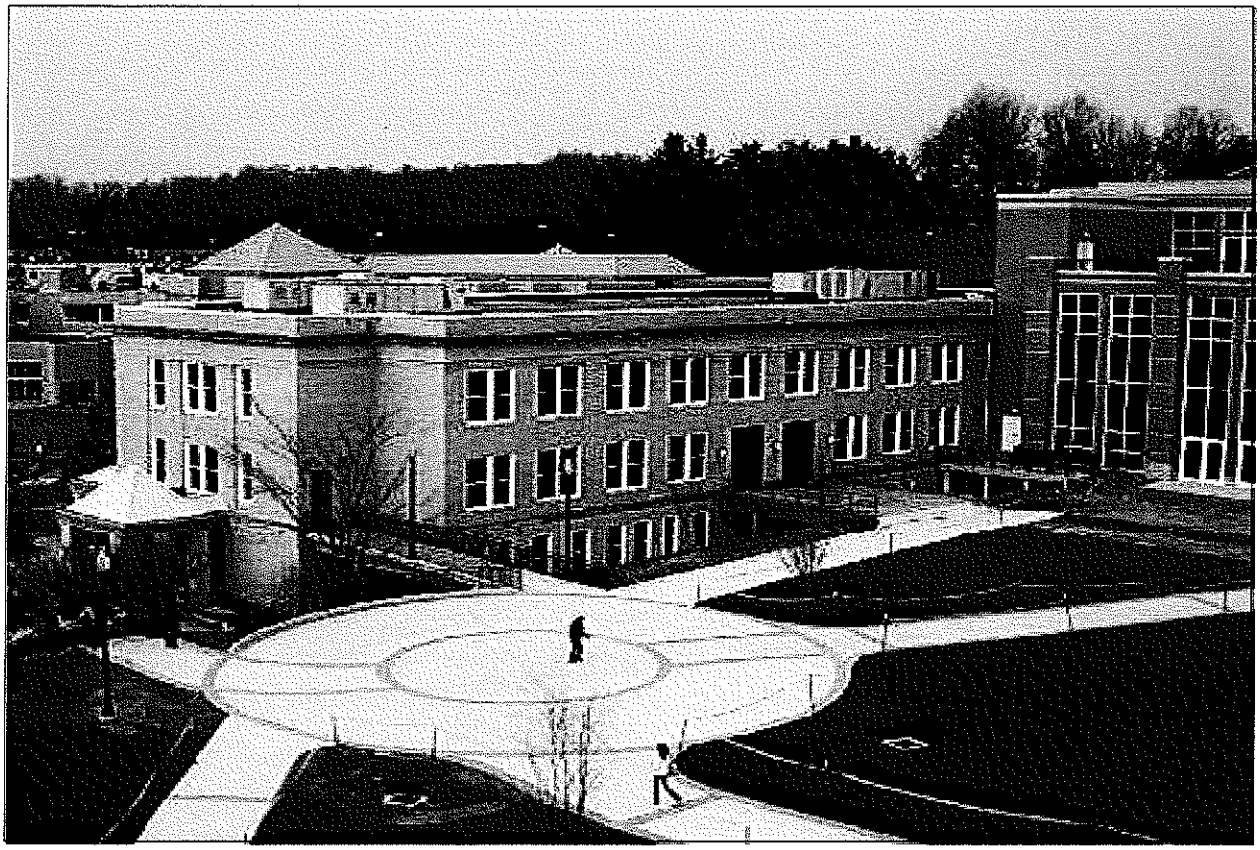
Completed: Summer 2009
Cost: $15.3 Million
Size: 90,000 Square Feet
Delivery Type: Design-Bid-Build

Contractor: Tedco Construction

Paradigm Architecture

Fairmont State University
Colebank Hall Renovations

Fairmont, West Virginia



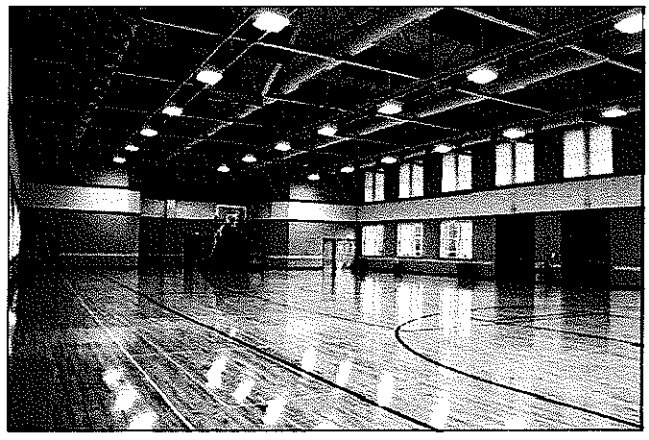
Various renovation projects to a historic classroom building originally built in the 1940s. Projects included Reroofing, Gymnasium Renovations, Classroom and Administrative Office Renovations, and a Data Center Build out.

Owner: Fairmont State University

Design Architect: Jonathan L. Perry, AIA
Project Manager: Jonathan L. Perry, AIA

Completed: Winter 2007
Cost: $1.5 Million
Size: 42,200 Square Feet
Delivery Type: Design-Bid-Build with Competitive Bidding

Contractors: Tmaro Corporation
Marks-Landau Construction
Sutter Roofing



Paradigm Architecture

Glade Springs Resort and Conference Center

Daniels, West Virginia

Located in the Allegheny Mountains of West Virginia, this 48 room luxury hotel and conference center is available for both family vacations and business retreats, offering access to ski, spa, and golf activities. The facility is located on the site of the existing conference center and is connected to the existing commercial kitchen. The facility functions as the main lodging and meeting center of the resort and offers a mix of hotel rooms and suites, and an additional 4,100 square feet of ballroom and meeting space.

Owner: Glade Springs Resort

Design Architect: Paul A. Walker, AIA
Project Manager: David H. Snider, AIA
Project Architect: Grant T. Gramstad, AIA

Completed: Fall 2005
Cost: $6 Million
Size: 48,500 Square Feet
Delivery Type: Design-Build-Negotiated

Contractor: Alliance Construction Management

Primary MEP Contact: Todd Zachwieja, Principal, mobile phone (304) 545-4550
Secondary MEP Contact: Ted T. Zachwieja, Principal, mobile phone (304) 552-5724

ZDS was formed to provide quality engineering and consulting services specializing in:

- Design of mechanical systems and electrical systems.
- Building indoor air quality survey and analysis.
- Energy management and conservation services.
- Commissioning for new and renovated systems in commercial, educational, industrial and health care facilities.

ZDS approaches engineered systems improvements from the building owner operator's perspective, focusing on practicality, cost effectiveness, energy efficiency, reliability, operability, maintainability of the systems and timely implementation of projects to minimize disruption on existing facilities. We concentrate on optimizing and utilizing the existing systems prior to recommending the purchase of new equipment when upgrading a facility. Actual requirements of existing systems are analyzed and considered in addition to the "design" requirements. Our staff listens to their clients needs through their extensive interaction with the facility operators and the key decision-makers. We believe this approach enhances the design of new systems and ensures that the systems will be practical and functional.

ZDS is a team of professionals capable of meeting a diverse range of needs of facility professionals in the building design, construction and operations. The principals each have specialties in certain aspects that relate to meeting the needs of the building owners and operators. Mr. Ted T. Zachwieja's over 45 years of experience in mechanical and electrical design bring the depth of skills necessary to make the construction and design process operate effectively. Mr. Todd A. Zachwieja's project management skills with his extensive technical strengths in mechanical/electrical engineering and experience in indoor air quality, energy management and commissioning complement the traditional design needs. Mr. Daniel H. Kim's extensive management experience with some of the nation's largest companies provides us with important conceptual planning and organizational understanding. Ms. Lori Zachwieja's accounting and financial management skills provide the in house experience to operate an efficient and effective company to better serve our clients.

ZDS's continues to grow and is in the process of opening a Morgantown Office with a Professional Engineer heading that office. Our current project team includes the following to meet the challenges of our client's building design and operating needs.

TODD (TED) A. ZACHWIEJA, PE, C.E.M., LEED AP

Chief Executive Officer
Principal-in-Charge, M/E/P Design Project Manager

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

Professional Engineer, West Virginia, No. 10,127
Certified Energy Manager (C.E.M.), National Certification
LEED® Accredited Professional, National Certification through USGBC
Professional Engineer, Georgia, No. 18253
Professional Engineer, Kentucky, No. PE-17961
Professional Engineer, North Carolina, No. PE-017445
Professional Engineer, Ohio, No. E-53587
Professional Engineer, Pennsylvania, No. PE-040929-R
Professional Engineer, South Carolina, No. 25985
Professional Engineer, Virginia, No. 0402 025427

Qualifications

Todd has more than 28 years of experience; in the design, construction management, and specifications for mechanical engineering, heating, ventilating, air conditioning, plumbing, electrical, and lighting; 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 facilities, hospitals and educational design including preparation of construction documents for millions in renovations and additions to facilities. Some of his project experience includes projects new Mercer County Courthouse, Princeton, WV, Kanawha County Commission – 120,000 sf additions/renovations for the Judicial Annex/Kanawha County Courthouse Charleston WV, Laidley Towers – Charleston WV, Renovations to Buildings #1, #3, #4, #5, #5, #7, #8, #9, #10 at the WV State Capitol complex, Cultural Center HVAC Renovation, Union Carbide, United Center - Charleston WV, Phillip Morris USA, Rhone-Poulenc, Toyota, Olin Corporation, Walker Machinery, WV Air & Army National Guard, Bank One, WV; Kohl's, Sears, WV Public Service Commission Headquarters, and Yeager Airport. He also designed one of the largest geothermal heat pump applications in the mid Atlantic region, commissioned HVAC systems and mechanical engineering at many General Motors facilities in North America.

Some of his health care experience includes millions in renovation and new construction design for Charleston Area Medical Center including commissioning of Charleston Area Medical Center's $41 million Surgery Replacement center and many projects at General Division, Memorial Division, and Women & Children's Hospital. Other heath care experience includes Bluefield Regional Medical Center, Hopemont Hospital, 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, Wayne Memorial and Webster Memorial Hospital.

He also has experience in providing M/E design for the following College and Universities including:, Alderson Broadus College, Bluefield State College, Concord University, Fairmont State College, Harvard University, Marshall University, Ohio University's Athens & Chillicothe campuses, Southern WV Community & Technical College, University of California-Davis, University of Charleston, Washington & Lee University, WV Wesleyan College, and West Virginia University. He was recognized nationally for his work with Ohio University in development of a performance contracting program that is anticipated to save $2.5 million annually in energy and operating costs.

He also has experience in providing M/E/P design for the following schools: Calhoun, Clay, Grant, Greenbrier, Hardy, Harrison, Jackson, Kanawha, Lewis, Logan, Marion, McDowell, Mercer, Mingo, Monroe, Ohio, Pocahontas, Putnam, Raleigh, Randolph, Ritchie, Summers, Taylor, Tucker, Upshur, Webster, and Wyoming County Schools. Some of his project experience includes the development and design of a pilot geothermal heat pump HVAC with variable speed pumping system at Webster County High School which reduced electric bills by more than 40% while meeting IAQ requirements.

Prior to joining **ZDS**, Todd Zachwieja coordinated millions in comprehensive energy conservation programs resulting in annual energy saving millions per year and managed a profitable regional office for one of the countries largest energy service companies. He also developed computer programs for building energy analysis and monitoring and presented technical papers at regional and national conferences.

Professional Affiliations

Charter member Mountaineer chapter of American Society of Heating Refrigeration and Air conditioning Engineers (ASHRAE)
Served as ASHRAE's Energy and Technical Affairs Chairman for 6 years.
Recognized by the International Who's Who of Professionals.
Recognized nationally as West Virginia's Business Man of the Year
Recognized nationally in 2007 as a "Legend in Energy"
Recognized nationally in 2008 as a "Charter Legend in Energy"
Charter life member of the Association of Energy Engineers
Professional Affiliate Member of the American Institute of Architecture
Member of the American Association of Hospital Engineers
Member of the National Society of Professional Engineers
Member of National Society of Plumbing Engineers
Member of the International Code Council
Contributing editor and served on the Editorial Review Panel for "The Handbook of Building Management and Indoor Air Quality", "Ventilation for a Quality Dining Experience", INvironment Professional, Power Prescriptions and other publications and articles dealing with Indoor Air Quality (IAQ) and MEP engineering systems.
Presented at regional and national conferences including the National System Commissioning Conference

TED T. ZACHWIEJA

Principal-in-Charge Construction Administration

Education

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

Qualifications

Ted's responsibilities include over 45 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 Specialists.

He has been involved in West Virginia since 1958 in all aspects of mechanical and electrical design and construction, including machine design, structural design and design of heating, ventilating, air conditioning, plumbing, fire protection and electrical systems. His 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, most buildings on the 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, formerly Charleston National Bank, including conducting a comprehensive energy audit, design of a Building Automation Energy Management System, HVAC renovations of floors LM and LM1, design of flat plate heat exchanger system for the perimeter fan coil units and design of the boiler replacement.

Ted has been involved in the planning, design and construction administration of Concord University's Technology Center and Concord's campus medium voltage upgrades, Marshall University's Harris Hall renovations, Southern WV Community & Technical College's renovations, West Virginia University's White Hall and Armstrong Hall, WVU's Wise Library Sprinkler System, WVU's Chilled Water Loop Interconnect, Morgantown, WV; Charleston Area Medical Center (CAMC), Memorial Division Chiller Replacement; CAMC's General Division Chiller Replacement, Variable Pumping System and Chillers Interconnect, Charleston, WV; and many others. He has worked on new and renovation projects such as West Virginia University Stadium and Forestry Building, Morgantown, WV; Addition and Renovation of the Air Conditioning System for the West Virginia State Capitol Building, Charleston, WV; Conley Hall and Science Building HVAC Renovations and Additions, West Virginia Institute of Technology, Montgomery, WV; Indoor air quality (IAQ) and HVAC Renovations of Andrew Jackson Junior High School for Kanawha County School Systems; Fume Hood Design and HVAC Additions and Renovations for Union Carbide, Charleston, WV; and Rhone Poulenc, Institute, WV; HVAC renovation for the Benedum Student Center at West Virginia Wesleyan College, Buchannon, WV; Greenbrier East and Greenbrier West Schools; Mingo County

Schools; Raleigh County Schools including new Shady Springs Middle School, new Trap Hill Junior High School, Academy of Career and Technology Center HVAC renovations, Marsh Fork Elementary renovations, Park Middle School renovations, Woodrow Wilson High School Renovations and others, Randolph County's Elkins Middle School Renovations, Pocahontas County High School (Geothermal) renovations, Wyoming County Schools; Tucker County Schools; Webster County High School, Glade Elementary/Middle School & Webster Springs Elementary School HVAC Renovations (Geothermal) and Exterior Renovations, and various other secondary schools throughout the years.

Ted was involved with the mechanical and electrical renovations for the State of West Virginia Library Commission Cultural Center as part of a total $4.5 million HVAC and Electrical Renovations, Charleston, WV. 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 eastern United States. Some of his health care experience includes millions in renovation and new construction design for Charleston Area Medical Center's Special Care Facility. Other local heath care experience includes Bluefield Regional Medical Center, Hopemont Hospital, 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.

Professional Affiliations

Construction Specifications Institute (Charter Member)
American Society of Mechanical Engineers
American Society of Heating, Refrigeration & Air Conditioning Engineers
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

DANIEL H. KIM, PH.D.

Principal - Management Services

Education

Ph.D. in Management from Massachusetts Institute of Technology Sloan School of Management in 1993
Bachelor of Science in Electrical Engineering from Massachusetts Institute of Technology in 1987

Qualifications

Daniel brings with him a strong design and management experience with over 24 years of experience in consulting ranging from traditional electrical and mechanical systems design to being one of the nations leading experts in organizational issues including Total Quality Management and Systems Thinking.

His specialties include the management and design of HVAC systems for new building construction in the $50 - 150 million range including the One Hundred and Fifty, Federal Streets, Boston, MA; the Becton Dickinson World Headquarters, NJ; Marketplace Center, Boston, MA.

Daniel has been an organizational consultant and public speaker who are committed to helping problem-solving organizations transforming into learning organizations. He has worked with numerous companies including DuPont, Ford Motor, Harley Davidson, Hanover Insurance, Healthcare Forum, CIGNA, Life Technologies, Ameritech Services, Brigham & Women's Hospital and General Electric among others

Publications

"Learning Laboratories: Designing Reflective Learning Environments," *Proceedings of 1989 International System Dynamics Conference*, Stuttgart.
"Experimentation in Learning Organizations: A Management Flight Simulator Approach," *European Journal of Operations Research*, May 1992.
"Systems Archetypes: Diagnosing Systemic Issues and Designing High-Leverage Interventions" 1992, Cambridge, MA: Pegasus Communications.
"Toward Learning Organizations: Integrating TQC and Systems Thinking," *Special Report Series*, Cambridge, MA: Pegasus Communications.
"The Leader with the "Beginner's Mind," *Healthcare Forum Journal*, July/August 1993

Lectures

Keynote speaker and/or concurrent session at several conferences, including those hosted by The Planning Forum, The Healthcare Forum, Institute for Healthcare Improvement, The Conference Board Speaker at Hofstra University, Monmouth College, University of Houston, and U.C. Berkeley.

LORI L. ZACHWIEJA, CPA

Principal - Chief Financial Officer

Education

Bachelor of Science in Accounting, Bachelor of Science in Business Management and a Bachelor of Science in Computer Management; all three degrees were with Honors, West Virginia Institute of Technology in 1983. Master's Degree at Marshall University

Registrations

Certified Public Accounting in 1988, No 2542
Member of West Virginia Society of CPA's since 1985
Certificate Number 1949

Qualifications

Lori has over 26 years experience in finance, business, and accounting including being a Partner in a consulting firm, a Senior Financial and Tax Analyst for the Corporate Financial Services and Small Systems Support Department at Blue Cross and Blue Shield of West Virginia, Inc. and Staff Accountant for Simpson and Osborne, a CPA firm located in Charleston WV. Lori also has worked with an architectural firm located in Charleston, WV.

SHERRY Z. POWELL

Office Manager - Specification Coordinator

Education

Bachelor of Art Degree. Education Major WV state licensed K-12 with Minor in Psychology through Marshall University, Huntington, WV 1992. Order of Omega honorary member. National AE Association. Marshall University Dean's List.

Qualifications

Sherry is the ZDS Specifications Coordinator. She has over 10 years experience working with various state contracts with 3 years specifically in Engineering Design contracts. She has also provided assistance with AIA contracts and job specific Construction Administration documents. She coordinates day to day operational office management activities and has 12 years experience with various office settings. She has a diverse background through previous volunteer and charity work activities. She has served as co-coordinator and officer for numerous local groups and charitable organizations.

KEVIN MARK KING, P.E.

Electrical Engineer

Education

BS in Electrical Engineering from West Virginia University Institute of Technology, Montgomery, WV in 2003
BS in Computer Science from Bluefield State, Bluefield WV in 1994.
AAS in Computer Information Systems from Wytheville Community College, Wytheville, WV in 1990.

Registration

Professional Engineer, West Virginia, No. 18222
WV Master Electrician License No. M2302761640800

Qualifications

Mark has more than 16 years of experience in electrical engineering, lighting, technology, heating, ventilating, air conditioning, for educational, commercial and health care facilities. He has vast experience in electrical field as a master electrician and in managing teams of people within different companies to ensure projects are within budget and completed within a timely fashion. He researches and applies, International Building Codes, NFPA, Illuminating Engineers Society standards and National Electric Code in design Magna Cum Laude Graduate in 1990 & Cum Laude Graduate in 1994.

Mark specializes in electrical power, security, fire alarm, and lighting.
His education experience includes: Additions and renovations to Greenbrier West High School, New Sissonville Middle School, HVAC Electrical Upgrades to Shady Spring High School, HVAC/ Electrical Upgrades to Clearfork Elementary School, HVAC Upgrade Independence High School, HVAC Upgrades to Summersville Middle School, HVAC Upgrades to Liberty High School, HVAC/Electrical Upgrades to Woodrow Wilson High School, New Talcott Elementary School, WVU Tech- Printing Innovation Center, WVU Tech- Davis Hall Auditorium HVAC Upgrade

Commercial experience includes: New Raleigh County 911 Call Center, New Putnam County PSD Maintenance Garage, New Firehouse for WVANG, New Mason County 911 Call Center, Chief Logan State Park Lodge, Silver Tree Suites, St. Timothy's in the Valley, Tri-County YMCA Natatorium Addition

His industrial experience includes: Stuart Forest Products, Elkem Metals – New Controls for Powerhouse, Elkem Metals- New Controls for Trolley System, Andritz Bird Addition Weyhauser- Chester, South Carolina- Installed new charges on Lathe System, Steckman Ridge Gas Compressor Station, Big Mountain Gas Extradition Station & Helenwood Gas Extraction Station

JAMES E. WATTERS

Project Manager/Production Manager

Qualifications

Jim has over 35 years experience in design and implementation of HVAC, plumbing and electrical systems including 9 years in the construction industry. He has a comprehensive knowledge of construction documents, contracts, and development of cost estimates, budgets & 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 & 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.

Some of Jim's HVAC, plumbing, fire protection and electrical project experience includes: Eleanor Maintenance Facility for the WV Department of Military Affairs and Public Safety in Eleanor WV; Kings Daughters Medical Center in Ashland KY (multiple projects exceeding $12,000,000 in construction costs); Charleston Area Medical Center in Charleston, WV; St. Mary's Medical Center in Huntington WV; Paul Blazer High School in Ashland KY; Marshall University Student Housing in Huntington, WV; Pleasant Hill Elementary plumbing renovations in Calhoun County WV; Boyd County Judicial Center in Boyd County, KY; Ritchie County Middle/High School; Elkins Middle School HVAC and electrical renovations; WV DOT Burnsville Rest Area and domestic water pumping station; Tucker County Board Office Boiler Retrofit; Kanawha County Commission Judicial Annex Renovations, new Iaeger/Panther Elementary School, and West Virginia Division of Culture and History Fire Alarm/Sprinkler upgrades.

Through the years Jim has researched and implemented into practice International Building Codes, National Electrical Codes (includes NFPA), Life Safety Codes, IES standards, AIA Guidelines for Design and Construction, and the evolving ADA standards and guidelines.

MARK A. MOORE, P.E.

Project Manager: Electrical, Mechanical & Plumbing

Education

BS in Electrical Engineering from West Virginia University Institute of Technology, Montgomery, WV in 2001

Registration

Professional Engineer, West Virginia, No. 17286

Qualifications

Mark has more than 8 years of experience in electrical engineering, lighting, plumbing, technology, mechanical engineering, heating, ventilating, air conditioning, for educational, commercial and health care facilities. He researches and applies, International Building Codes, NFPA, Illuminating Engineers Society standards and National Electric Code in design. Mark has a strong background in microprocessor and microcomputer design. He is also responsible for Information Technology functions for ZDS and our customers.

Mark is also an information systems and technology specialist and provides networking solutions and Windows based programming system solutions.

Mark specializes in electrical power, security, fire alarm, lighting, plumbing, HVAC piping, and fire protection. Some of his educational and health care project experience includes: Charleston Area Medical Center, Bluefield High school renovations/Performing Art Center, Clay Elementary School HVAC Renovations, Concord University Technology Center, Elkins Middle School Renovations, H. J. Keiser Elem renovations, Hopemont State Hospital Fire Alarm renovations, James Monroe High School renovations, Ohio University Bennett Hall M/E Renovations, Park Middle School renovations, Ravenswood High Renovations, Ritchie Middle/High School renovations, Tucker County High/Career Center renovations, Webster Springs Elementary School geothermal heap pump system, Winfield High School HVAC/Electrical renovations, Pocahontas Co High School Renovations/science center additions, new McDowell County Southside K-8 school, Woodrow Wilson High School HVAC/Electrical renovations, United Hospital Center Wound Center and others.

His commercial experience includes; Cass Railroad Clubhouse renovations, DOT Rest Area and Welcome Center prototypes for the WV Department of Transportation, 4-H Camp Muffly Training/Dining facility, Hardy Co. Daycare facility, Jackson County Courthouse Annex renovations, Kanawha County Judicial Annex Renovations, Mason County Courthouse renovations, new Mercer County Courthouse Annex, multiple branch bank facilities, Camp Dawson Barracks security renovations, award winning Webster County IMC office facilities, Pendleton County Courthouse additions/renovations, new Webster Co. Multi-tenant Bldg., WV Capitol Complex Performance Contracting HVAC retrofits, WV Capitol Complex Master Planning for Security/Fire Alarm/Life Safety systems and others.

DAVID G. DIAL, P.E.

Senior MEP Engineer

Education Bachelor of Science Mechanical Engineering, WV University, 1978
Masters of Science Environmental Engineering, WV University, 1980

Registration Professional Engineer, West Virginia, No. 11692

Qualifications 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 also includes managing operating and maintenance repair and construction services for HVAC, plumbing, electric, and maintenance. David has managed grounds maintenance, security staff, information technology, IT NASA network, video surveillance and telephone systems. These areas provide inherent coordination expertise.

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, farm pump water design, and even completed a successful energy grant application from the US Department of Energy.

Environmental Design experience includes PCB remediation, Air Pollution Control Commission annual reporting, removal of underground fuel storage tanks/pumps, installation & testing for radioactive material, conversion of a fleet of vehicles to operated duel 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.

He 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 electric system, industrial dust collector system for the Percival Dust Collector, 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 set up insulation.

JAMES W. LOWRY, E. I. T.

HVAC, Plumbing & Fire Protection Designer

Education

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

Registration

EIT West Virginia # 8376
West Virginia State Board of Registration for Professional Engineers

Qualifications

James has completed extensive HVAC design training at Carrier Training Center, Syracuse, NY and hydronic design/applications at the B&G training center, Chicago, IL. 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 and commercial facilities. He specializes in HVAC, Fire Protection and Plumbing design. He researches and applies International Building Codes, NFPA, ASHRAE standards and the AIA Guidelines for Design and Construction of Health Care Facilities in design

His commercial experience includes Cass Railroad Clubhouse renovations, DOT Rest Area prototype, DOT Welcome Center prototype, 4-H Camp Muffly Training/Dining facility, Kanawha County Judicial Annex renovations, Jackson County Courthouse Annex renovations, Mason County Courthouse renovations, Pendleton County Courthouse additions/renovations, Pt. Pleasant River Museum Addition, Hardy Co. Daycare Center, multiple branch bank facilities, Webster Co. Multi-tenant build-out, WV Capitol Complex Performance Contracting HVAC retrofits & Master Planning for Security/Fire Alarm/Life Safety systems and others.

Some of his educational project experience includes: Concord University Technology Center, Elkins Middle School HVAC/Electrical Renovations, James Monroe High School HVAC renovations, Man/Central Elementary Addition, Park Middle School HVAC renovations, Ritchie County Middle/High School HVAC/Plumbing Renovations, Tucker County High/Career Center HVAC renovations, new McDowell County Southside K-8 School, and Woodrow Wilson High School HVAC/Electrical renovations

Professional Affiliations

American Society of Mechanical Engineers

MARSHALL COCHRAN

MEP CAD Designer/Technical Analyst

Education

Associate Degree in Computer-Aided Drafting, ITT Technical Institute, Murray, Utah, 1990. Has completed various courses at Parkersburg Community College, Parkersburg, WV and at Arch Moore Vo-Tech, Frozen Camp, WV

Qualifications

Marshall has specialized in Computer-Aided Drafting and design since 1988 and is presently working with AutoCAD 2008. He has a comprehensive knowledge of AutoCAD and Integraph.

Marshall has been involved with the design and production of mechanical and electrical drawings including HVAC, plumbing, fire protection, lighting, power and piping systems. He has worked with Engineers in the design of HVAC systems for health care, educational and commercial buildings in the state of Utah, Ohio, Virginia, Pennsylvania and West Virginia: determining HVAC equipment layout, CFM's to size ductwork, HVAC load calculations, plumbing design, computer rooms, gymnasiums, and auditoriums. He determined type, size and directional flow of diffusers; ductwork sizing, equipment selection and details. He has also worked on architectural and structural design of buildings, the design of blowout panels to be installed in hazardous buildings and civil drawings for layout of new roadways.

Some of Marshall's HVAC, plumbing, fire protection and electrical design project experience includes Kanawha County Judicial Annex HVAC Renovations, M/E renovations for schools in Clay County, Grant, Hardy, Harrison, Jackson, Kanawha, Logan, Marion, McDowell, Mercer, Monroe, Raleigh, Randolph, Putnam, Pocahontas, Summers, Tucker, Webster, and Wyoming County. Some of his college and University experience includes Bluefield College, Bluefield State College, Concord University, Marshall University, Ohio University, Southern WV Community & Technical College, WV Wesleyan College, Washington & Lee University, and West Virginia University. Some of his health care and commercial experience includes the Bank One of Charleston, Charleston Area Medical Center, Hopemont State Hospital, General Motors, Toyota, United Hospital Center, WV Cultural Center HVAC Renovations, Webster Memorial Hospital, WV Public Service Commission Headquarters Building, the WV Capitol Complex central boiler plant.

Paul A. Walker, AIA

President, Principal-in-Charge and Design Architect

Paradigm Architecture

Mr. Walker has twenty-seven years of experience as an architect and received his registration in 1986. He became a business owner in October 2000 when he created Paradigm Architecture. Mr. Walker's design responsibilities include programming, development of construction documents, project management, and construction administration. Among the variety of projects he has designed and supervised are: commercial, corporate, educational, governmental, industrial, institutional, recreational, religious, and residential. The scope of projects ranges from a few thousand dollars to over 30 million dollars.

Architectural Registration

NCARB

WV / AL / FL / NC / PA

Education

University of Tennessee

Knoxville, TN

Bachelor of Architecture, 1982

Professional, Civic and Other Activities

American Institute of Architects

Board Member
Chestnut Ridge Church

Russell Cancer Center*
Alexander City, Alabama
Completed: Spring 2001
Cost: $3.2 Million

West Virginia University
Downtown Student Housing
Morgantown, West Virginia
Completed: Summer 2009
Cost: $15 3 Million

Davis and Elkins College
Athletic Center
Elkins, West Virginia
Completed: Spring 2007
Cost: $5.5 Million

United States Department of Energy
Office of Legacy Management
Records Storage Facility
Morgantown, West Virginia
Completed: Summer 2009
Cost: $8 Million (Shell)

Morgantown Event Center
and Parking Garage
Morgantown, West Virginia
Completion: Spring 2010
Cost: $26 3 Million

Two Waterfront Place
Hotel and Conference Center
Morgantown, West Virginia
Completed: Summer 2003
Cost: $35 Million

West Virginia University
Mylan Puskar Stadium
Touchdown Terrace Club Addition
Morgantown, West Virginia
Completed: Fall 2007
Cost: $800,000

Davis and Elkins College
Madden Student Center
Elkins, West Virginia
Completed: Summer 2003
Cost: $1 5 Million

Russell Medical Center*
Dadeville Clinic
Dadeville, Alabama
Completed: Winter 2001
Cost: $1.3 Million

Russell Medical Center*
Dadeville Clinic
Dadeville, Alabama
Completed: Winter 2001
Cost: $1.3 Million

Glade Springs Resort
and Conference Center
Daniels, West Virginia
Completed: Fall 2005
Cost: $6 Million

West Virginia University
Coliseum and Athletic Office Renovations
Morgantown, West Virginia
Completed: Summer 2008
Cost: $1.5 million

Glade Springs Resort
Clubhouse Expansion
Daniels, West Virginia
Completed: Summer 2006
Cost: $1.1 Million

West Virginia University
Intermodal Garage
Morgantown, West Virginia
Completed: Fall 2009
Cost: $14 5 Million

*Key involvement in project with firm(s) other than Paradigm Architecture, Inc.

Par·a·digm - (păr´e-dīm´) *n.* An example that serves as pattern or model.

CLIENT REFERENCES

Pinnacle Environmental Consultants Has Performed Various Services Such As:

3-Year AHERA
Asbestos and Lead Inspections
Indoor Air Quality Studies
Asbestos and Lead Training
Asbestos Air Monitoring and Clearances
Prepared Specifications, Bid Documents and Project Oversight During Renovation and Demolition Projects
PLM (asbestos) Sample Analysis

COUNTY SCHOOL SYSTEMS:

Kanawha	Jeff Jarrett	(304) 859-0098
Wood	Garry Cooper	(304) 420-9568
Cabell	Mike Odell	(304) 528-5000
Ritchie	David Weekley	(304) 643-2991
Mingo	Jack McBrayer	(304) 235-7151
Gilmer	Jess McVaney	(304) 678-5443
Calhoun	Donald Pitts	(304) 354-7011
Randolph	Terry Collett	(304) 636-9194
Wetzel	Gerald Bissett	(304) 455-2441
Preston	William Helmick	(304) 329 0580
Barbour	Glenn Sweet	(304) 457-3030
Lewis	Nelson Lough	(304) 269-8300
Putnam	Robert Canterbury	(304) 586-0548
Mason	Gary Mitchell	(304) 675-5647
Boone	Andy Dolin	(304) 369-8275
Lewis	Steve Casto	(304) 269-8300
Wayne	Jerry Workman	(304) 272-5116

UNIVERSITIES:

University of Charleston	Cleta Harless	(304) 357-4736
Glenville	Joyce Riddle	(304) 462-4131
Ohio University	Jay North	(740) 593-9146
University of Cincinnati	Anne Saxton	(513) 556-4968
Capital University	Troy Bonte	(614) 236-6211
Northern Kentucky Univ.	Donna Grey	(859) 572-7520
Miami University	Terrance Ponder	(513) 529-1697

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12 **NAME:** Christopher Belcher

13 **ROLE IN THIS CONTRACT** Project Management

14a. **YEARS EXPERIENCE - TOTAL:** [illegible] years

14b. **YEARS EXPERIENCE - WITH CURRENT FIRM** [illegible]

15. **FIRM NAME AND LOCATION** ***(City and State):*** [illegible]

16. **EDUCATION** ***(DEGREE AND SPECIALIZATION)*** [illegible] University of Charleston [illegible]

17. **CURRENT PROFESSIONAL REGISTRATION** ***(STATE AND DISCIPLINE):*** Asbestos Analysts Registry, American Industrial Hygiene Assoc.

18 **OTHER PROFESSIONAL QUALIFICATIONS** ***(Publications, Organizations, Training, Awards, etc.):*** [illegible] AHERA Certification [illegible] Asbestos Abatement [illegible] University of Cincinnati [illegible] Asbestos [illegible] Project Designer [illegible] Building Inspector

---

19a(1) **RELEVANT PROJECT - TITLE AND LOCATION** ***(City and State)***: St. Albans High School, St. Albans, WV

19a(2) **RELEVANT PROJECT - YEAR COMPLETED - PROFESSIONAL SERVICES** [illegible]

19a(2) **RELEVANT PROJECT - YEAR COMPLETED - CONSTRUCTION** ***(If applicable)***: [illegible]

19a(3) **RELEVANT PROJECT - BRIEF DESCRIPTION** ***(Brief scope, size, cost etc.)*** **AND SPECIFIC ROLE** Asbestos Inspection [illegible] Specifications [illegible]

19a(3) **RELEVANT PROJECT - BRIEF DESCRIPTION - Check here if project performed with current firm:** [illegible]

19b(1) **RELEVANT PROJECT - TITLE AND LOCATION** ***(City and State)***: [illegible] WV

19b(2) **RELEVANT PROJECT - YEAR COMPLETED - PROFESSIONAL SERVICES:** [illegible]

19b(2) **RELEVANT PROJECT - YEAR COMPLETED - CONSTRUCTION** ***(If applicable)***: [illegible]

19b(3) **RELEVANT PROJECT - BRIEF DESCRIPTION** ***(Brief scope, size, cost etc.)*** **AND SPECIFIC ROLE** [illegible]

19b(3) **RELEVANT PROJECT - BRIEF DESCRIPTION - Check here if project performed with current firm:** [illegible]

19c(1) **RELEVANT PROJECT - TITLE AND LOCATION** ***(City and State)***: [illegible] Parkersburg, WV

19c(2) **RELEVANT PROJECT - YEAR COMPLETED - PROFESSIONAL SERVICES:** [illegible]

19c(2) **RELEVANT PROJECT - YEAR COMPLETED - CONSTRUCTION** ***(If applicable)***: [illegible]

19c(3) **RELEVANT PROJECT - BRIEF DESCRIPTION** ***(Brief scope, size, cost etc.)*** **AND SPECIFIC ROLE**: [illegible] see abatement

19c(3) **RELEVANT PROJECT - BRIEF DESCRIPTION - Check here if project performed with current firm:** [illegible]

19d(1) **RELEVANT PROJECT - TITLE AND LOCATION** ***(City and State)***: [illegible] Elementary School [illegible] WV

19d(2) **RELEVANT PROJECT - YEAR COMPLETED - PROFESSIONAL SERVICES:** [illegible]

19d(2) **RELEVANT PROJECT - YEAR COMPLETED - CONSTRUCTION** ***(If applicable)***: [illegible]

19d(3) **RELEVANT PROJECT - BRIEF DESCRIPTION** ***(Brief scope, size, cost etc.)*** **AND SPECIFIC ROLE**: [illegible]

19d(3) **RELEVANT PROJECT - BRIEF DESCRIPTION - Check here if project performed with current firm** [illegible]

19e(1) **RELEVANT PROJECT - TITLE AND LOCATION** ***(City and State)***: [illegible] WV

19e(2) **RELEVANT PROJECT - YEAR COMPLETED - PROFESSIONAL SERVICES:** [illegible]

19e(2) **RELEVANT PROJECT - YEAR COMPLETED - CONSTRUCTION** ***(If applicable)***: [illegible] meeting with media

19e(3) **RELEVANT PROJECT - BRIEF DESCRIPTION** ***(Brief scope, size, cost etc.)*** **AND SPECIFIC ROLE**: [illegible]

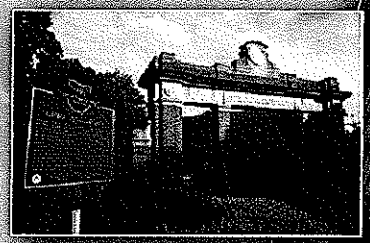
19e(3) **RELEVANT PROJECT - BRIEF DESCRIPTION - Check here if project performed with current firm**: [illegible]

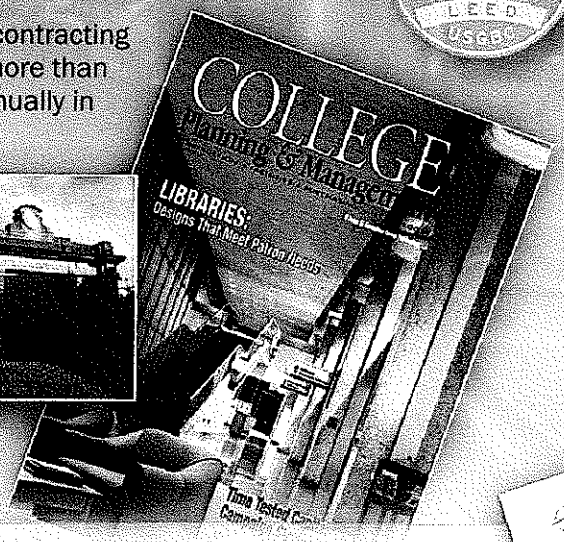
NATIONALLY RECOGNIZED FOR ENGINEERING EXCELLENCE

Energy Management Engineering

Ohio University–Athens

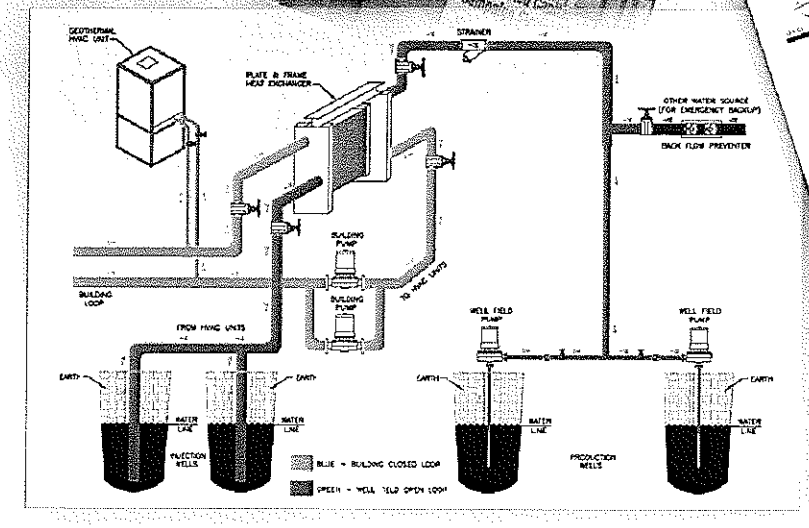
A performance contracting project saving more than $2,500,000 annually in energy costs.



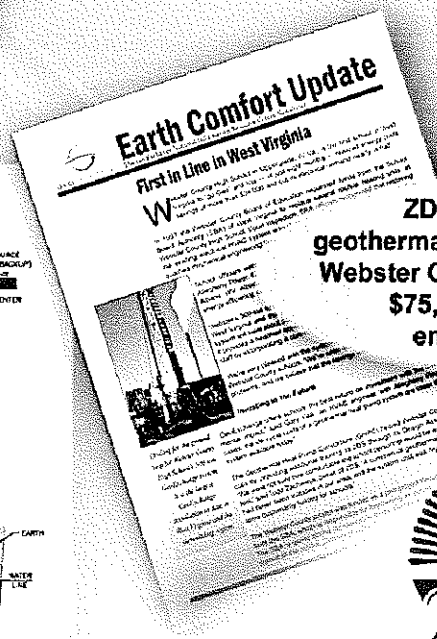


ZDS offers these and other energy management services:

- Compliance with LEED
- Utility Monitoring & Forecasting
- Energy Audits
- Performance Contracting Management
- Utility Savings Verification
- Utility & Government Funding
- Staff Training



Geothermal Open Loop System Designed by ZDS

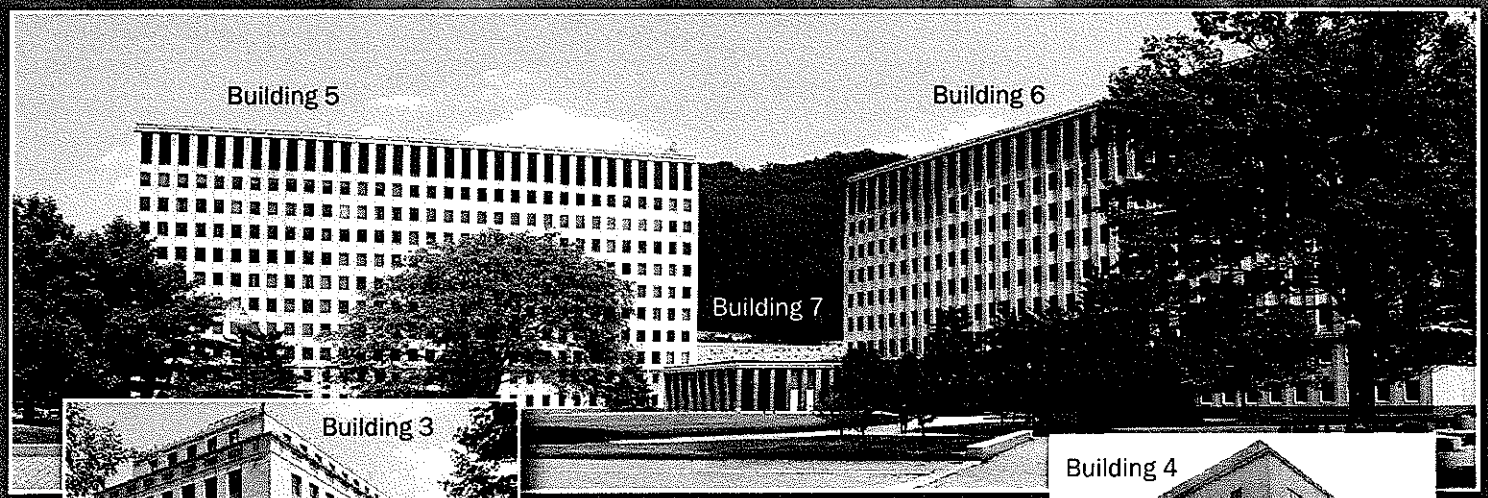


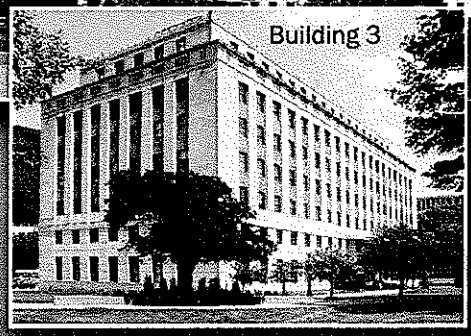
ZDS designed a geothermal system that saves Webster County High School $75,000 in annual energy costs.

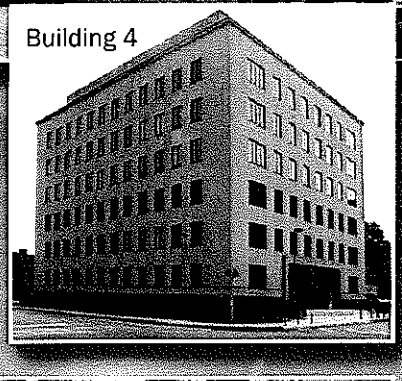
ZDS

Design/Consulting Services

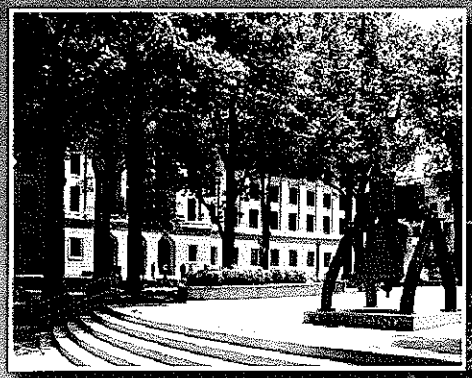
91 Smiley Drive, St. Albans, WV 25177 • (304) 755-0075 • www.zdsdesign.com

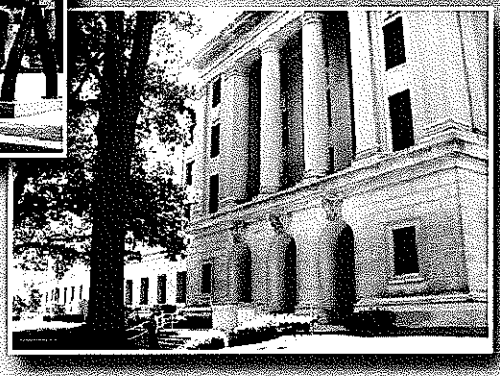






Below: East Wing

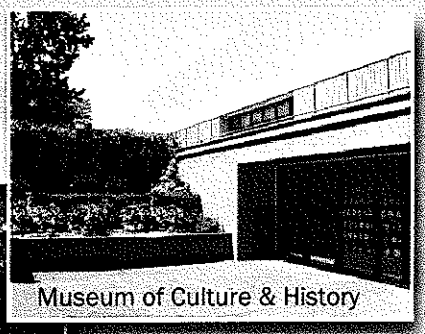


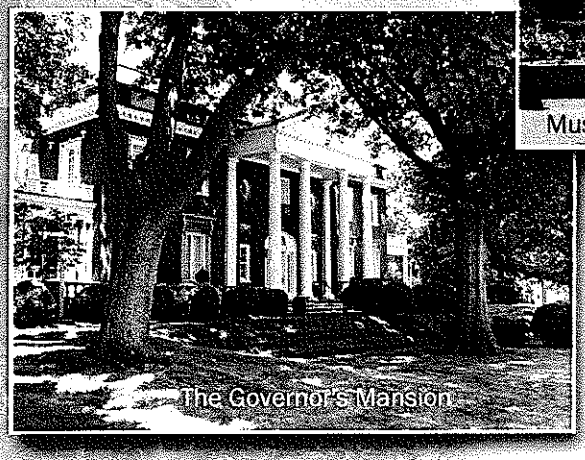


West Wing

LEED Certified Candidate

An integration of nine buildings involving over 1.6 million square feet of building space.





West Virginia Capitol Complex
$20,000,000 investment paid from savings which includes a new central heating plant serving all these buildings.

ZDS
Design/Consulting Services

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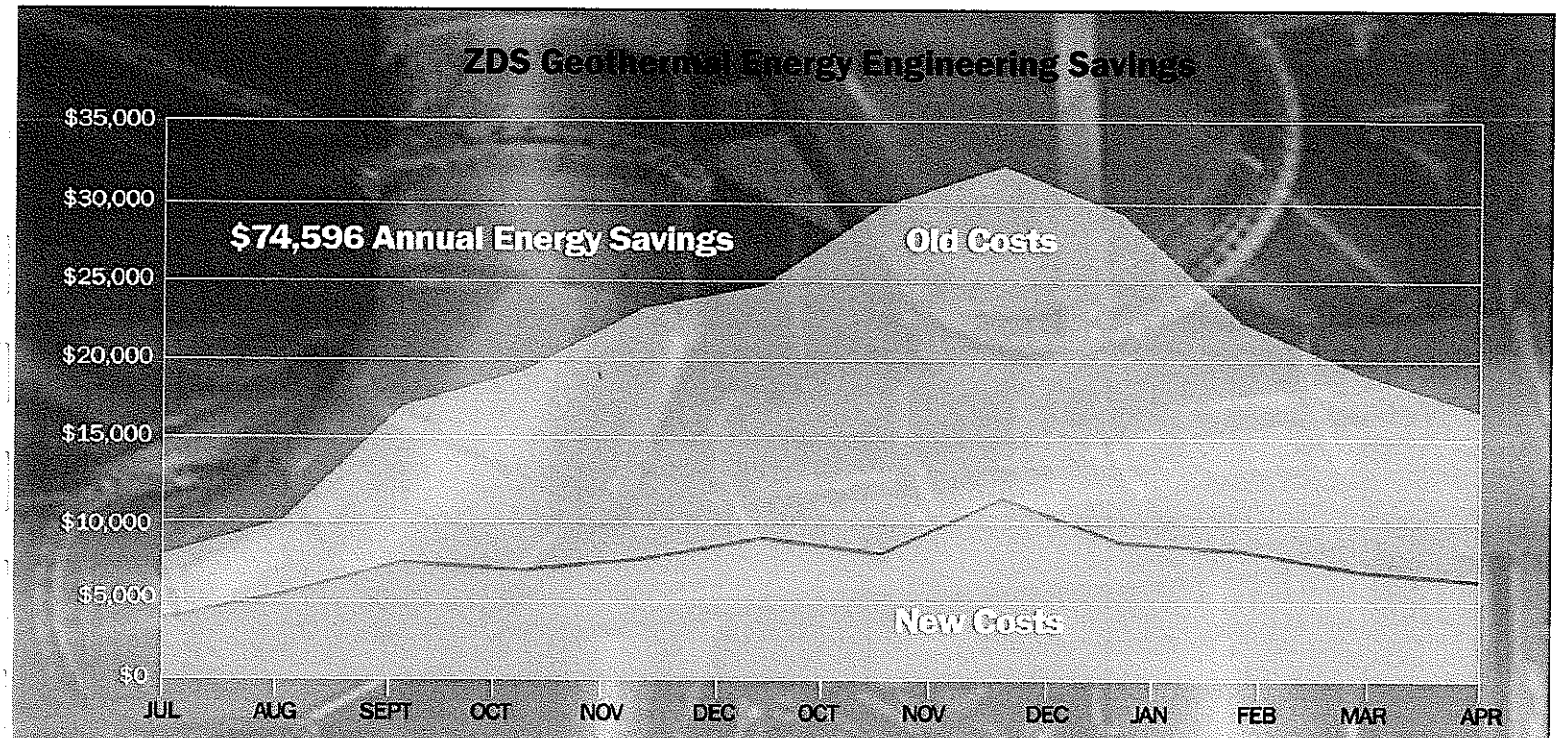
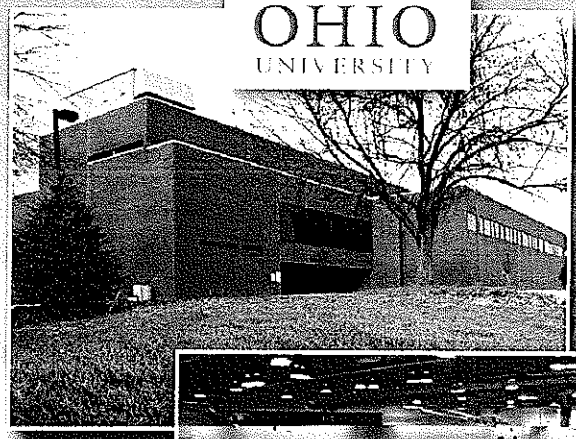


"We're very pleased with the system.
We've seen energy savings and have had zero maintenance problems."
Webster County High School

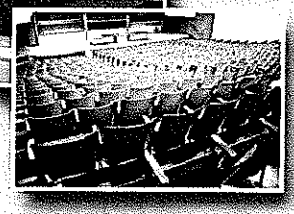
Ohio University Chillicothe Campus realizes an annual energy savings from $200,000 to $300,000 through ZDS master planning, HVAC/Electrical/Plumbing design, and the established comprehensive Performance Contracting program.

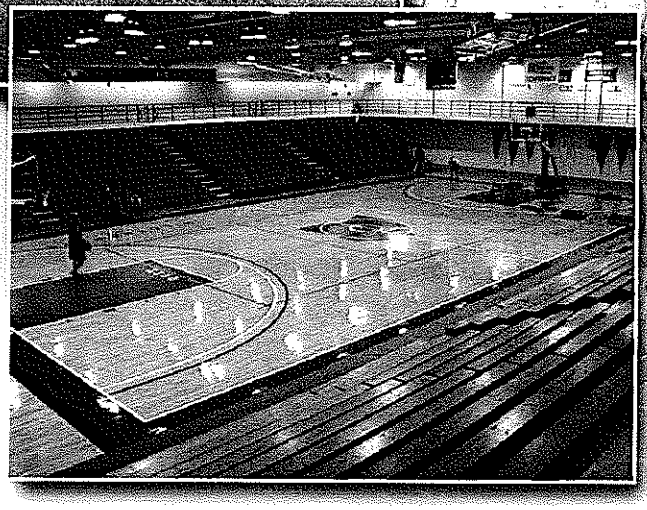
OHIO UNIVERSITY



Stevenson Center Library

Bennett Hall





Shoemaker Center and Gymnasium

ZDS
Design/Consulting Services

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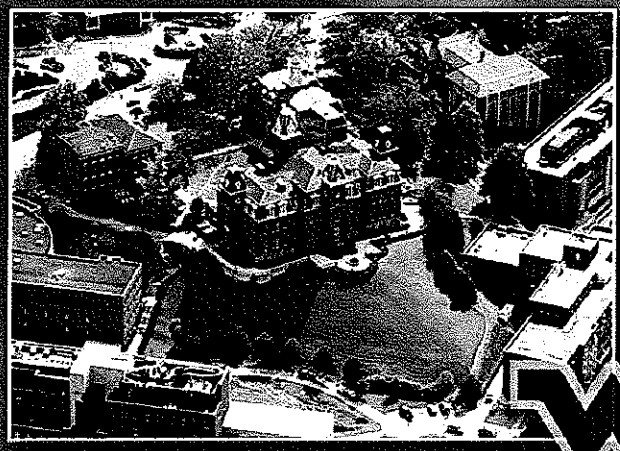
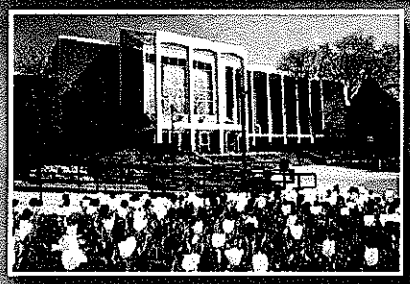


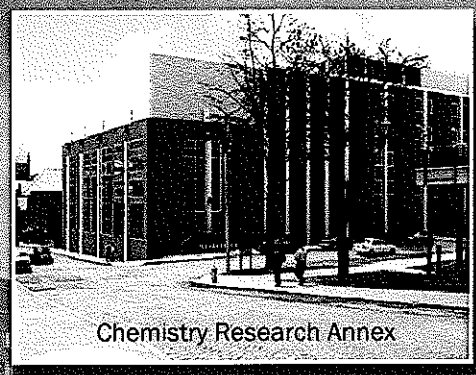
West Virginia University

ZDS established the central plan and renovations for the downtown campus chilled water loop system.

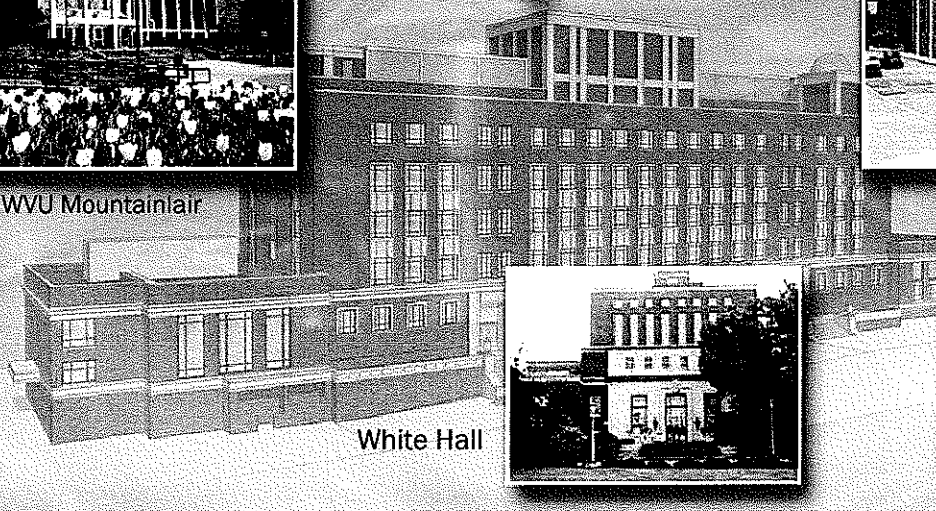
Renovations result in a $300,000 to $400,000 in annual savings in energy and related costs.



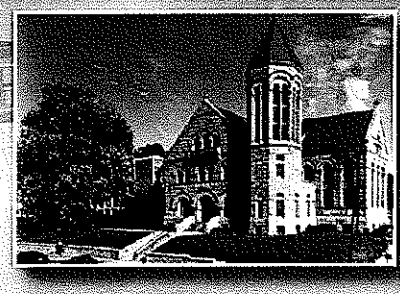
WVU Mountainlair



Chemistry Research Annex



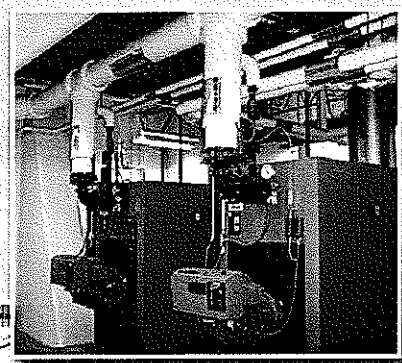
White Hall



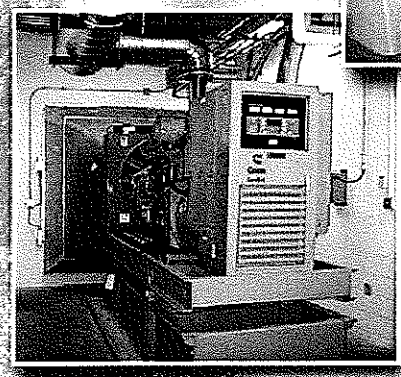
Stewart Hall

West Virginia Center for Culture and History

ZDS initiated the HVAC renovations and reduced HVAC operating costs up to 50%.



HVAC Boiler System



Emergency Generator

ZDS

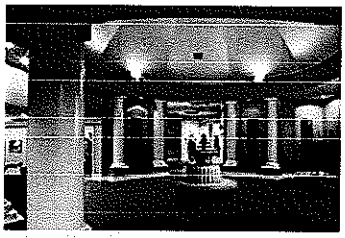
Design/Consulting Services

91 Smiley Drive, St. Albans, WV 25177 • (304) 755-0075 • www.zdsdesign.com

Customer Relationships, Quality Control & Management

Paradigm Architecture

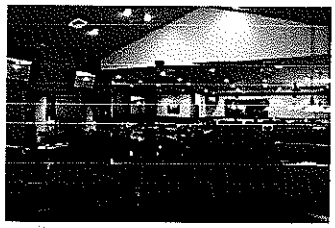
Customer Relationships and Quality Assurance



The Resort at Glade Springs

Paradigm Architecture prides itself on providing excellent client service. When asked one time whether Paradigm Architecture was primarily a Design Firm or a Technical Firm, the response was simply "We are a Client Service Firm." Our portfolio of projects exemplifies this as a quick review shows that the majority of our work comes from repeat clients. We are known for providing fast, local response as well as personal attention to each and every project, no matter how large or how small. The following pages are brief summaries of techniques used to maintain these valuable relationships.

Project Management



The Resort at Glade Springs

Every project will be assigned a Project Manager who is a licensed Architect with appropriate project type experience. This project manager will be assigned to the project from conception to project closeout and will be the client's primary point of contact for the entire design team. Communication is of utmost importance for any project to be successful and a workflow of communication, including identifying key individuals' responsibilities and authorities will be established at the onset of the project. Unlike most design teams, we feel that it is important for the Owner to have direct contact with the consultants on the design team. There will be scheduled meetings throughout the duration of the project where the Owner will have the opportunity to be directly involved with all aspects of the project's design. These meetings will range from design charettes to interviews with maintenance staff to feedback meetings at the conclusion of design phases.

Chestnut Ridge Church

From Program to Design to Construction

Once a program has been established, Paradigm Architecture will lead the design team through Schematic Design, Design Development, and Construction Documents. Schematic Design Deliverables will include Preliminary Architectural Floor Plans and Elevations, as well as Systems Narratives by all consultants. Design Development Deliverables will include detailed floor plans, elevations, sections, schedules, and single line engineering drawings. An outline specification will also be part of these deliverables, as well as 3D renderings for marketing purposes. Construction Documents Deliverables will include fully developed and completed drawings and specifications from all disciplines.

At all phases, an updated cost estimate will be provided that represents the current status of the project. As required for budget control, value engineering will take place prior to bidding and alternates will be included in the final bidding documents.

Once Bidding Documents have been approved by the Owner, Paradigm Architecture will assist the Owner in the Procurement Phase by prequalifying contractors, holding a Pre-Bid Conference, responding to questions, and issuing Addenda. After bids have been received, lowest responsible bidder approved, and a Construction Contract issued, Paradigm will provide Construction Contract Administration Services as described above.

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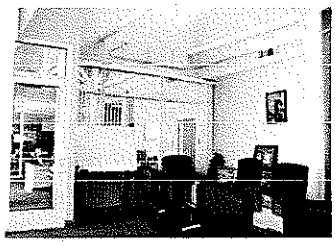
Customer Relationships, Quality Control & Management

Paradigm Architecture

Construction Contract Administration



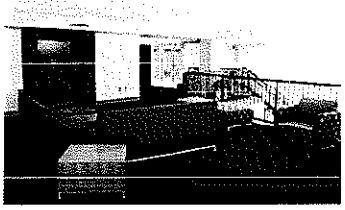
Trinity Christian School

In addition to the Project Manager, a Construction Contract Administrator will be assigned to each project. This individual will have extensive experience with the Client's established **Design Guidelines and Standards** and Construction Contract procedures. Unique to our company, this person will have been actively involved with the project during design and will have firsthand knowledge of the project's design. The Construction Administrator's roles will include managing and reviewing shop drawings, submittals, and RFIs for the entire design team. Additional roles include attendance at job site meetings, documenting construction progress and actively keeping the Owner through direct correspondence. The Contract Administrator will endeavor to have a good working relationship with the successful contractor bidding on the project to ensure that the project is a success for all parties involved.

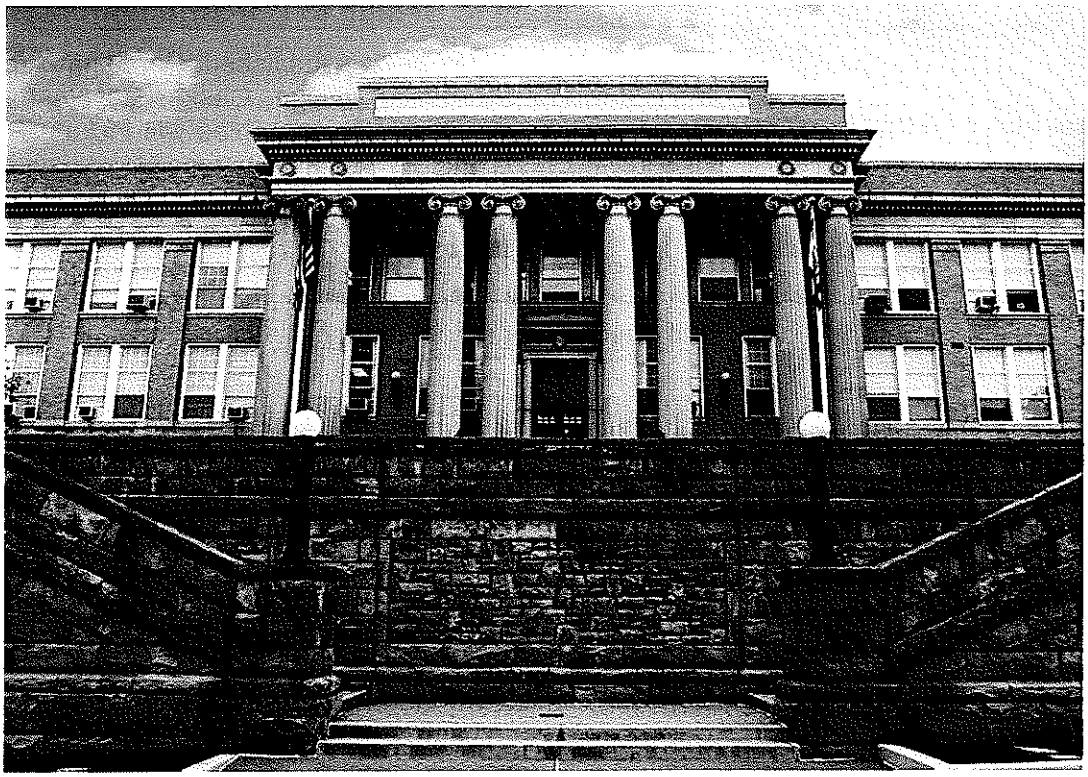
Project Closeout

Davis & Elkins College
Madden Student Center

Project Closeout Procedures will involve inspections by all members of the design team for Substantial Completion, and again at Final Completion. Each team member will generate a punch list of items that are either deficient or need to completed. Closeout Submittals are required on every project and include not only Operations and Maintenance Manuals, but also Record Drawings, Approved Shop Drawings/ Submittals, Attic Stock, and Contact Information for all Subcontractors on the project. A careful review and confirmation of the Closeout Submittals will be conducted prior to approval of the Final Payment Application.



WVU Intermodal Garage



Fairmont State University Hardaway Hall

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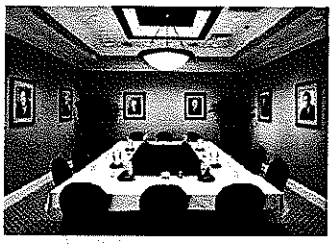
Customer Relationships, Quality Control & Management

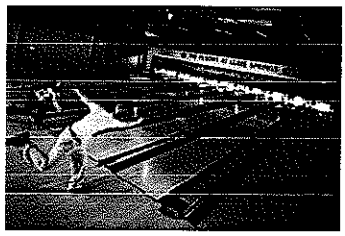
Paradigm Architecture

Project Delivery

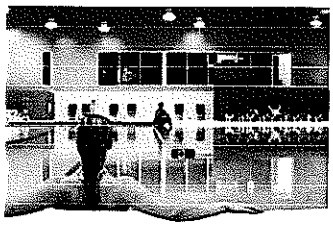


The Resort at Glade Springs

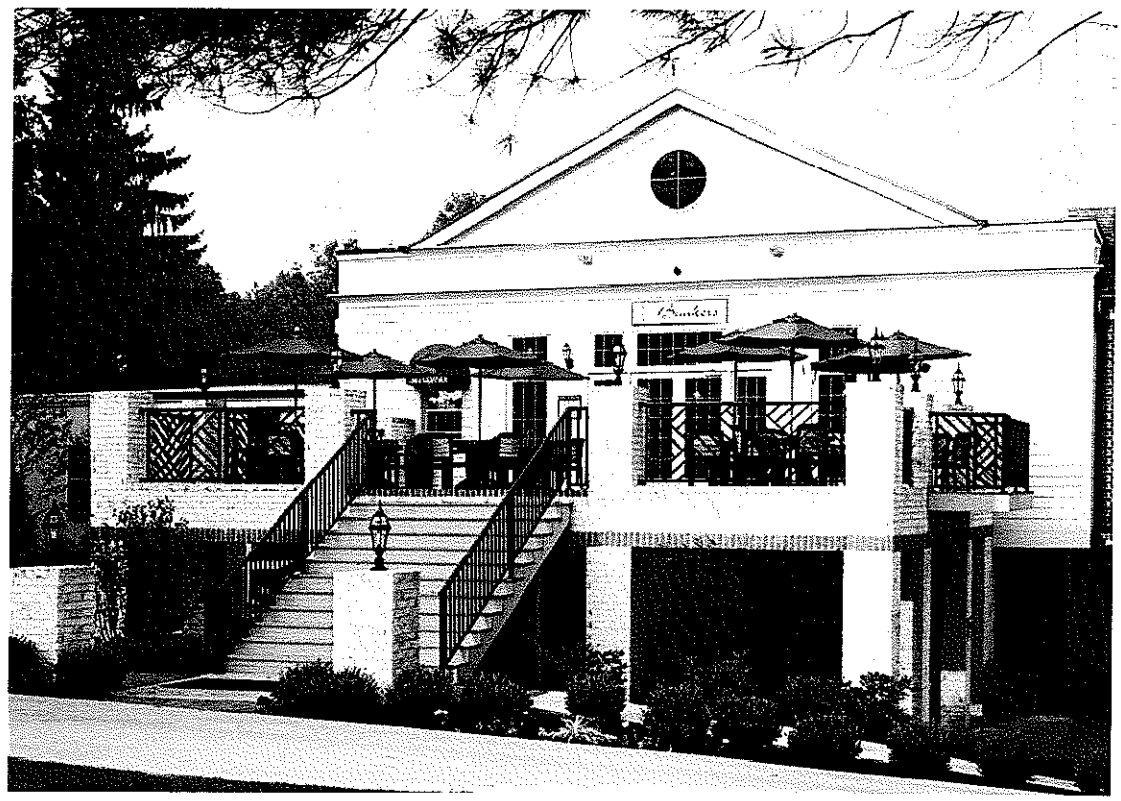
We have successfully used a wide range of project delivery types on both public and private projects: design-bid-build, negotiated, design-build, develop-design-build, fast track, construction management agency, and construction management where the construction manger is also the contractor. We have extensive experience on fast-track construction projects, ranging from $1 million to $35 million. We assist the owner in developing critical path items and developing multiple early release packages while the design is still ongoing. These packages typically include initial site work, foundation, superstructure, long lead equipment, shell, and interior fit out. Although there are greater risks that must be assumed by the owner with this method, the benefits from meeting tight deadlines typically outweigh these risks. Expedient decisions must be made by all involved and open lines of communication and transparency are crucial. On any given type of project delivery, we have a quality control plan that includes developing an initial schedule with the owner for the entire project through the design, bid, and construction phases. Milestone points will be established and will include deliverables from both the design team and the owner. These milestone points will include sets of progress drawings and specifications for both the owner's and design team's review. We have an extensive "in house" coordination and review process that includes engineering coordination, specification coordination, code and life safety reviews, and the owner's program review. Before moving to each subsequent phase, the Owner will have an opportunity to review and "sign off" on each progress set so that all parties are always clear as to the direction the project is heading.



The Resort at Glade Springs



The Resort at Glade Springs



The Resort at Glade Springs

Par·a·digm - (păr´e-dīm´) *n.* An example that serves as pattern or model.

Customer Relationships, Quality Control & Management

Paradigm Architecture

Teamwork

Fairmont State University Falcon Center

It has always been our philosophy that successful projects are the result of successful team relationships. And on any given construction project there are a lot of relationships that come into play: owners, developers, facilities managers, architects, engineers, contractors, subcontractors, financial institutions, attorneys, code agencies, tenants. We have learned a lot about how to work successfully together with all parties involved. Every project, whether large or small, is unique and requires strong leadership. Being a small business, you can be assured that local, senior staff and an experienced project manager will be assigned to all of our projects. Based on the specific requirements of the project, we always put together a team of consultants and staff who would best serve the needs of that individual project and client – while always maintaining a constant flow of communication and personal service with the owner. We have relationships with some of the best consulting companies in the region and the country to bring together the appropriate talents to meet the needs of a particular project. We currently have active relationships with consultants in WV, AL, IN, MI, OH, TX, NY, and PA.

Chestnut Ridge Church

Technology

Fairmont State University Classroom

Paradigm Architecture prides itself on streamlining our project delivery and management methods. One of the ways we do this is to utilize the latest technology, including web based project collaboration sites, electronic communication, electronic submittals for review and approval, video conferencing and the latest software packages for 3D renderings, Computer Aided Drafting (CAD), and Building Information Modeling (BIM). Our current software packages include the latest versions of Revit Architecture, Autocad Architecture, 3-D Studio, and Speclink. Far from the older methods of hand drafting, these tools help us to deliver faster and better coordinated projects, have fewer problems in the field, and provide the owner with excellent visualization tools during project development. We are always pursuing additional training and education for all our staff, including "in house" workshops, seminars, and online education for topics such as green building, BIM, project delivery and management, and current codes.

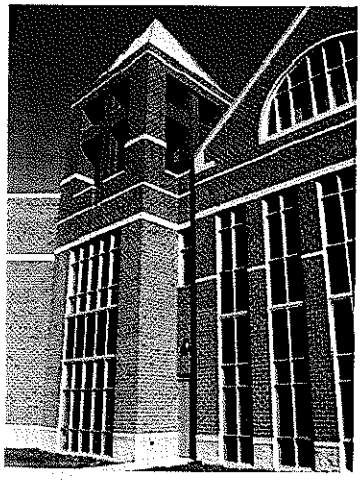
Chestnut Ridge Church

Par·a·digm - (păr´e-dīm´) *n*. An example that serves as pattern or model.

Customer Relationships, Quality Control & Management

Paradigm Architecture

Document Review and Coordination



Chestnut Ridge Church

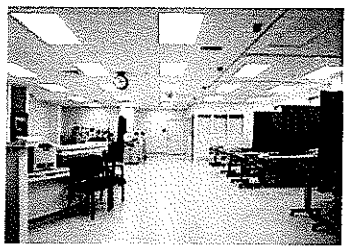
In addition to using BIM, Paradigm has a tested methodology of coordination reviews and "check set" submissions throughout various stages of the project. These typically fall at the conclusion of Schematic Design, Design Development, 50% Construction Documents, and 95% Construction Documents. The Project Manager will carefully review and coordinate the documents from all disciplines and issue markups back to the team for incorporation. These checks will include (but are not limited to) coordination of utility layouts above ceiling with the structural systems, all vertical risers, life safety and code reviews, building program backchecks, specifications, and incorporation of the Owner's **Design Guidelines and Standards**. The Owner will be given an identical "check set" at each submission for review and comment. In addition to Paradigm's existing coordination methodology, we have adopted and are incorporating the RediCheck Review System. ". . . Proven to reduce costs and avoid unnecessary delays . . . RediCheck is the only coordination review system recognized by both the American Institute of Architects and the American Consulting Engineers Council." At the Owner's request, an independent Quality Control Review can be conducted by RediCheck Associates.

Facilities Operations and Maintenance

Lanier Hospital

Recognizing the importance of long-term building operations and maintenance concerns, as well as building lifecycle costs, we encourage the involvement of the Owner's Facilities Management and/or Physical Plant staff throughout the project. We prefer to allow the engineers to get direct feedback from these individuals and we value their input to the selection of materials and systems. We diligently work to avoid past issues and concerns that have risen on past projects. In addition, our consultants have abundant experience in providing solutions and alternatives to pre existing maintenance conditions to alleviate those problems, provide a better building environment, and reduce lifecycle costs. This experience gives our team first-hand experience on the importance of having this staff involved with the design and allows for better decision making with the materials and systems selection.

Critical Path Method



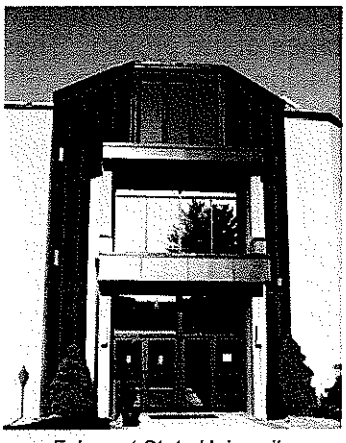
Lanier Hospital

Paradigm Architecture has abundant experience in managing multiple projects with critical deadlines. Meeting these deadlines all starts with a clear definition of the schedule constraints. The ultimate project completion date is not the only date that should be targeted on the delivery schedule. Paradigm Architecture utilizes critical path method scheduling to define "Milestone" Dates for the entire project. These include deliverables dates for various phases, design time, Owner's review, Agency and Authority having Jurisdiction Review, procurement time, and construction time. Rather than viewing the schedule as a linear process, it is of utmost importance to determine those items that fall on the "critical path." If those deadlines are missed then the schedule must be adjusted immediately or the project will fall behind. We prefer to view the Schedule as a method of Monitoring and Control throughout the duration of the project. The entire design team and the Owner will be constantly informed and updated regarding schedule performance and corrective action will immediately be taken as necessary.

Customer Relationships, Quality Control & Management

Paradigm Architecture

Project Coordination



Fairmont State University
Hunt Haught Hall

We have designed and managed a wide range of complicated project types through carefully coordinated teaming arrangements with highly specialized consultants. These project types range from educational and high rise, mixed-use buildings to multi-function event centers to major hospital expansions. These project types require multiple specialized disciplines that must be effectively managed and coordinated. Paradigm utilizes advanced techniques to accomplish this including internet-hosted project sites for collaboration, online meetings, video conferencing, and Building Information Modeling. Although many design firms may be learning to use this technology today, what separates Paradigm is that we have been utilizing advanced technology from day one of operation and have many local example projects where it was used.

Building Information Modeling (BIM)

Fairmont State University
Hunt Haught Hall

Of particular interest is our use of BIM. More than just a 3D visualization tool, BIM allows for all disciplines to conduct "clash detection" tests for various disciplines and building components before the project goes to bid. This is extremely crucial for above ceiling coordination among the structural and MEP components. Use of BIM technology can result in better coordinated construction documents and less changes in the field. In addition, BIM allows the Owner to virtually experience the project before it is constructed. Utilizing Animations, we can "walk" the Owner through the building so that room layout surprises are eliminated during design. The use of renderings allows for careful material selections and presentations to internal departments and project stakeholders. At the conclusion of the project, the as-built model can be turned over to the Owner's Facilities Management Department for an actively working database to be used for years to come.

The Resort at Glade Springs Hotel and Conference Center

Par·a·digm - (păr´e-dīm´) *n.* **An example that serves as pattern or model.**

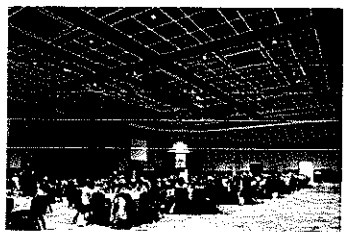
Customer Relationships, Quality Control & Management

Paradigm Architecture

Cost Control

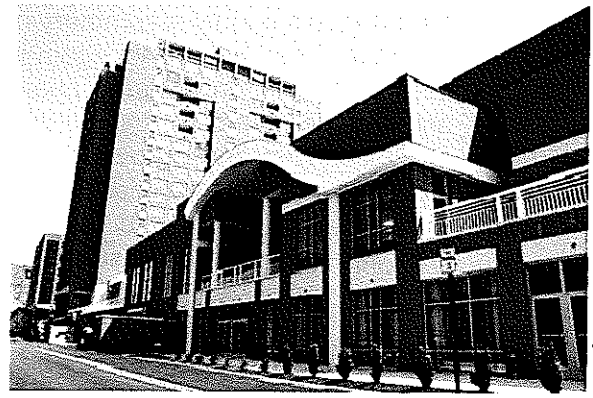
Morgantown Event Center

Paradigm Architecture understands the importance of the project budget and takes great pride in being able to meet these budgets. Project budget is not just the construction budget. We assist the owner in reviewing all aspects of the total project budget, including pre-design services, such as surveys, field investigations and geotechnical explorations, furniture, fixtures, and equipment (FFE) packages, and project closeout. Due to our vast experience with multiple project delivery types, include design-build and construction management, we have firsthand experience with monitoring costs throughout the entire project. In our nearly ten years of operations, we have never had an Owner "reject all bids" due to cost overruns. Many times, to help control costs on the project, we will work with the Owner early on to establish a base bid package that will deliver within budget. We will then establish a series of alternate packages that can be selected from once bids are received. We will also work with the Owner to establish an Owner's contingency allowance for those unforeseen issues that may arise.



Morgantown Event Center

Using internal cost data, and national databases, we are able to provide the Owner rough order of magnitude and schematic cost estimating for initial project development. We often conduct feasibility studies for clients to help them with initial project evaluations. For projects under $1 million we will provide more detailed cost estimating "in house" and have consistently been within an expected 10% range on bid day. However, unlike many architects and engineers, we feel that utilizing the services of a contractor or construction manager is extremely beneficial to the design process and helps keep the project moving in the right direction. Their services, such as cost estimating, constructability reviews, value engineering, current bid market analysis, and CPM scheduling have proven to be valuable assets to both the architect and owner. They are the experts in this area, just as we are the experts in the area of design, so why shouldn't we work together from day one to give the owner the best possible project? Therefore we often suggest that these services be used on medium and large projects. If a project's funding sources do not allow for the general contractor to fill this role until the design is complete, then we can provide this role as consulting services under our contract. At times, we recommend both the architect and owner hire these consultants so that two third party reviews can be conducted and then any major differences be reconciled prior to bidding the project. Using these unique approaches we find that it is rare for one of our projects to be over budget or behind schedule.



Morgantown Event Center

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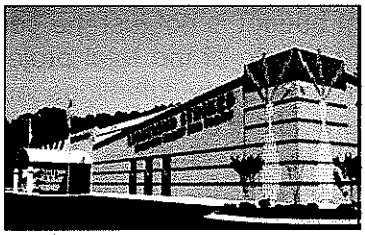
Customer Relationships, Quality Control & Management

Paradigm Architecture

Fast Track

We have been involved with multiple project delivery types where time is of the essence and have the capability to perform Fast Track Delivery Services if necessary. With Fast Track Delivery, the project is broken up in multiple construction packages with early release dates. Examples of these packages include Earthwork / Site Utilities, Foundations, and Superstructure. This allows construction to begin before the design has been complete.



Lightning Strikes
Trussville Family Fun Center

Insurance Coverage

Commercial General Liability
$1 million per occurrence
$2 million aggregate

Auto Liability
$1 million combined single limit

Excess Umbrella
$1 million per occurrence
$1 million aggregate

Professional Liability
$1 million per occurrence
$2 million aggregate

WVU Intermodal Garage

Disclosure of Ongoing Litigation and Claims History

Paradigm Architecture has filed a formal complaint in Jefferson County, Alabama, for nonpayment for services rendered on one project. Otherwise, Paradigm Architecture and its staff have not been involved in any litigation or arbitration. Our firm and its staff are free from all obligations; interest and regulatory problems that might be or appear to give rise to any conflicts of interest.

Although this is only a summary of our quality control and management procedures, we hope it has helped you gain insight into the services that we provide. We also actively review our internal operations and gather feedback from clients, consultants and contractors. We will quickly make firm wide adjustments when we see areas that could be improved in order to continue providing excellent service. We think this model of excellent service is acknowledged by our continued and growing list of repeat clients. We welcome you to call any of our references for further insight into how we may best serve you.

Honors & Awards

Paradigm Architecture

WVU Transportation Center & Garage

Excellence in Construction by the Associated Builders & Contractors, Inc.

2007 – Waterfront Marina, Morgantown, WV
2007 – Chestnut Ridge Church, Morgantown, WV
2004 – Madden Student Center at Davis and Elkins College, WV
2004 – Two Waterfront Place Hotel and Conference Center, Morgantown, WV
2003 – The Jackson Kelly Building, Morgantown, WV

Main Street Morgantown

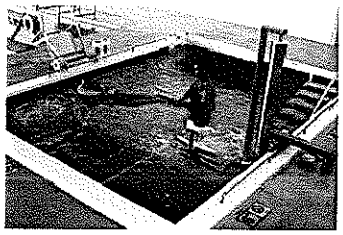
2008 – Best New Construction Award, Marina Tower, Morgantown, WV
2008 – Best New Office Award, Spilman Thomas Battle, Morgantown, WV

Alabama Masonry Institute

2004 – The Top Block Award for
Russell Professional Office Building III, Alexander City, AL

Pittsburgh Corning Glass Block

2004 – The Circle of Design Excellence Award for
Lightning Strikes Family Fun Center, Trussville, AL

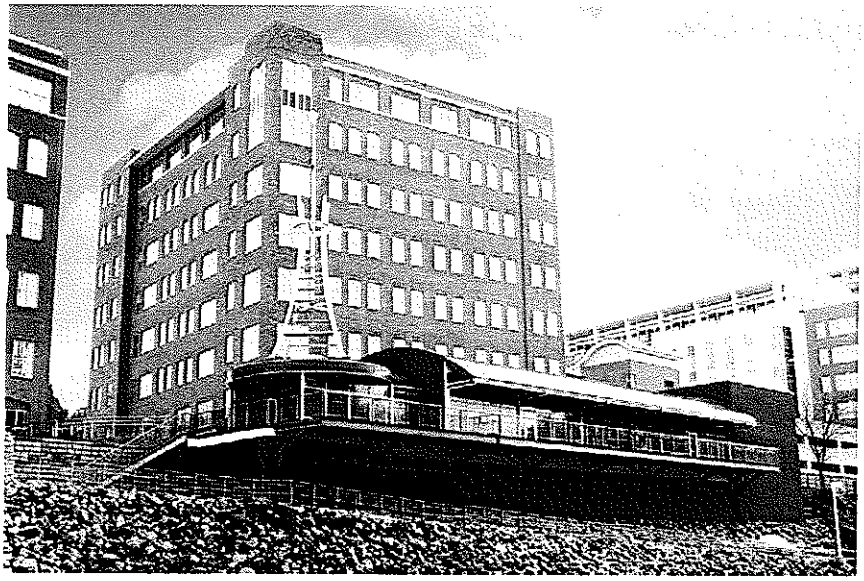


Russell Professional Office Building #3

West Virginia American Institute of Architects

2010 – Honor Award – Upper Monongahela River Center,
Morgantown, WV

2010 – Merit Award – West Virginia University Transportation Center and Garage,
Morgantown, WV



Upper Monongahela River Center

Par·a·digm - (păr´e-dīm´) *n.* **An example that serves as pattern or model.**

Paying for Performance

A growing number of colleges sign contracts with guarantees of savings of energy and money

BY MARTIN VAN DER WERF

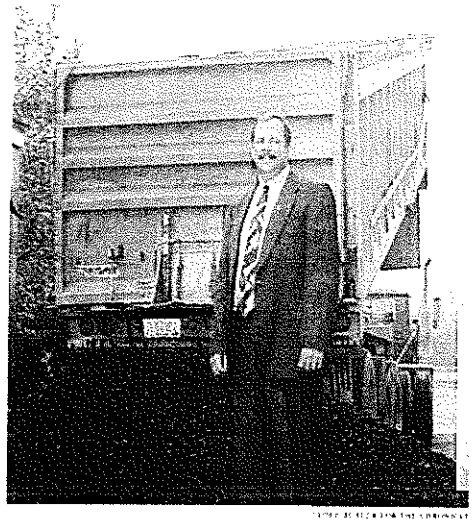
TECHNICIANS are crawling over the campus of Ohio University, charting the use of electrical current in every office and dormitory room, measuring the brightness of lighting, the consumption of water, the air temperature in every room and alcove. They are trying to document every way that the university can cut its energy costs.

The answers are in little places. Ohio will replace 9,000 exit signs with exit lights that use 80 percent less energy and last 25 times longer. It will replace windows. It will put smaller, more efficient fluorescent tubes in the light fixtures. It will probably be watering its lawns and fields with well water rather than water from the tap. And, as a symbol of its turn away from a longtime reliance on coal, the university is considering buying its own natural-gas field, in the nearby hollows of the Appalachians.

It will be a 20-year project that will save millions of dollars per year in energy costs. Yet, to do it, the university won't have to come up with any new money up front.

In April, it signed a $25-million "performance contract" with Vestar, a subsidiary of Cinergy Corporation, a Cincinnati-based energy company.

Todd A. Zachwieja, a Consultant with ZDS Design/Consulting Services: "Some schools have moved forward with contracts without fully understanding what they were doing."



Sherwood G. Wilson of Ohio U. says its new energy contract will help it cover the costs of deferred maintenance.

HOW IT WORKS

Performance contracts are an innovative financing method that is increasing in popularity on campuses. The process works like this: A contractor or energy company explores a campus and recommends ways to save money on energy bills. Then the contractor makes the changes or hires others to make them, and guarantees, in writing, that the savings the college will realize will cover the costs of the changes, usually within 10 years. The company can also arrange financing, so the college does not have any upfront costs. The college pays the company for construction and equipment in installments that roughly equal the amounts by which the college is cutting its energy bills.

The companies benefit by selling more of their products. For many colleges, the greatest appeal of the contracts is that they can use the savings to help eliminate backlogs in deferred maintenance. Many of them use the savings to buy more-efficient chillers, ventilation systems, and other utility-related equipment.

"This is a way for many institutions to get capital quickly," says Mohammad H. Qayoumi, vice chancellor for administrative services at the University of Missouri at Rolla, who leads sessions on utilities policy at institutes sponsored by the Association of Higher Education Facilities Officers.

"Are we going to see more? Definitely. We are going to see things going in that direction, especially with the deregulation of energy companies. They are increasingly going to want to sell electricity not only as a commodity, but all kinds of services along with it," he says.

University officials who have entered into the contracts point out, however, that the deals are immensely complicated. Any institution that is considering such a contract should consult with outside experts, says Joe Kelley, executive director of facilities at Louisiana State University at Baton Rouge, which signed one of the first performance contracts by any college, an $18.8-million deal in 1990.

"We sort of had to find a pathway through the jungle on this one," says Mr. Kelley. His advice: "Get every word of it in writing."

Todd A. Zachwieja, principal of ZDS Design/Consulting Services, an Ohio and West Virginia-based consultant on performance contracting, says there are now more than 100 companies in the business. The traditional market leaders are Fortune 500 companies like Honeywell, Johnson Controls, and Sempra Energy. Many of the newest ones are utilities trying to broaden their services.

AN UNTAPPED MARKET

The size of the market is difficult to quantify. Johnson Controls alone has about $1.6-billion in contracts, about 100 million worth with colleges, says Tom Proffitt, marketing manager for performance contracting at the Milwaukee-based company.

The college market, however, remains relatively untapped. Mr. Proffitt estimates that fewer than 20 percent of institutions have signed such contracts. But higher education has been a steadily growing segment of his company's business, he says.

Performance contracts were born in the 1970's, during the Arab

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oil embargo, when energy savings were at a premium But they were not widely used until the mid to late 1980's, when they became particularly popular at hospitals, which could get some Medicaid and Medicare reimbursement for facilities improvements, says Mr Zachwieja, chief executive officer of ZDS Design/Consulting Services, in St. Albans, W.Va.

Slowly, as states have passed laws allowing multiyear financing, elementary and secondary schools and local governments are beginning to sign the contracts. About 35 states have now enacted the laws, says Mr Proffitt

In 1994, President Clinton signed an executive order allowing federal agencies to make the agreements, and the contracts have begun to proliferate, mostly at military bases and at office buildings owned by the General Services Administration.

STAYING ON THE SIDELINES

Other than pioneers like Louisiana State; however, most higher-education institutions have stood on the sidelines

Many were scared away by earlier performance contracts, in which hospitals and some government agencies didn't save as much as they expected In the 1980's and early 1990's, the contracts were usually structured to give the company a share of the savings Those incentives encouraged companies to maximize profits by doing the least amount of work to save the amount of money specified in the contract But the long-term benefits for the institution were dubious.

Mr. Zachwieja. the West Virginia consultant, says that if colleges are careful about what they specify in their contracts, the real savings will come after the contract expires, as newly installed equipment continues to cut energy costs for years.

"Some companies are structuring contracts that only give benefits during the life of the contract," he explains. "You really aren't saving any money unless you get benefits that are lasting."

Louisiana State, for example, decided that it wanted all of the energy savings rather than sharing them, and, in 1992, bought out its contract with CES/Way International, an energy-contracting company, which has since been acquired by Houston-based Sempra Energy

"We didn't really need the savings guarantee, because the savings were there, the technology was proven, and it was, in our minds, a low-risk project, so we took it over ourselves," says Mr. Kelley, the facilities director.

Colleges also feared losing control of the operation of their buildings, something that indeed came about in early contracts

"Some schools have moved forward with contracts without fully understanding what they were doing," says Mr. Zachwieja. "Let's say they agree to a shutdown schedule — the lights shut down at a certain time, as opposed to before, when a custodian just shut down the lights on a room-by-room basis. Then the college decides to go to a nighttime-use schedule Then it won't be able to produce the savings that were projected in its contract. How do you deal with that? All those possibilities must be considered "

Some college officials say they think such kinks have been worked out.

Sherwood G. Wilson, associate vice president for facilities and auxiliaries at Ohio University, believes that more institutions will sign the contracts as an answer to deferred-maintenance problems

"We are faced with a backlog of deferred maintenance," says Mr. Wilson, who estimates Ohio's total at $55-million "We have resources that fall a long way short of covering all of our needs." The contract will allow Ohio to take care of more than $10-million of the backlog.

Nationally, deferred-maintenance costs for colleges reached an estimated $26-billion, according to a 1996 report by the facilities-officers association Chipping away at that total will become a big selling point as more companies approach colleges about the contracts, says Mr Proffitt, of Johnson Controls

"Everyone has looked at the K-12 market, and this has worked at K-12," he says. "You look at universities. There are greater bureaucracies, they may have credit issues, they have more-complex systems Quite frankly, you go where the low-hanging fruit is, and that has been the school systems The more-complex clients usually come later."

At Ohio, it took three years to get the administration, the Board of Trustees, and the state Board of Regents to approve the contract, mostly because of bureaucratic problems, says Mr. Wilson. When key financial people left, he had to explain and justify the contract to their replacements It is one of the largest performance contracts ever signed by a university.

Then there is the cultural shift for a region where the economy is centered on energy consumption.

Ohio University has always been run by burning the very ground beneath it Like clearing a forest to build a log cabin, the university has counted on nearby coal mines to stoke the boilers in the bowels of its sprawling campus.

But then came the Clean Air Act, and black-lung disease, and acid rain, and unemployment for many of the miners who dug up the ore that, in this part of the world, is particularly high in pollution-causing sulfur.

"We have tried to support the local industry, but this is even better," says Gene Mapes, an associate professor of environmental and plant biology and director of environmental studies. "I think this is a real leadership role, because we are modeling behavior." The university is trying to get area residents to acknowledge that the local economy must shift its emphasis from coal to tourism and small industry

CREATING A LONG-TERM RELATIONSHIP

Construction is set to begin in June on the first phase of the contract with Vestar, in which the company will make changes in nine of the 200 or so buildings on campus.

"Our math building is a huge building, with lots and lots of lights that are inefficient," says Mr Wilson "Our library is the same way." In addition, showerheads and perhaps toilets will be changed in two residence halls to models that use less water. The power plant will get new controls, which will more closely match energy production to demand

This is the beginning of a relationship that is expected to last for 20 years, says Mr. Wilson. The project will comprise five phases, with one starting every two years Each phase will have a guarantee that the costs will be repaid by energy savings over the ensuing 10 years Ohio can terminate the contract after any of the phases.

SAVING $25-MILLION

If the university goes through with all of the phases, the contract guarantees that Ohio will save $25-million, although Mr. Wilson and Vestar officials have analyzed only about half of the seven million square feet of building space on the campus.

Construction costs in the first phase are estimated at $4.2-million. Ohio University is financing the project itself, probably with bond issues. Financing costs for the first phase are estimated at $23 1 000. If the changes in the first phase save $700 000 a year, as projected, the savings will have paid for the costs, including financing, in a little more than six years. Each succeeding phase will involve more-complex projects, with longer payback schedules. Plans are still being drawn up for those phases

Continued on Following Page

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Mr. Wilson says he has not calculated how much all of the work will eventually save the university. In the first phase alone, he says, the equipment being installed will continue to save Ohio $700,000 annually for 20 years. The total savings after subtracting the cost of the equipment and financing would exceed $9-million.

At Louisiana State, the annual energy bill before the performance contract was $12.5-million. Now it is about $8.5-million, even with 10 percent more students on the Baton Rouge campus, says Peter N. Davidson, director of energy services.

The contracts are structured to guarantee that the savings will cover not only the costs of construction, new equipment, and financing, but also, in some cases, a fee, generally ranging from 1 to 4 percent of the size of the contract, for a guarantee that the contractor will make up the difference if the college's projected savings fall short of expectations.

Usually, the savings guaranteed in the contract are about 80 percent of the company's estimated energy-cost reductions, says Michael Besspiata III, director of facilities management at Georgetown College, in Kentucky

Johnson Controls last year paid out about 1 percent of the total savings it guaranteed but could not meet in its $1.6-billion worth of contracts, says Mr. Proffitt.

As performance contracts become more common, Mr Besspiata says, any size institution can benefit. Georgetown College, for example, signed a $750,000 performance contract last year with Enertech, a subsidiary of LG&E Energy Corporation.

Mr Besspiata moved to Georgetown in May 1998, from the Southern Baptist Theological Seminary. Both institutions have fewer than 2,000 students. And each one now has modern energy-management systems, which tightly control energy use across the campus, paid for by the savings produced in performance contracts.

"I think a lot of colleges think they are too small to really get much benefit," says Mr. Besspiata He projects savings in the current fiscal year of $85,000 on a typical annual utility bill of $1-million "That's real money," he says. ■

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GEOEXCHANGE

Earth Comfort Update

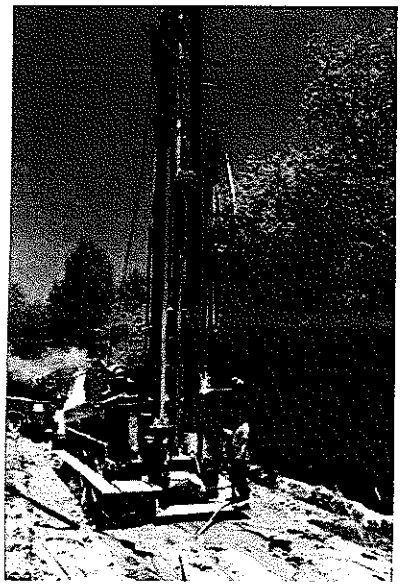
The GeoExchange National Information Resource Center Newsletter ■ Volume 6. Issue 4

July/August 1999

First in Line in West Virginia

Webster County High School in Upperglade, W. Va., is the first school in West Virginia to "go Geo" and has - in just eight months - realized energy costs savings of more than $34,000 and cut its electrical demand nearly in half. ***Update – 2000 annual energy savings exceed $74,500.***

In 1997 the Webster County Board of Education requested funds from the School Board Authority (SBA) of West Virginia to replace several rooftop heating units at Webster County High School. Upon inspection, SBA officials recognized that restoring the existing electrical HVAC system wasn't the best solution. They recommended a qualified mechanical engineering firm review the system and develop better options.



Drilling for the ground loop for Webster County High School's 500-ton GeoExchange system. It is the largest GeoExchange installation to date in West Virginia and the surrounding region

School officials were leaning towards a propane gas heating system when Allegheny Power, Greensburg, PA, and **ZDS** Design/Consulting Services, St. Albans, WV, introduced them to GeoExchange, which could provide greater energy efficiency, cost savings, temperature control, reliability and safety.

Webster's 500-ton system is the largest GeoExchange installation to date in West Virginia and the surrounding region. School officials estimate that the system will save about $50,000 a year in heating and cooling costs. ***Update – Energy savings increasing every year and now exceed $74,500 annually.*** In addition, it provides a healthier environment for Webster's 600 students, its faculty and staff by incorporating a cost-effective, outside air ventilation system.

"***We're very pleased with the system,***" said Harry Given, facilities manager for Webster County schools. "***We've seen energy savings, had zero maintenance problems, and we believe that the savings will be even greater over time.***"

Investing in the Future

"GeoExchange offers schools the best return on investment with the lowest environmental impact," said Gary Valli, an HVAC engineer with Allegheny Power. "In most cases, the life-cycle costs of a geothermal heat pump system are lower than any other system available today "

The Geothermal Heat Pump Consortium (GHPC) helped Webster County school officials by providing additional training to **ZDS** through its Design Assistance Program. "We were not sure how comfortable the school personnel would be with this type of system," said Todd Zachwieja, owner of **ZDS**. "A commercial geothermal system of this size had never been installed in our area, and the system cost was higher than HVAC systems customarily funded for schools."

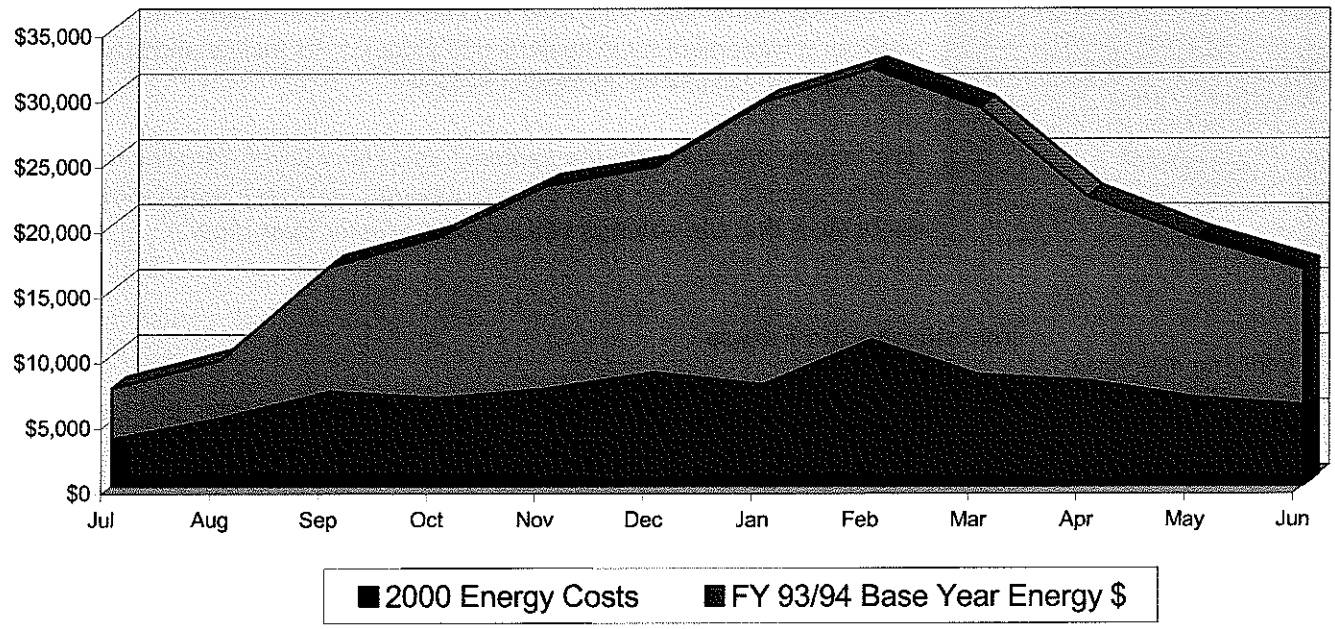
The Webster County project was funded as a pilot project through a $3.25 million grant from the SBA, which is responsible for overseeing all school construction in the state. The SBA is giving strong consideration to the GeoExchange system's positive performance at the school, Zachwieja noted. Significant lifecycle cost savings could allow more schools to benefit from funding for GeoExchange projects in the future.

Improved Comfort and Efficiency

The Webster County High School system includes 240 vertical loop heat exchangers inserted 304 feet into the ground. The new units that replaced the old multizone units incorporate exhaust air heat recovery for the incoming outdoor air. "That's another benefit of the system -bringing the outdoor air indoors," Given said. ***"We've improved our indoor air quality; everyone appreciates that."***

"Schools are definitely realizing the benefits of GeoExchange for comfort and energy-efficiency," Valli said. To help, Allegheny Power is producing a technically detailed video on the step-by-step GeoExchange installation at the Webster County High School.
"Many schools have HVAC systems that are reaching the end of their useful life," Valli said. "These schools will look at a lot of options. Our job is to educate the decision-makers that GeoExchange is a viable and cost effective solution."

Webster County High School
Geothermal Heat Pump Energy Savings



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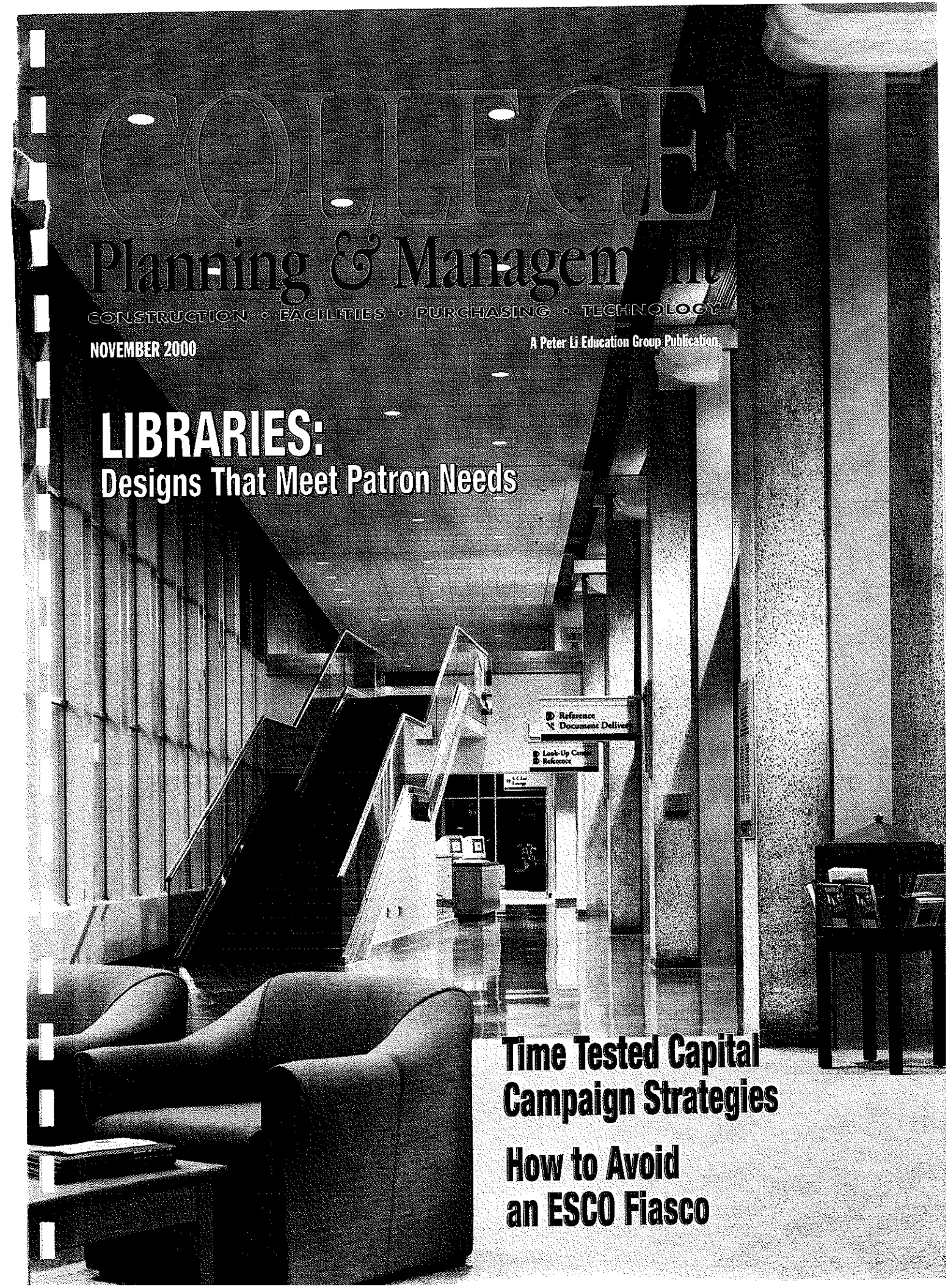

Time Tested Capital Campaign Strategies

How to Avoid an ESCO Fiasco

How to Avoid an ESCO Fiasco

Facility managers at Ohio University used a performance contracting consultant to assist them in hiring an energy services company that could implement an energy conservation project.

by Dorothy Wright, staff writer

Performance contracting seems like a win-win proposition: Work with an energy services company (ESCO) to implement an energy conservation project that will improve facilities and lower energy and operating costs Pay the ESCO using the energy savings — not capital funds After the payback period, keep the savings Yet many college and university facilities planners are reluctant to do so Some lack experience with this approach to funding and implementing a facilities project Others have heard of cases in which a project simply did not deliver results or, worse yet, an educational institution became embroiled in litigation with the ESCO

Facility managers at Ohio University in Athens, Ohio, found an effective solution: They relied on an independent consultant experienced in performance contracting to guide them through the process of selecting an ESCO Now the university and its ESCO are in the first phase of implementing an energy efficiency project comprising new and upgraded lighting, heating and ventilation systems; enhanced building controls; and water conservation measures, including low-flow plumbing fixtures. When the project is completed, the university will save $2 million to $2 5 million a year in energy and operating costs, which will pay for the project within 10 years After the payback period, the

Photo courtesy Ohio University

Ohio University's independent consultant helped administrators select an ESCO to implement an energy efficiency project that will save $2 million to $2 5 million a year in energy and operating costs

university will retain the annual savings

Founded in 1804, today Ohio University is an educational community of 20,000 students and 3,500 faculty and staff The 1,700-acre campus has some 190 buildings comprising a total 6 7 million square feet In the 1970s the university created an energy management fund to carry out energy conservation projects, implementing a number of effective initiatives through the years In the mid-1990s, with utility costs projected to rise to $19 1 million by 2020, the university knew it was time to make a major investment in upgrading its infrastructure and increasing energy efficiency

The university's facility managers first identified performance contracting as a means to implement a new central chilled water plant "Initially, the university saw no way to do this with existing resources, so we started looking for alternatives," says Terry Conry, director of Facilities Management "While we have an outstanding staff, we didn't have anyone who personally had gone through a performance contract selection or implementation process We were concerned about it, and we looked for help "

Selecting a Consultant

The consultant's key service would be to assist the university in selecting an ESCO Through open advertisements and direct invitations, consultants were invited to submit their qualifications for consideration After an evaluation of the RFQs, the university's facilities management team developed a short list of consultants, who were asked to provide the university with a proposal detailing their experience in the field of performance contracting References were carefully checked, and interviews were conducted with finalists All members of the consultant's staff who would be assigned to work with the university were required to be present for the interview

The consultant's past experience with similar projects in colleges and universities was essential to Ohio University "The consultants were asked to provide a list of at least five performance-based energy projects completed in the higher education environment," explains Ted Fares, director, Engineering and Technical Services, Ohio University

Candidates were required to prove their expertise in design, planning, specifications, implementation and monitoring of energy conservation projects "They had to be capable of analyzing energy use at our facilities and making recommendations for energy conservation projects which, if implemented, would provide guaranteed energy savings to Ohio University," Fares says

Most important, they needed past experience in awarding similar contracts to ESCOs "Knowledge of the legal and financial issues surrounding performance contracting was essential," Fares says

In addition, the consultant needed to be able to train the university's staff in operation, final inspection and commissioning.

As a result, the university selected ZDS DESIGN/CONSULTING SERVICE. Based in St Albans, W Va , and Cincinnati, Ohio, ZDS is a consulting engineering firm specializing in mechanical and electrical engineering, indoor air quality, commissioning and energy conservation projects

ZDS had previously worked with the university in a traditional design and mechanical/electrical engineering role "Our role in this project was to assist the university in defining its needs, ensure that the structure of the program met these needs and guide the university in its selection of a performance contractor," says Todd Zachwieja, principal, ZDS

Selecting the ESCO

The ESCO was selected through a two-step, RFQ/RFP process The university advertised internationally, nationally and locally in trade magazines and newspapers The advertisement required all candidates to attend a meeting at Ohio University to obtain the RFQ document, walk through the campus and participate in a question-and-answer session

RFQ submittals from 14 ESCO candidates were evaluated and candidates short-listed by a committee of 12, comprising the university's architect, facility engineers, energy managers, administrators and service personnel, and ZDS The two ESCOs who made it past the first cut were required to submit a detailed RFP

The two-step process lengthened the selection process by about eight months, Conry says, while at the same time streamlining it "ZDS provided a template that the companies had to respond to, to keep them from burying us in paper," he explains "We asked everyone clear, concise questions, then limited the amount of additional information they could add Nevertheless we got two- to three-inch-thick binders back from each firm We took a lot of time going through those and checked references carefully."

Conry says one of the advantages of the two-step process is that it effectively narrows

the field for the RFP. "If we had had the complete RFP done by 14 companies we would have had a mountain of paper," he says. "This streamlined the process even though the initial step took extra time."

Conry says there were a lot of similarities among candidates, but some distinct differences revealed by the RFQ. "One is the level of experience in performance contracting in higher education," he says. "Second, some had more solid in-house engineering teams and wouldn't need to go to subcontractors as much — we liked that accountability. Third, they differed in their philosophies of project staging and customer service."

The RFP got to the nitty gritty. "We said, 'Here are sample buildings: We want you to bring in your engineering team and give us specific proposals for improvements, tell us what the cost savings are, and explicitly show us how you calculated these cost savings,'" Conry says. "That allowed us to see how creative their engineering teams were, how sensitive they are to occupants during the implementation/construction, and how conservative or liberal they were in calculating the energy savings on a given measure. It was good to have that type of in-depth analysis of fewer firms."

As a result, the university selected as its energy services partner Vestar, an energy efficiency design, engineering, construction and facility operation firm with headquarters in Cincinnati, Ohio, and Toronto, Ontario.

Ironically, design and construction of the chilled water plant, which initially drove the university to explore performance contracting, is not part of the performance contract with Vestar. Conry says it did not have a quick enough payback — 10 years, as required by Ohio state law. That project is proceeding in phases under a separate contract, funded with Ohio University operating money, revenues accrued in its energy management fund and bonds, he says, "but coordinated with the energy performance contract to make sure that the system we are building is efficient and that we have controls in place that allow it to be operated efficiently in the future."

Consultant Proves Beneficial

Considering that the energy efficiency program implemented under the performance contract will save the university more than $2 million a year, Ohio University's facility planners and managers are convinced that their consultant, **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, associate vice president for Facilities and Auxiliaries. "It is also important when you are doing something new to have an independent consultant to help convince trustees and administrators of the validity of the approach. Performance contracting was a new concept here."

Indeed, it's still a new concept. "Many universities really don't understand performance contracting, and they are scared to death of it," he says. "Performance contracting can be as little or as much as you want it to be — it is a concept, not a template. It can be styled and adjusted to meet the needs of your own campus."

But many administrators and planners shy away from hiring consultants. "They see consultants wanting to charge fees to guide them through a process they think they can already do themselves," Wilson says. "Our energy management program was very successful through the years, but it only picked the 'low fruit.' We still identified a need for a $25- to $30-million performance contract."

That's why hiring a consultant is smart business, Wilson says. "Having a professional to get you started is worth every penny."