gai consultants

Expression of Interest

Professional Engineering Services for
West Virginia General Services Division
Building 9, Culture & History
Chilled Water System & Standby Boilers
Requisition # GSD096435

Prepared for:

West Virginia Department of Administration,
Purchasing Division

Prepared by:

GAI Consultants, Inc.
Charleston, West Virginia

February 17, 2009

ORIGINAL

. . . transforming ideas into reality

gai consultants
transforming ideas into reality

February 17, 2009

Project G090272

Ms. Krista Ferrell
Purchasing Division
2019 Washington Street, East
Charleston, West Virginia 25305

RE: Professional Engineering Services for
West Virginia General Services Division
Building 9 Culture & History
Chilled Water System & Standby Boilers
Requisition # GSD096435

Dear Ms Ferrell:

GAI Consultants, Inc. (GAI) welcomes the opportunity to submit our qualifications in response to your Request for Expression of Interest GSD096435 to provide professional engineering services for the revisions and demolition of chilled water piping to decouple Building 9 from the existing chilled water system and the design for the new chillers for Building 9, West Virginia Culture & History, located at the Capitol Complex in Charleston, West Virginia.

We have also teamed with the architects from Perfido, Weiskopf, Wagstaff, & Goettel Architects to handle any design modifications involved with Building 9 proper.

GAI is exceptionally well qualified to provide the State with the above referenced services offered at the most favorable terms from both a technical and value standpoint. The work under this contract will be performed in our Charleston, West Virginia office. The Charleston office has provided quality engineering services for over 20 years. As a result of this long-term experience, GAI can provide the required expertise, continuity and conformance to program guidelines established by the West Virginia General Services Division.

GAI welcomes you to visit our facilities and meet our staff located at 500 Summers Street, 3rd Floor, Charleston, West Virginia 25301.

GAI has:

- on staff four local and fifteen total West Virginia registered professional civil engineers with the local staff having a combined experience of over 70 years on projects throughout West Virginia. We also have a registered Professional Surveyor and Licensed Remediation Specialist on staff in the Charleston office. These professionals are available to sign work documents and supervise personnel and to provide the daily quality assurance and quality control services;

- a large diverse staff of civil, mechanical, and electrical engineers, CADD operators, surveyors, geologists, estimators, designers, and biologists with extensive experience in civil, mechanical, electrical, geotechnical, site development, and environmental projects; and

- extensive experience in civil, mechanical, electrical, environmental, and geotechnical engineering.

In summary, GAI will provide the most favorable terms as a result of:

- Exceptional qualifications (20+ years of in-state experience),
- Local, Charleston presence with excellent access to the West Virginia General Services Division and the Capitol Complex, and
- Efficient and experienced personnel who are familiar with project requirements.

We look forward to working with the West Virginia General Services Division.

Sincerely,
GAI Consultants, Inc.

Glenn M. Showers, P.E.
Engineering Manager

C. Elwood Penn, IV, P.E.
Assistant Vice President – Managing Officer

CFS:GMS:CEP/cam

Enclosure

Expression of Interest

Professional Engineering Services for
West Virginia General Services Division
Building 9, Culture & History
Chilled Water System & Standby Boilers
Requisition # GSD096435

Prepared for:
West Virginia Department of Administration,
Purchasing Division

Prepared by:
GAI Consultants, Inc.
Charleston, West Virginia

February 17, 2009

gai consultants

Table of Contents

Section 1

Request for Quotation

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
GSD096435	1

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

VENDOR
*709015504 304-926-8100
GAI CONSULTANTS INC
500 SUMMERS ST 3RD FLR

CHARLESTON WV 25301

SHIP TO
DEPARTMENT OF ADMINISTRATION
GENERAL SERVICES DIVISION
BLDG. 9 - CULTURE & HISTORY
1900 KANAWHA BOULEVARD, EAST
CHARLESTON, WV
25305 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
02/09/2009				

BID OPENING DATE: 02/19/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO	ITEM NUMBER	UNIT PRICE	AMOUNT
				ADDENDUM NO. 2 THIS ADDENDUM IS ISSUED TO DELETE SECTION 3.1 GENERAL REQUIREMENTS IN ITS ENTIRETY AND TO ADD THE FOLLOWING LANGUAGE: "3.1 GENERAL REQUIREMENTS: FIRMS AR TO BE WV LICENSED ARCHITECTURAL/ENGINEERING FIRMS (A/E) AND MUST BE FAMILIAR WITH AND HAVE A SUCCESSFUL TRACK RECORD OF PROVIDING ENGINEERING SERVICES INVOLVING CHILLED WATER LOOPS. FIRMS MUST ALSO PROVIDE MECHANICAL, ELECTRICAL, AND STRUCTURAL ENGINEERING SERVICE FOR BID DOCUMENTS TO UPGRADE BUILDING #9 WITH NEW CHILLERS AND (2) STANDBY BOILERS." EOI OPENING DATE REMAINS: 02/19/2009 EOI OPENING TIME REMAISN: 1:30 PM ********** END ADDENDUM NO. 2 **********		
0001	1	LS		906-07 A&E SERVICES: DESIGN OF BLDG#9 CHILLER LOOP CHANGES		

RECEIVED
FEB 11 2009
GAI CONSULTANTS INC.
NO

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE C. Elwood Lewis TELEPHONE 304-926-8100 DATE 2/17/2009

TITLE Managing Officer FEIN 25-1260999 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. All quotations are governed by the ***West Virginia Code*** and the ***Legislative Rules*** of the Purchasing Division.

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

5. 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.

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

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

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

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

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

11. The laws of the State of West Virginia and the ***Legislative Rules*** of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.

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

13. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.

14. HIPAA BUSINESS ASSOCIATE ADDENDUM: The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (**http://www.state.wv.us/admin/purchase/vrc/hipaa.htm**) 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 Heal Information (45 CFR §160.103) to the vendor.

15. WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT: If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.

2. SPECIFICATIONS: 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. Complete all sections of the quotation form.

4. Unit prices shall prevail in case of discrepancy.

5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.

6. BID SUBMISSION: All quotations must be delivered by the bidder to the office listed below prior to the date and tim 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

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
GSD096435	1

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

VENDOR
*709015504 304-926-8100
GAI CONSULTANTS INC
500 SUMMERS ST 3RD FLR

CHARLESTON WV 25301

SHIP TO
DEPARTMENT OF ADMINISTRATION
GENERAL SERVICES DIVISION
BLDG. 9 - CULTURE & HISTORY
1900 KANAWHA BOULEVARD, EAST
CHARLESTON, WV
25305 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
02/02/2009				

BID OPENING DATE: 02/19/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
				ADDENDUM NO. 1		
				THIS ADDENDUM IS ISSUED TO ANSWER ALL TECHNICAL QUESTIONS RECEIVED PRIOR TO THE JANUARY 29, 2009 DEADLINE.		
				BID OPENING DATE REMAINS: 02/19/2009 BID OPENING TIME REMAINS: 1:30 PM		
				********** ADDENDUM NO. 1 **********		
0001	1	LS		906-07		
				A&E SERVICES: DESIGN OF BLDG#9 CHILLER LOOP CHANGES		
				****** THIS IS THE END OF RFQ GSD096435 ****** TOTAL:		

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE C. Elwood Ferrell TELEPHONE 304-926-8100 DATE 2/17/09

TITLE Managing Officer FEIN 25-1260999 ADDRESS CHANGES TO BE NOTED ABOVE

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

EOI#GSD096435
Chiller Renovations, Bldg#9 Cultural Center

Technical Questions & Answers

Question#1: May firms wishing to submit proposals visit the project site to examine existing conditions? Who should be contacted and what are the best times to visit?

Answer#1: Site visits may be arranged by contacting Scott Mason, General Services Division Engineering Section, at (304)558-0897.

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
GSD096435	1

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

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

GAI Consultants, Inc.
500 Summers Street
3rd Floor
Charleston, WV 25301

SHIP TO
DEPARTMENT OF ADMINISTRATION
GENERAL SERVICES DIVISION
BLDG. 9 - CULTURE & HISTORY
1900 KANAWHA BOULEVARD, EAST
CHARLESTON, WV
25305 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B	FREIGHT TERMS
01/14/2009				

BID OPENING DATE: 02/19/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		906-07		

A&E SERVICES: DESIGN OF BLDG#9 CHILLER LOOP CHANGES

EXPRESSION OF INTEREST
(EOI)

THE WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, THE WEST VIRGINIA DIVISION OF GENERAL SERVICES, IS SOLICITING EXPRESSIONS OF INTEREST FOR ARCHITECTURAL AND ENGINEERING SERVICES FOR THE CHILLED WATER SYSTEM IN BUILDING 9 LOCATED ON THE WEST VIRGINIA STATE CAPITOL COMPLEX IN CHARLESTON, WEST VIRGINIA PER THE ATTACHED SPECIFICATIONS.

TECHNICAL QUESTIONS CONCERNING THIS PROJECT MUST BE SUBMITTED IN WRITING TO KRISTA FERRELL IN THE WEST VIRGINIA PURCHASING DIVISION VIA FAX AT 304-558-4115 OR VIA EMAIL AT KRISTA.S.FERRELL@WV.GOV. DEADLINE FOR ALL TECHNICAL QUESTIONS IS 01/29/2009 AT THE CLOSE OF BUSINESS. ALL TECHNICAL QUESTIONS RECEIVED, IF ANY, WILL BE ADDRESSED BY ADDENDUM AFTER THE DEADLINE.

QUESTIONS CONCERNING THE PROCESS BY WHICH A VENDOR MAY SUBMIT AN EXPRESSION OF INTEREST TO THE STATE OF WEST VIRGINIA ARE NOT CONSIDERED TO BE TECHNICAL QUESTIONS AND MAY BE SUBMITTED AT ANY TIME PRIOR TO THE EOI OPENING DATE AND IN ANY FOMAT.

BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THIS CONTRACT MAY BE

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE C. Elwood Pace TELEPHONE 304-926-8100 DATE 2/17/09

TITLE Managing Officer FEIN 25-1260999

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

Request for Quotation

RFQ NUMBER	PAGE
GSD096435	2

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

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

GAI Consultants, Inc.
500 Summers Street
3rd Floor
Charleston, WV 25301

SHIP TO
DEPARTMENT OF ADMINISTRATION
GENERAL SERVICES DIVISION
BLDG. 9 - CULTURE & HISTORY
1900 KANAWHA BOULEVARD, EAST
CHARLESTON, WV
25305 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B	FREIGHT TERMS
01/14/2009				

BID OPENING DATE: 02/19/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT

DEEMED NULL AND VOID, AND TERMINATED WITHOUT FURTHER ORDER.

NOTICE

A SIGNED EOI MUST BE SUBMITTED TO:

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 EOI

BUYER: KRISTA FERRELL-FILE 21

EOI. NO.: GSD096435

EOI OPENING DATE: FEBRUARY 19, 2009

EOI OPENING TIME: 1:30 PM

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

304.926.8180

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE C. Elwood Ferrell TELEPHONE 304-926-8100 DATE 2/17/09

TITLE Managing Officer FEIN 25-1260999

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

Request for Quotation

RFQ NUMBER	PAGE
GSD096435	3

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

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

GAI Consultants, Inc.
500 Summers Street
3rd Floor
Charleston, WV 25301

SHIP TO
DEPARTMENT OF ADMINISTRATION
GENERAL SERVICES DIVISION
BLDG. 9 - CULTURE & HISTORY
1900 KANAWHA BOULEVARD, EAST
CHARLESTON, WV
25305 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/14/2009				

BID OPENING DATE: 02/19/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT

CONTACT PERSON (PLEASE PRINT CLEARLY):
C. Elwood Penn, P.E.

****** THIS IS THE END OF RFQ GSD096435 ****** TOTAL:

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE C Elwood Penn TELEPHONE 304-926-8100 DATE 2/17/09

TITLE Managing Officer FEIN 25 1200999 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
West Virginia State Capitol

General Services Division
Engineering Section
B9 Chilled Water Renovations

EXPRESSION OF INTEREST

Chilled Water Renovations for Building #9
Capitol Complex, Charleston, WV

Part 1 GENERAL INFORMATION

1.1 **Purpose:**
The Acquisition and Contract Administration Section of the Purchasing Division "State" is soliciting Expression(s) of Interest (EOI) for General Services Division, "Agency", from qualified firms to provide architectural/engineering services as defined in section two (2) and three (3).

1.2 **Project:**
The mission or purpose of the project described in sections 2 & 3 is to provide Architectural/Engineering (A/E) design services and prepare bid documents for revisions and demolition of chilled water piping to decouple Building 9 from existing campus chilled water system and the design for new chillers for Building 9, WV Culture & History located at the Capitol Complex in Charleston WV. This EOI includes services to add space to the existing boiler building for the chiller project. Include controls to allow automatic change over from the new chillers to the existing campus chilled water loop and return when chiller operation is restored. This EOI does not include construction management.

1.3 **Format:** N/A

1.4 **Inquiries:**
Additional information inquiries regarding this EOI must be submitted in writing to the State Buyer with the exception of questions regarding proposal submission, which may be oral. The deadline for written inquiries is identified in the Schedule of Events, Section 1.16. All inquiries of specification clarification must be addressed to:

State of West Virginia
Department of Administration
West Virginia State Capitol

General Services Division
Engineering Section
B9 Chilled Water Renovations

Krista Ferrell, Senior Buyer
Purchasing Division
2019 Washington Street, East
Charleston, WV 25305-0130
Phone: (304) 558-2596
Fax: (304) 558-4115
Krista.s.ferrell@wv.gov

The firm, or anyone on the firm's behalf, is not permitted to make any contact whatsoever with any member of the evaluation committee. Violation may result in rejection of the EOI. The State Buyer named above is the sole contact for any and all inquiries after this EOI has been released.

1.5 **Vendor Registration:**

Firms participating in this process should complete and file a ***Vendor Registration and Disclosure Statement*** (Form WV-1) and remit the registration fee. Firm is not required to be a registered vendor in order to submit an EOI, but the **successful firm must** register and pay the fee prior to the issuance of an actual contract.

1.6 **Oral Statements and Commitments:**

Firm must clearly understand that any verbal representations made or assumed to be made during any oral discussions held between firm's representatives and any State personnel are **not** binding. Only the information issued in writing and added to the Expression of Interest specifications file by an official written addendum is binding.

1.7 **Economy of Preparation:**

EOI's should be prepared simply and economically, providing a straightforward, concise description of firm's abilities to satisfy the requirements of the EOI. Emphasis should be placed on completeness and clarity of content.

1.8 **Labeling of the Sections:** The response sections should be labeled for ease of evaluation.

1.9 **Submission:**

1.9.1 State law requires that the original expression shall be submitted to the Purchasing Division. All copies to the Purchasing Division must be

submitted **prior** to the date and time stipulated as the opening date. All expressions will be date and time stamped on the Purchasing Division official time clock to verify time and date of receipt.

1.9.2 Firms mailing expressions should allow sufficient time for mail delivery to ensure timely arrival. The Purchasing Division **CANNOT** waive or excuse late receipt of an expression which is delayed and late for any reason according West Virginia State Code §5A-3-11. Any EOI received after the bid opening time and date will be immediately disqualified in accordance with State law and the Legislative Rule 148-CSR-1.

Submit:
One original plus (3) convenience copies to:
Purchasing Division
2019 Washington Street, East
P.O. Box 50130
Charleston, WV 25305-0130

The outside of the envelope or package(s) should be clearly marked:
Buyer: Krista Ferrell
Req#: GSD096435
Opening Date: February 19, 2009
Opening Time: 1:30pm

1.10 **Rejection of Expressions:**
The State shall select the best value solution according to §5G-1-3 of the West Virginia State Code. However, the State reserves the right to accept or reject any or all expressions and to reserve the right to withdraw this Expression of Interest at any time and for any reason. Submission of, or receipt by the State of Expressions confers no rights upon the firm nor obligates the State in any manner.

1.11 **Incurring Costs:**
The State and any of its employees or officers shall not be held liable for any

expenses incurred by any firm responding to this EOI for expenses to prepare, deliver, or to attend the short-list interviews.

1.12 **Addenda:**
If it becomes necessary to revise any part of this EOI, an official written addendum will be issued by the State to all potential firms of record.

1.13 **Independent Price Determination:**
A contract will not be considered for award if the negotiated price was not arrived at independently without collusion, consultation, communication, or agreement as to any matter relating to prices with any competitor.

1.14 **Price Quotations:** No "price" or "fee" quotation is requested or permitted in the response.

1.15 **Public Record:**

1.15.1 *Submissions are Public Record.*
All documents submitted to the State Purchasing Division related to purchase orders/contracts are considered public records. All EOI's submitted by firms shall become public information and are available for inspection during normal official business hours in the Purchasing Division Records and Distribution center after the expressions have been opened.

1.15.2 *Written Release of Information.*
All public information may be released with or without a Freedom of Information request, however, only a written request will be acted upon with duplication fees paid in advance. Duplication fees shall apply to all requests for copies of any document. Currently the fees are $0.50/page, or a minimum of $10.00 per request, which ever is greater.

1.15.3 *Risk of Disclosure.*
The only exemptions to disclosure of information are listed in West Virginia Code §29B-1-4. Primarily, only trade secrets as submitted by a firm are the only exemption to public disclosure. The submission of any information to the State by a firm puts the risk of disclosure on the firm. The submission of any information to the State by a vendor puts the risk of disclosure on the

vendor. The State does not guarantee non-disclosure of any information to the public.

1.16 **Schedule of Events:**

Release of the EOI:	1/16/2009
Firm's Written Questions Submission Deadline:	1/29/2009 (at the close of business)
Expressions of Interest Opening Date	2/19/2009 @ 1:30 pm
Estimated Date for Interviews,	3/2/2009 (approximately)

1.17 **Mandatory Prebid Conference:** N/A

1.18 **Bond Requirements:** N/A

1.19 **Purchasing Affidavit:**
West Virginia State Code §5A-3-10a (3) (d) requires that all firms submit an Affidavit regarding any debt owed to the State and licensing and confidentiality certifications. The Affidavit **must** be signed and submitted prior to award. It is preferred that the Affidavit be submitted with the EOI.

PART 2 OPERATING ENVIRONMENT

2.1 **Location:** WV State Culture & History Building in Charleston, WV.

2.2 **Background:** The state intends to decouple Building 9 from the campus chilled water loop and install chillers and boilers in the mechanical room.

PART 3 PROCUREMENT SPECIFICATIONS

3.1 **General Requirements:** Firms are to be WV licensed Architectural/Engineering firms (A/E) and must be familiar with and have a successful track record of providing engineering services involving chilled water loops. Firm must also

documents to upgrade Building #9 with new chillers and 2 standby boilers.

Firm will also provide services to extend the existing mechanical room of Building #9 to accommodate the new equipment and design building controls to allow for normal building operations as well as automatic changeover to existing Capitol Complex system for emergency use. This EOI does not include construction management.

3.2 3.2 **Project Description:** In addition to producing a complete set of construction (bidding) documents, the successful A/E will be responsible for verifying, coordinating and documenting extensions, tie-ins, and relocations of all utilities.

3.3 **Special Terms and Conditions:**

3.3.1 *Bid and Performance Bonds*: N/A

3.3.2 *Insurance Requirements*: $1,000,000 Professional Liability
Workers Compensation Certificate upon award

3.4 **General Terms and Conditions:**
By signing and submitting the EOI, the successful firm agrees to be bound by all the terms contained in Section Three (3) of this EOI.

3.4.1 *Conflict of Interest*:
Firm affirms that it, its officers or members or employees presently have no interest and shall not acquire any interest, direct or indirect which would conflict or compromise in any manner or degree with the performance or its services hereunder. The firm further covenants that in the performance of the contract, the firm shall periodically inquire of its officers, members and employees concerning such interests. Any such interests discovered shall be promptly presented in detail to the Agency.

3.4.2 *Prohibition Against Gratuities*:
Firm warrants that it has not employed any company or person other than a bona fide employee working solely for the firm or a company regularly employed as its marketing agent to solicit or secure the contract and that it

has not paid or agreed to pay any company or person any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award of the contract. For breach or violation of this warranty, the State shall have the right to annul this contract without liability at its discretion, and/or to pursue any other remedies available under this contract or by law.

3.4.3 *Certifications Related to Lobbying*:
Firm certifies that no federal appropriated funds have been paid or will be paid, by or on behalf of the company or an employee thereof, to any person for purposes of influencing or attempting to influence an officer or employee of any Federal entity, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement.

If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the firm shall complete and submit a disclosure form to report the lobbying.

Firm agrees that this language of certification shall be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this contract was made and entered into.

3.4.4 *Vendor Relationship*:
The relationship of the firm to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by the parties to this contract. The firm, as an independent contractor, is solely liable for the acts and omissions of its employees and agents.

Firm shall be responsible for selecting, supervising and compensating all individuals employed pursuant to the terms of this EOI and resulting contract. Neither the firm nor any employees or contractors of the firm shall be deemed to be employees of the State for any purposes whatsoever.

The Firm shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension or other deferred compensation plans, including but not limited to Workers' Compensation and Social Security obligations, and licensing fees, etc. and the filing of all necessary documents, forms and returns pertinent to all of the foregoing.

The Firm shall hold harmless the State, and shall provide the State and Agency with a defense against all claims including but not limited to the foregoing payments, withholdings, contributions, taxes, social security taxes and employer income tax returns.

The firm shall not assign, convey, transfer or delegate any of its responsibilities and obligations under this contract to any person, corporation, partnership, association or entity without expressed written consent of the Agency.

3.4.5 *Indemnification:*
The firm agrees to indemnify, defend and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person or firm performing or supplying services, materials or supplies in connection with the performance of the contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the firm, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use or disposition of any data used under the contract in a manner not authorized by the contract, or by Federal or State statutes or regulations; (3) Any failure of the firm, its officers, employees or subcontractors to observe State and Federal laws, including but not limited to labor and wage laws.

3.4.6 *Contract Provisions*:
After the most qualified firm is identified, and fee negotiations are concluded, a formal contract document will be executed between the State and the firm. The order of precedence is the contract, the EOI and the firm's response to the EOI.

3.4.7 *Governing Law*:
This contract shall be governed by the laws of the State of West Virginia. The firm further agrees to comply with the Civil Rights Act of 1964 and all other applicable laws (Federal, State or Local Government) regulations.

3.4.8 *Compliance with Laws and Regulations*:
The firm shall procure all necessary permits and licenses to comply with all applicable laws, Federal, State or municipal, along with all regulations, and ordinances of any regulating body.

The firm shall pay any applicable sales, use, or personal property taxes arising out of this contract and the transactions contemplated thereby. Any other taxes levied upon this contract, the transaction, or the equipment, or services delivered pursuant here to shall be borne by the contractor. It is clearly understood that the State of West Virginia is exempt from any taxes regarding performance of the scope of work of this contract.

3.4.9 *Subcontracts/Joint Ventures*:
The State will consider the firm to be the sole point of contact with regard to all contractual matters. The firm may, with the prior written consent of the State, enter into written subcontracts for performance of work under this contract; however, the firm is totally responsible for payment of all subcontractors.

3.4.10 *Term of Contract*:
This contract will be effective (date set upon award) and shall extend until the scope of work is complete or for one (1) consecutive twelve (12) month period. The contact may be renewed upon mutual consent for two (2) consecutive years one (1) year periods or until such reasonable time as may be necessary to obtain a new contract or to complete work.

3.4.11 *Non-Appropriation of Funds*:
If the Agency is not allotted funds in any succeeding fiscal year for the continued use of the service covered by this contract by the West Virginia Legislature, the Agency may terminate the contract at the end of the affected current fiscal period without further charge or penalty. The Agency shall give the firm written notice of such non-allocation of funds as soon as possible after the Agency receives notice. No penalty shall accrue to the Agency in the event this provision is exercised.

3.4.12 *Contract Termination*:
The State may terminate any contract resulting from this EOI immediately at any time the firm fails to carry out its responsibilities or to make substantial progress under the terms of this EOI and resulting contract. The State shall provide the firm with advance notice of performance conditions, which are endangering the contract's continuation. If after such notice the firm fails to remedy the conditions contained in the notice, within the time contained in the notice, the State shall issue the firm an order to cease and desist all work immediately.

The State shall be obligated only for services rendered and accepted prior to the date of the notice of termination. The contract may also be terminated upon mutual agreement of the parties with thirty (30) days prior notice.

3.4.13 *Changes*:
If changes to the original contract become necessary, a formal contract change order will be required. Prior to any work being performed, the change must be negotiated and approved by the State, the Agency and the firm. An approved contract change order is defined as one approved by the Purchasing Division and approved as to form by the West Virginia Attorney General's Office prior to the effective date of such amendment. **NO CHANGE SHALL BE IMPLEMENTED BY THE FIRM UNTIL THE FIRM RECEIVES AN APPROVED WRITTEN CHANGE ORDER.**

3.4.14 *Invoices, Progress Payments, & Retainage*:
The Firm shall submit invoices, in arrears, to the Agency at the address on the face of the purchase order labeled "Invoice To" pursuant to the terms of the contract. Progress payments may be made at the option of the Agency

based on percentage of work completed if so defined in the final contract. Any provision for progress payments must also include language for a minimum 10% retainage until the final deliverable is accepted.

If progress payments are permitted, firm is required to identify points in the work plan at which compensation would be appropriate. Progress reports must be submitted to Agency with the invoice detailing progress completed or any deliverables identified. Payment will be made only upon approval of acceptable progress or deliverables as documented in the firm's report. Invoices may not be submitted more than once monthly and State law forbids payment of invoices prior to receipt of services.

3.4.15 *Liquidated Damages*
According to West Virginia State Code §5A-3-4(8), firm agrees that liquidated damages shall be imposed at the rate of **$150.00** per workday, for failure to provide deliverables at the agreed upon date identified in the final contract. This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue to any other additional remedy to which the State or Agency may have legal cause for action including further damages against the firm.

3.4.16 *Record Retention (Access & Confidentiality)*:
Firm shall comply with all applicable Federal and State of West Virginia rules and regulations, and requirements governing the maintenance of documentation to verify any cost of services or commodities rendered under this contract by the firm. The firm shall maintain such records a minimum of five (5) years and make available all records to Agency personnel at firm's location during normal business hours upon written request by Agency within 10 days after receipt of the request.

Firm shall have access to private and confidential data maintained by Agency to the extent required for firm to carry out the duties and responsibilities defined in this contract. Firm agrees to maintain confidentiality and security of the data made available and shall indemnify and hold harmless the State and Agency against any and all claims brought by any party attributed to actions of breech of confidentiality by the firm, subcontractors, or individuals permitted access by the firm.

PART 4 EVALUATION & AWARD

4.1 Evaluation & Award Process:

Expressions of Interest will be evaluated and awarded in accordance with **§5G-1-3 "Contracts for architectural and engineering services; selection process where total project costs are estimated to cost two hundred fifty thousand dollars or more."**

"In the procurement of architectural and engineering services for projects estimated to cost two hundred and fifty thousand dollars or more the director of purchasing shall encourage such firms engaged in the lawful practice of the profession to submit an expression of interest, which shall include a statement of qualifications, and performance data and may include anticipated concepts and proposed methods of approach to the project. All such jobs shall be announced by public notice published as a Class II legal advertisement in compliance with the provisions of article three [§59-3-1et seq.] A committee comprised of three to five representatives of the agency initiating the request shall evaluate the statements of qualifications and performance data and other material submitted by the interested firms and select three firms which in their opinion are the best qualified to perform the desired service. Interviews with each firm selected shall be conducted and the committee shall conduct discussions regarding anticipated concepts and the proposed methods of approach to the assignment. The committee shall then rank in order of preference no less than three professional firms deemed to be the most highly qualified to provide the services required, and shall commence scope of service and price negotiations with the highest qualified professional firm for architectural or engineering services or both. Should the agency be unable to negotiate a satisfactory contract with the professional firm considered to be the most qualified, at a fee determined to be fair and reasonable, price negotiations with the firm of second choice shall commence. Failing accord with the second most qualified professional firm, the committee shall undertake price negotiations with the third most

qualified professional firm. Should the agency be unable to negotiate a satisfactory contract with any of the selected professional firms, it shall select additional professional firms in order of their competence and qualifications and it shall continue negotiations in accordance with this section until an agreement is reached."

4.2 **Proposal Format:**

It is strongly preferred that information submitted should be formatted in ring binders or similarly bound to allow the Agency to remove sections to make additional copies, if necessary, and in the order as set forth below:

4.2.1 **Concept**

Provide anticipated concepts and proposed methods of addressing the concerns and concepts as explained in the Background, General Requirements, and Project Description, above.

4.2.2 **Firm/Team Qualifications**

a. Provide the name, address, phone number, e-mail address and signature of the firm's contact person responsible for the project and having full authority to execute a binding contract on behalf of the firm submitting the proposal.

b. Provide the names, function and resume of individuals within the lead firm's organization who will be assigned to this project.

c. The design team is expected to include expertise in the areas previously mentioned. Provide information on the other project consultants, sub-consultants, and firms proposed to be employed by the lead firm for this project.

d. Provide a statement of the firm's ability to handle the project in its entirety.

e. Provide a statement of the firm's acceptance and full understanding that any and all work produced as a result of the contract will become property of the Agency and can be used or shared by the

Agency as deemed appropriate.

f. Provide evidence of the firm's ability to formulate designs in conformance with all local, State, and Federal regulations applicable to the project. These requirements shall include building and life safety code requirements and Americans with Disability Act (ADA) requirements.

g. Provide a description of any litigation or arbitration proceedings, including vendor complaints filed with the State's Purchasing Division, relating to the firm's delivery of design services, if applicable.

4.2.3 **Project Organization**

a. Provide information on the personnel who will manage and persons proposed to be assigned to the project. Provide locations of firm's offices and indicate from where the project will be managed and the work performed. Provide a project organizational chart including key personnel and the proposed organization of the project team.

b. Provide a statement or evidence of the firm or team's ability to provide services within the project time frame and a proposed project schedule outlining the key phases.

4.2.4 **Demonstrated Experience in Completing Projects of a Similar Size and Scope:**

a. Provide descriptions of relevant projects demonstrating the firm's ability to execute projects similar to those described in this Expression of Interest. Provide descriptions of not more than ten projects performed in the last ten years. Projects of interests should include work performed within the State of West Virginia.

Project experience shall include the following information pertaining to the listed projects:

- Project Name
- Project Location
- Project Description

- Construction cost and type of service provided
- Project size including square footage or acreage, cost and other relevant information
- Name of project Owner, including phone number and address
- Contract information including date of completion or percentage of work complete
- Photographs of each project
- Any other information deemed relevant

b. Provide references for the last five clients for whom the firm has conducted projects of a similar size and type; include the name of the contact person along with the addresses, telephone numbers and short description of the project.

4.3 **Evaluation Criteria**

Evaluation criteria shall be based on a total of 100 points, inclusive of the oral interview, with total points possible per section, as follows:

1) Concept, or how the proposal demonstrates understanding of the concept

15 points possible

2) Firm/Team Qualifications: 20 points possible

3) Project Organization 20 points possible

4) Demonstrated Experience in Completing Projects of a Similar Size and Scope:

25 points possible

5) Oral Interview

Selected firms should be prepared to conduct an approximately forty-five minute, on-site (Main Capitol) question-and-answer session, with allowance to the firm for the first quarter hour to make a presentation of any type they deem suitable to demonstrate their abilities, knowledge of the subject matter and qualifications. Questions can be based on any aspect of the project or submitted proposals.

20 points possible

RFQ No. GSD091435

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

VENDOR OWING A DEBT TO THE STATE:
West Virginia Code §5A-3-10a provides that: 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.

PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:
If this is a solicitation for a public improvement construction contract, the vendor, by its signature below, affirms that it has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the ***West Virginia Code***. The vendor **must** make said affirmation with its bid submission. Further, public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the ***West Virginia Code*** and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the ***West Virginia Code*** may take place before their work on the public improvement is begun.

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 materials, 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.

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, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, 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.

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.

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.

Vendor's Name: GAI Consultants, Inc.

Authorized Signature: D. Elmwood Date: 2/17/09

Section 2

Company Qualifications

Company Qualifications

Introduction

GAI Consultants, Inc. understands the West Virginia Department of Administration, Purchasing Division is seeking a qualified firm to engineering services involving chilled water and boiler systems. GAI understands that the project team is to be familiar with, and have a successful track record of providing similar engineering services. The GAI team proposed herein has the mechanical, electrical, and structural engineering skills to prepare the bid documents to upgrade Building 9 with new chillers and standby boilers. The GAI team is augmented by architects from Perfido, Weiskopf, Wagstaff, & Goettel Architects to handle any design modification involved with the Building 9 proper.

GAI Consultants acquired BBS Engineering in late 2007, where BBS had been an engineering leader in the Midwest area in utility systems like this, including, but not limited to boilers, chillers, cooling towers, pumps, piping. The complete staff, with years of experience, is now a part of the GAI family and brings with it the ability to successfully execute this project for the West Virginia General Services Division.

Services provided for the project may include, but are not limited to performing the analysis of the chilled water system to determine the quantity and size of the new water chillers, evaluation of control logic to interconnect the new chillers to the existing loop when required, sizing new stand-by boilers, equipment layout and piping design, and adding space to the building for the new equipment.

Corporate Overview

GAI Consultants, Inc. (GAI) delivers professional and personalized consulting in the fields of engineering, planning, environmental, and construction services. Our clients are provided exceptional value through full-service capabilities, state-of-the-art design, and talented, experienced staff.

GAI has over 600 employees with offices in five states. Staff from our Charleston, West Virginia office will be utilized for this project. The Charleston office was opened in 1986 and currently has a staff of twenty (20).

With the exception of the architectural services, GAI performs all of the required services in-house, which offers numerous advantages:

- Facilitates the coordination and communication between our staff and the West Virginia General Services Division throughout all facets of the work;
- Promotes cost-efficiency and schedule adherences;
- Enables a totally integrated team effort among the various technical disciplines comprising the project team; and

- Allows for a quick startup to the project.

GAI's multi-discipline capabilities not only enable us to perform all anticipated aspects of the work, but also allow us to address areas not specifically addressed in the Request for Expression of Interest, and/or unexpected items or additional tasks which may arise during the completion of the work.

Quality Control

GAI has implemented a Total Quality Management (TQM) program throughout our offices. Our staff has received training in TQM and we have incorporated the TQM principals into our everyday activities. A quality control review will be made prior to each milestone submittal. Personnel that are not directly responsible for the project will conduct this review.

Project Control

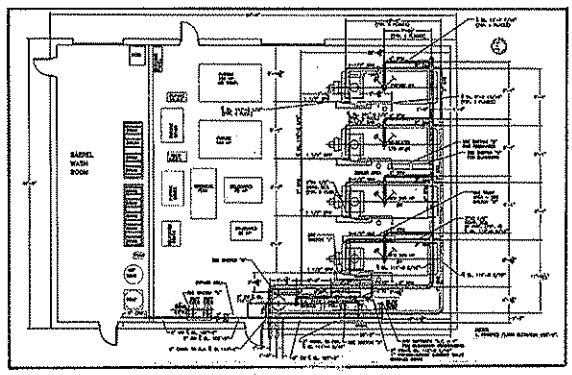
GAI's Management Information and Scheduling Systems provide the project manager with project data that includes:

- Critical Path Scheduling and project progress by tasks.
- Project to-date expended and budgeted totals for labor hours, payroll costs and expenses.
- Percent of hours and dollars expended.
- Budgeted and effective labor rates.

Since this information is received on a weekly basis, potential problem areas with regard to budget and schedules can be identified early and corrected in a timely manner.

Computers and Software

GAI's Information Technology department is staffed with full-time computer professionals who are available to assist our in-house and field staff via a readily accessible help desk line, should the need arise. Desktop personal computers utilizing various software packages and operating systems are provided for each employee, and laptop computers for field use are available as needed.



In addition, our Engineering Services Group maintains an experienced staff of engineers who are thoroughly knowledgeable of Caesar II piping analysis software as well as CADD

designers specialists who are adept at using state of the art equipment and software including AutoCAD and Microstation for piping design.

The following popular database, spreadsheet, and word processing software and design and analysis programs represent some of the most frequently used by the GAI staff.

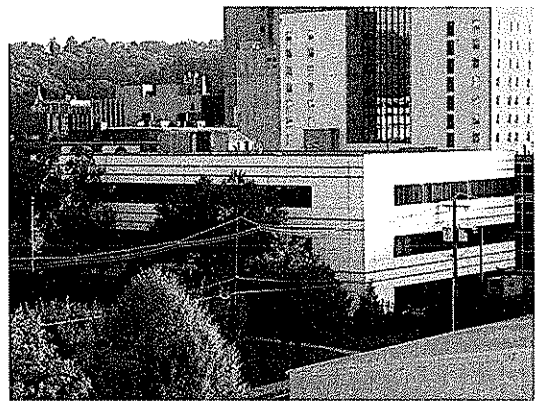
WaterCAD	Images 3D	SewerCAD
Excel	MDX	PowerPoint
QuatroPro	BARS	AutoCAD
Micro Caddam	Earth/Plus3	Terramodel
Intergraph	CEAL	GeoPak
Microsoft Office	Arc/Info	Arcview
Microsoft Project	GDI HEP	MicroHSI

Office Location

The project team will be comprised of employees from our Charleston, West Virginia office.

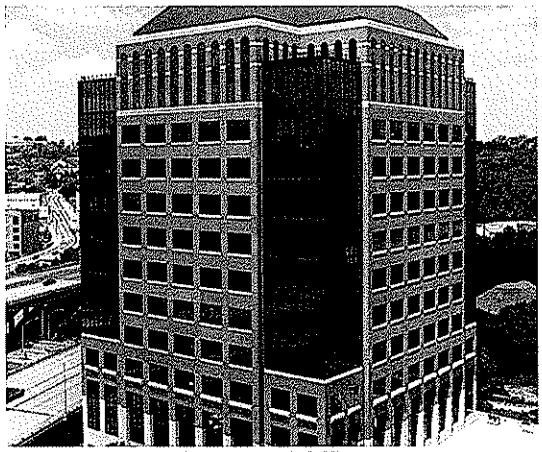
20 individuals with Geotechnical, Land Development, Highway, Bridge, Hydraulic, Utility Relocation, Construction Management or Environmental Experience

- 4 Engineers and 1 Surveyor Registered in West Virginia.
- Team of Construction Inspectors



Charleston, West Virginia Office

The Project Team will be supplemented by staff from our Cincinnati office.



Cincinnati Office

- 32 Individuals with Structural, Mechanical, and Electrical experience.
- 8 Registered Professional Engineers

GAI's staff has the depth, flexibility and experience to produce a quality product under time-sensitive schedules and has demonstrated this capability on numerous projects throughout West Virginia.

Section 3

Management and Staffing Capabilities

Management & Staffing Capabilities

Project Team

GAI's approach is to assemble a **qualified, experienced, and capable project design team** that understands the scope of work and project schedule, and maintains a solid working relationship with the client. The project team described below will use these principles to design and manage successfully the Building 9 chiller/boiler project.

As a mid-size, multi-discipline firm, we offer services on a personal level; yet have sufficient in-house resources to provide specialized support on a wide array of technical issues that may arise during the completion of a project. Our staff works closely with our clients through all phases of projects to see that the clients' needs are met. We will work closely with the West Virginia General Services Division throughout the duration of this project. A listing of the key staff assigned to this project, along with their areas of expertise and project responsibilities is provided below and resumes are included at the end of this section.

Mr. C. Elwood Penn, IV, P.E. will provide the corporate support for the project. Mr. Penn is an Assistant Vice President and Managing Officer of GAI's Charleston Office. Mr. Penn has over 20 years experience providing services for transportation and land development projects throughout West Virginia. He is past president of the West Virginia Society of Professional Engineers and is vastly knowledgeable of engineering and environmental issues affecting project development in West Virginia.

Overall project management responsibility for this project will be performed by Mr. Glenn Showers, P.E. Mr. Showers' 38 years of experience in both public and private sector work has enabled him to focus keenly on issues of concern to the client. In the role of project manager, he will serve the West Virginia General Services Division's interest by coordinating and managing all fiscal and personnel aspects of the project. Mr. Showers has experience in boiler and chiller plant design, construction, and commissioning, and will oversee this project.

Mr. John Kloster, P.E. will serve as assistant project manager. Mr. Kloster has over 30 years of experience in chilled water systems.

Mr. Donald Banhfleth, P.E. will perform the hydraulic engineering aspects of the project. He has performed these aspects of the design on numerous projects. He has a complete understanding of the project guidelines and expectations.

Messrs. Alan Weiskoph, AIA and Joe Filar, AIA of Perfido, Weiskopf, Wagstaff, & Goettel Architects will provide architecture services required for any modifications to the building.

Mr. Terry W. Queen will provide construction monitoring services. Mr. Queen has provided construction monitoring services for over 29 years on a variety of construction projects.

Please see the attached resumes for more information on the qualifications of the Project Team.

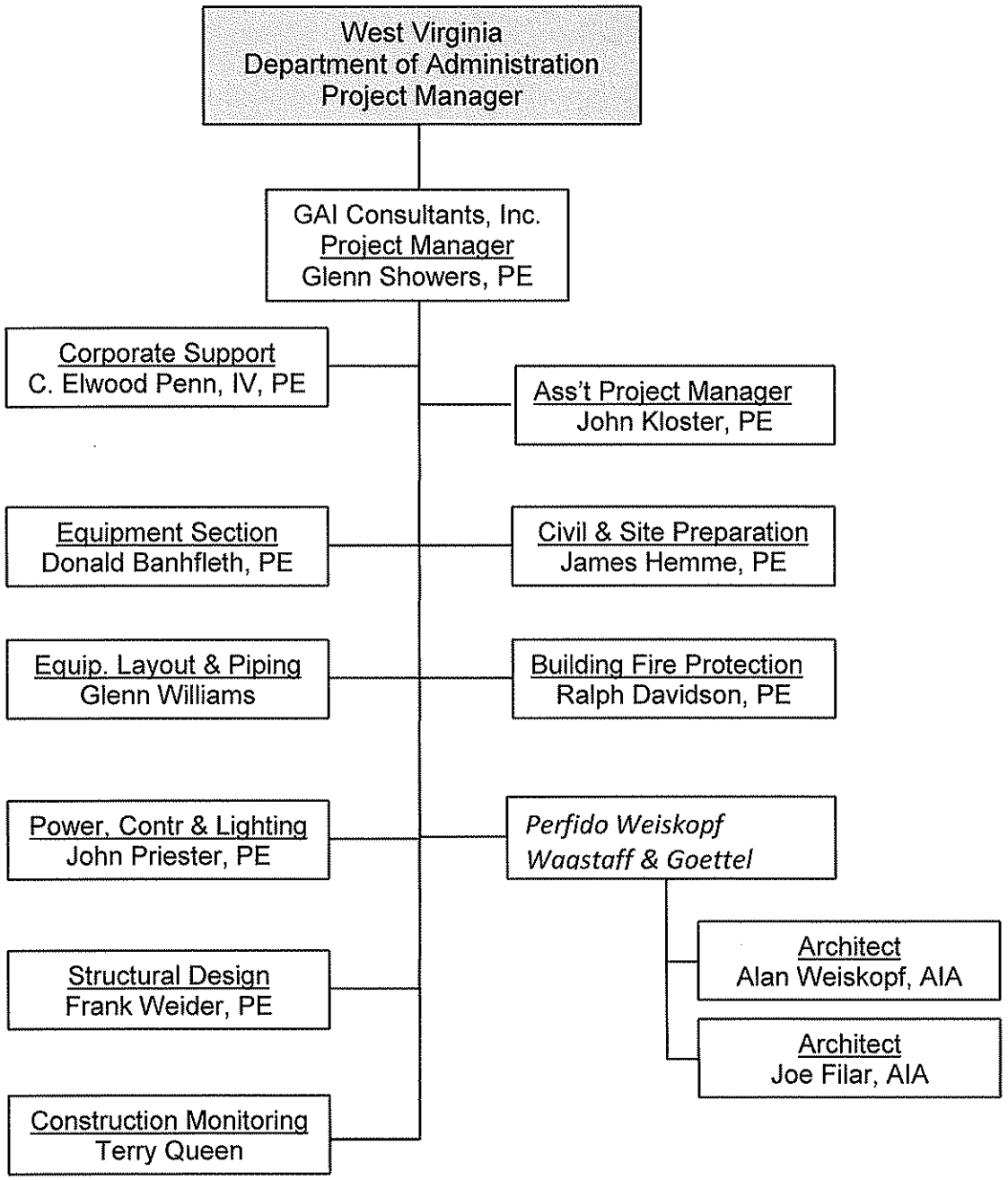
Current Workload

The proposed staff of engineers and technicians is available for this project.

We are prepared to begin work on the project immediately.

A & E SERVICES FOR THE CHILLED WATER SYSTEM, AND ASSOCIATED EQUIPMENT, IN BUILDING 9

PROJECT ORGANIZATION



C. Elwood Penn, IV, P.E.

Engineering Manager

Education

B.S. Civil Engineering 1985, Virginia Polytechnic Institute and State University

Registrations/Certifications

Professional Engineer, West Virginia, Virginia, Maryland, Arkansas, North Carolina, Ohio, Kentucky

Affiliations

National Society of Professional Engineers (NSPE)
American Society of Civil Engineers (ASCE)
West Virginia Qualification Based Selection (QBS) Council
International Right of Way Association
American Society of Highway Engineers (ASHE)

Previous Employment

Triad Engineering, Inc., 2003-2005
The Louis Berger Group, Inc., 1995-2003
H.W. Lochner, Inc., 1995
Whitman, Requardt and Associates, 1988-1995
Draper Aden Associates, 1987-1988
West Virginia Department of Highways, 1985-1987

Summary

Mr. Penn specializes in project management and administration in the areas of highways, land development, and utilities. He is experienced in developing environmental impact statements and assessments in accordance with National Environmental Policy Act (NEPA) regulations. Mr. Penn has been responsible for environmental assessments, site investigations, location studies, and preliminary and final designs for numerous transportation, infrastructure and land development projects in Virginia and West Virginia.

Mr. Penn has been the responsible Engineer for the review of over 4,000 Spill Prevention, Control and Countermeasure (SPCC) plans for gas well and tank sites in West Virginia, Virginia, and Kentucky for Equitable Gas. He has also provided design services for numerous landfills in Virginia.

Professional Experience

Highway

- U.S. Route 60, Shrewsbury to Cedar Grove, Kanawha County, West Virginia. Project Manager for the preparation of an Environmental Assessment and Design Report, for 3.2 miles of U.S. Route 60 in Kanawha County, West Virginia. The project consisted of studying alternative alignments for upgrade of existing two-lane roadway to four lanes and design speed to a minimum 60 m.p.h. The environmental analysis for the project consisted of the management, coordination, data collection, and technical studies necessary to conform the applicable sections of the Federal Highway Administration Guideline (23 CFR 771) and FHWA Technical Advisory T-6640.8A; FHWA Guidelines on noise (23 CFR 772) and air quality (23 CFR 770); Section 106 of the National Historic Preservation Act; Section 404 of the Clean Water Act; and the policies and procedures of the State of West Virginia, and the Department of Transportation, Division of Highways. The design report studied three alternative alignments. A high cut, railroad, the Kanawha River, and numerous commercial and residential structures close to the existing alignment bound the proposed corridor. The scope of services provided included coordination with local Economic Development organizations, public meetings, drainage design, and access studies to properties. The estimated construction cost of the studied alternatives ranged from $60-$90 million.

- Monongahela River Bridge and Approaches, Marion County, West Virginia. Project Manager for the preparation of construction plans and right of way plans for 1.1 miles of four-lane partially controlled access highway on new alignment. The projects included a major river crossing of the Monongahela River and a modified cloverleaf interchange with U.S. Route 19. This project was approximately 60% completed when WVDOT put it on hold.
- I-40 Widening, Pulaski County, Arkansas. Project Manager for the preparation of construction plans for the widening and reconstruction of interstate I-40 between I-430 and I-30. The total project length was 6.5 miles. The project included: reconstruction of the existing roadway to meet present ASSHTO standards; widening of the existing roadway from 4 lanes to 6 lanes; the replacement of two overpass structures (Crystal Hill Road and Highway 107); the replacement of two mainline structures (Levy Interchange); the addition of a new ramp and the relocation of one ramp at the Levy Interchange; and the design of over 1000' of retaining walls to minimize the need for additional right-of-way. The existing high volume of traffic required maintaining two lanes of traffic in each direction at all times. The need to maintain two traffic lanes in each direction also required staged construction of the bridges and additional analysis of the structures. The scope of services provided also included coordination with the Union Pacific Railroad and drainage design. The project construction cost was approximately $57 million. At the time, this was the largest construction project ever awarded by the Arkansas Highway and Transportation Department.
- U.S. Route 58, Danville Bypass, Pittsylvania County, Virginia. Project Manager/Engineer for preliminary studies and final design engineering services to the Virginia Department of Transportation for the preparation of construction and right-of-way plans. The project was 7.6 miles in length on new location and had a construction cost of approximately $55 million. The Danville Bypass is a four-lane divided highway and includes a cloverleaf interchange, a diamond interchange, a trumpet interchange, railroad relocation, 14 bridges and a major river crossing. The scope of work also included hydraulics, stormwater management, utilities, geotechnical, traffic signals, lighting, signing, public involvement, and value engineering. This project won the 2005 ACEC of Virginia Engineering Excellence Award, Grand Award for Transportation.
- Route 219, Monroe and Greenbrier Counties, West Virginia. Project Engineer for the preparation of a Design Report for the upgrade of 45 miles of a two-lane rural roadway from Lewisburg, West Virginia to Peterstown, West Virginia. Responsibilities included development of alternative alignments including improvements to existing alignment (included vertical and horizontal alignment improvements as well as pavement widening), relocations and bypasses around towns and communities, and for the geometric layout of over 135 miles of alternatives alignments using In-Roads software. Also participated in preparation of engineering and environmental inventories, a purpose and needs document, and license plate surveys and traffic forecasts for Lewisburg, Fairlea, Ronceverte, Peterstown and Rich Creek.
- I-664, Chesapeake, Virginia. Project Engineer for the preparation of construction and right of way plans and documents for a 4-mile section of interstate highway on new alignment. The project included three interchanges (two diamond and one partial cloverleaf) and reconstruction of approximately 12 miles of state roads and city streets. The scope of services included roadway design, right-of-way plans, DRD (Digital Roadway Design), traffic control, signing, hydraulics, storm water management, public participation, and estimates. Coordinated work with sub-consultant, surveyor, and Virginia Department of Transportation.
- Charles Town Bypass, Jefferson County, West Virginia. Staff Engineer for 7 miles of limited access roadway. Responsibilities included geometric design, interchange design, right-of-way plans, and estimates. Contract called for the construction of two lanes with design made for future widening to four lanes.
- Corridor G, Boone County, West Virginia. Staff Engineer for 2 miles of 4-lane roadway. Responsibilities included geometric design, right-of-way plans, and estimates.
- Loudenville - Cameron E. B. Route 25, Marshall County, West Virginia. Staff Engineer for 0.5 miles of 2-lane roadway. Responsible for complete civil design including geometric calculations, intersection layout, right-of-way plans, maintenance of traffic plans, and estimates.
- Variform Access Road, Berkeley County, West Virginia. Staff Engineer for access road to manufacturing facility. Responsible for complete civil design including geometric calculations, railroad crossings, and estimates.
- East Hardy High School Access Road, Hardy County, West Virginia. Staff Engineer for roadway relocation necessitated by building of new high school responsible for geometric design.
- Route I-64, Raleigh County, West Virginia. Staff Engineer for new interstate project. Responsibilities included joint layout.

- Route I-64, I-70, I-77, Numerous counties in West Virginia. Staff Engineer for the design of crack and seat with overlay interstate rehabilitation plans. Responsible for site evaluation and complete contract plans.
- Flood Relief Work, Numerous counties in West Virginia. Staff Engineer for the design for rehabilitation projects after flood in winter 1985. Responsible for site evaluation and complete contract plans.

Utilities

- Rivanna Water Study, Albemarle County, Virginia. Project Engineer for a location study for 7 miles of 30-24 inch water main. Three alternatives were evaluated. All alternatives were evaluated on the basis of cost, right-of-way required, impact to traffic during construction, and impact to existing utilities and wetlands. The pipeline had to meet requirements of five separate agencies. These five agencies were The Rivanna Water and Sewer Authority, who was building the pipeline; Albemarle County, who was to be served by the pipeline; The City of Charlottesville, who governed two parks and several streets that were to be impacted; The University of Virginia, for possible easements across their property; and The Virginia Department of Transportation, for coordination with future roadway projects, required easements, and possible roadway impacts.
- Chesterfield Water Study, Chesterfield County, Virginia. Project Engineer for a location study for 10 miles of 36-16 inch water main. Five alternatives were evaluated for 7 miles of the pipeline. All alternatives were evaluated on the basis of cost, right-of-way required, impact to traffic during construction and impact to existing utilities and wetlands. The pipeline had to meet requirements of Chesterfield County and the Virginia Department of Transportation.
- Hopkins Road Water, Chesterfield County, Virginia. Project Engineer for the design of 3 miles of 24-16 inch water main. Responsible for complete civil design including horizontal and vertical alignment, easement plats, details, and specifications. Also was responsible for preparing monthly progress reports.
- Prince George Water Study, Prince George County, Virginia. Staff Engineer for the study of necessary water improvements. Responsibilities included projecting population growth and water demands.
- Gilman Tract Sewer Study, Henrico County, Virginia. Staff Engineer for the study of necessary sewer improvement for development project. Responsibilities included projecting future flows.

Glenn M. Showers, P.E.

Mechanical / Environmental Engineer

Education

B.S. Mechanical Engineering, University of Cincinnati

M.S. Environmental Engineering, University of Cincinnati

Registrations/Certifications

Professional Engineer: Ohio, Indiana, Kentucky, Delaware, South Carolina

Relevant Training/Courses

Value Engineering, Howard Ellegant Associates

Combustion Safety, Procter & Gamble

Affiliations

Kentucky Industrial Coal Conference, Lexington, KY, former Chairman

Previous Employment

Owner of BBS Engineering, Inc.

Summary

Mr. Showers specializes in design and consulting services for industrial mechanical and electrical utility systems. He has 37 years experience that started with the operation of an electric power generating station, progressed to the design of plant utility and pollution control systems, and resulted in the creation and management of a consulting engineering firm. BBS Engineering, Inc. specialized in industrial mechanical and electrical utility systems. Mr. Showers' expertise and experience has added a new dimension to GAI's wide array of engineering and environmental consulting professionals.

Professional Experience

Project Manager

- Engineering design and equipment selection of a 40,000 PPH package boiler to burn a reclaimed oil product to produce high-pressure steam and compressed air (via a turbine drive) for an aluminum processor in central Kentucky.
- Master plan study for a new boiler house, comparing high-pressure steam turbines with gas turbines to generate both steam and electric power for General Electric in Cincinnati, Ohio.
- Design through construction, including start-up, of two 100,000 PPH package boiler systems for P&G, Paper in Missouri.
- Engineering design and equipment selection of a 220,000 PPH package boiler system for BP Oil in central Ohio.
- Engineering to relocate three package boilers (350,000 PPH total) from Michigan to Ohio for General Motors, and design a complete new boiler house around this equipment with all auxiliaries and controls.
- Design replacement piping for over 6,000 L.F. of underground utility piping for the U.S. Navy.
- Assisted a district heating system in Dayton, Ohio, analyzing heating systems to promote district steam as a heat source.
- Complete design of four different projects involving six 5,000 CFM air compressors, including dryers, piping, and controls for the U.S. Navy in Virginia, and General Motors in Ohio and Indiana
- Utility support system design, including piping and foundations, for a General Motors plant in Ohio to relocate manufacturing operations from one complex to another.

- Relocate a wood fired boiler house, with 250 KW generator and full auxiliaries, to the Styline furniture plant in Indiana.
- Design of a self contained temporary boiler house rated at 30,000 PPH and 900 psig at a Procter & Gamble plant in Ohio.
- Complete mechanical, electrical, and structural design for a new packaged gas fired boiler system at a remote office building for Delco Remy in Indiana.

Mechanical (Thermal) Engineer

- Boiler plant efficiency testing at 36 General Motors plants in the USA, including trouble-shooting poor performance at a few.
- Preparation of new, revised combustion safety manuals for P&G's internal use in design of technical safety systems.
- Provided mechanical design for a new centralized 5,500 GPM plant water filtration system for a paper mill in Ohio.
- Preliminary engineering for a paper mill in central Ohio for the installation of a coal/paper sludge fired fluidized bed boiler.
- Combustion safety studies for over 30 P&G combustors in Kansas, Louisiana, Ohio, New Jersey, New York, Puerto Rico, Ontario, London, and Bangkok.
- Combustion safety design for P&G combustion processes (non-boiler) in Cincinnati, Ohio and Greensboro, North Carolina.
- Preparation of a Safety Audit Procedure and manuals for Delco Electronics in Indiana.
- Report on boiler performance for four packaged oil fired boilers with a total capacity of 400,000 PPH for the District of Columbia.
- Design of natural gas distribution system for a plant conversion from a central system to local heaters at a General Motors plant in Indiana.
- Observation of British Coal Board technology and application of fluid bed equipment to an 800 KW co-generation system in Virginia for EnCoal. The fluidized bed boiler involved a flue gas baghouse as a part of the system design.
- Mechanical design and specifications to modify a coal fired boiler ash collection system into separate bottom ash and fly ash systems at Cornell University.
- Design of piping and controls for a landfill gas addition to a P-C fired boiler for Emery Industries in Ohio.
- Preliminary engineering to relocate a fluid-bed boiler to the Formica plant in Cincinnati, Ohio and covert it from burning coal to tire chips.
- Design and specification of a new ash system for the Defense Construction Supply Center in Ohio
- Central versus decentralized plant air compressor and dryer evaluation study for an auto parts plant in northern Ohio
- Concept and final design, start up, and training for a 1,500-psig coal fired boiler for Emery Industries in Ohio. The boiler included full auxiliaries, controls, and piping.
- Design and start up for a 20 TPD industrial waste incineration system with waste heat recovery at the Formica plant in California.

Publication

2003 A Trouble-Free Burner Installation, Heating/Piping/Air Conditioning Magazine May 2003.

2003 Matching Burners to Applications, Heating/Piping/Air Conditioning Magazine, April 2003

2002 Combustion Safety for Furnace Operations, Industrial Heating Magazine, February 2002

2001 Managing Combustion Safety, Heating/Piping/Air Conditioning Magazine, June 2001

2000 Preventative Maintenance for Burner Management Systems, Heating/Piping/Air Conditioning Magazine, February 2000

1997 The Importance of Burner Management Control, Heating/Piping/Air Conditioning Magazine, December 1997

John K Kloster

Mechanical / Industrial Engineer

Education

B.S.I.E., State University of New York

Relevant Training/Courses

ROMAC Rotor Dynamics Training, UVA
IRD Vibration Analysis Training
HVAC Custom AHU Design, Engineered Air, Calgary
Trane HVAC Training
Carrier HVAC Training
ASHRAE Presenter, Syracuse, NY

Affiliations

Construction Users Round Table

Previous Employment Summary

Director Business Development- Bowen Engineering Corp, Contractors
Strategic Account Manager American Electric Power, East Kentucky Power, Husky Energy, AMP Ohio
Corporate Engineering Partnering Manager
Project Manager/Campus Utility Planner/Business Development- ZBA/Woolpert Consulting Engineers
Project Manager/Field Engineer/Business Development- Engineered Air (Custom Air Handling Products)
Project Manager/Design Engineer- Vamosi Associates M/E Consulting Engineers
Manager Mechanical Engineering- United Centrifugal Pumps (API Pump Manufacturer)
Manager Engineering- Goulds Pumps Texas Division
Design Engineer- Morris Pumps (Slurry & Process Pump Manufacturer, Company Purchased by Goulds)

Summary

Mr. Kloster has specialized in systems design in the industrial environment as well as a focus on central energy systems in the campus environment. An extensive background in the manufacturing and design of pump systems provided vital experience to approach the central energy market. Multiple industrial and commercial thermal storage projects were analyzed and designed. Alternative energy systems were analyzed and considered in the process of campus master planning. Campus central energy plant master planning and system remediation was a large portion of the work performed at some of America's largest universities. In recent years a focus has been on the area of power generation and ancillary systems, including water treatment, cooling towers and material handling systems.

Professional Experience

Mechanical Engineer

- Purdue University Satellite Chilled Water Plant, piping and hydraulic systems.
- Indiana University Central CW Plant Expansion/Renovation, chiller sizing, layout, piping design, pump application, IU Bloomington, IN.
- Pennsylvania State Capital Complex CW system analysis, chiller upgrades, loop remediation, Harrisburg, PA.
- Lexmark Utility Corridor CW, steam, compressed air, potable water, power, communications for new research facility, buried utilities 3000 ft, design and field engineering
- University of Iowa Hospitals & Clinics nuclear medicine labs building expansion, CW distribution, med gas systems, Iowa City, IA.

- University of Rochester heating plant modifications/boiler conversions, piping modifications, Rochester, NY
- Earlham College central heating plant upgrade and expansion, boiler layout and building systems, piping systems, Richmond, IN.
- Auburn University central steam system distribution system extension to new and renovated dorms, piping systems, building interfaces, control valves, building converters, Auburn, AL.

Master Planning

- Penn State University Central Steam System data acquisition and planning, PSU, State College, PA.
- Indiana University Central Chilled Water System data acquisition and planning, IU, Bloomington, IN.
- University of Kentucky Central Steam System data acquisition and planning, Lexington, KY.
- Duke University Central CW & Steam Systems data acquisition and planning, Durham, NC.
- Ohio State University Comprehensive Campus Utility Master Plan, data acquisition and planning, Columbus, Ohio.
- Ohio State Health Care District CW master plan data acquisition and planning, Columbus, Ohio.
- University of Rochester CW master plan data acquisition and planning, Rochester, NY

Project Manager

- Engineering design and equipment selection for combustion turbine test cell renovation and material handling systems at GE Aviation, Cincinnati, Ohio.
- Replacement of combustion turbine test cell exhaust and quench duct as well as creating 3-D scanned model of the existing systems for off-site fabrication of stainless components at GE Aviation, Cincinnati, Ohio.
- Create 3-D model of high pressure central compressed air system and implement master plan for system upgrades
- Development of utility model for Purdue Ross-Ade Stadium with complete 3-D stadium solid model, utility inverts and building interface, for HNTB Architects, PU, W. Lafayette, IN.
- Multiple thermal storage analyses and system designs for energy savings programs. (i.e.: Red Cross HQ, Graeter's Ice Cream Plant, City of Norwood, Ohio)
- Mechanical/electric renovation of Group Health Assoc Labs/Office Building, Cincinnati, Ohio
- Mechanical/electrical renovation multiple ICU surgery units, Good Samaritan Hospital, Cincinnati, Ohio

Product Management and Design

- Management of custom pump system and component designs, API, slurry and water systems.
- Design of multiple successful product lines for Morris and Goulds.
- New product implementation from design to manufacturing and shipment of first product.
- Manage development of advanced rotor dynamics software for multi-stage horizontal split case pumps.
- Field service and vibration analysis of installed pump systems.

Donald Bahnfleth, P.E.

Mechanical / Environmental Engineer

Education

B.S. Mechanical Engineering, University of Illinois

M.S. Mechanical Engineering, University of Illinois

Registrations/Certifications

Professional Engineer: IL, IN, KY, MD, MO, NY, OH, PA, VA

Relevant Training/Courses

Value Engineering, Howard Ellegant Associates

Combustion Safety, Procter & Gamble

Affiliations

Kentucky Industrial Coal Conference, Lexington, KY, former Chairman

Previous Employment

Owner of ZBA Engineering, Inc.

Summary

Mr. Bahnfleth has more than 57 years of experience in M/E engineering design. His extensive experience includes central heating and cooling plants and related distribution systems and complex HVAC systems for laboratories, hospitals and industry. He has been accountable for the successful design of computer-based monitoring and control systems applied to health care HVAC facilities, chilled water and heating plants. Mr. Bahnfleth has overseen condition assessment planning projects and design engineering for chilled water and heating system replacements at a number of VAMC facilities at Chicago, Knoxville, IA, Butler, Pa., Iowa City and Huntington, WV. He is a presidential member of ASHRAE, and recipient of the Society's highest honor, the F. Paul Anderson Award,

Professional Experience

Principal-in-Charge

- And Technical Consultant to replace chillers and cooling towers at the VA Medical Center, Knoxville, IA. This included condition assessment of the existing chilled water generation equipment, the supporting systems and central plant building. The engineering studies resulted in replacement of the existing system with three 800 ton chillers and related auxiliary equipment including three new cooling towers. Removal of the existing cooling towers required asbestos removal specs due to its enclosure of cement asbestos. New electrical system was designed to handle loads of the new chillers and equipment.
- And Technical Consultant to replace A/C Chiller and system components – VA Medical Center, Butler, PA, which included the evaluation of existing chilled water and hot water heating generation equipment and supporting equipment including chillers, heat exchangers, pumps and electrical gear. New systems were designed to optimize energy usage for cooling and heating. Project included installation of a 400 ton chiller, two cooling towers, replacement on in-plant piping, and new electrical switchgear.
- For the design of the Center of Excellence for Radiation Therapy. University of Iowa Medical Hospital and Clinics. This $20 million facility was a new building addition to the UIHC complex. The first phase of the project included two floors underground and one above with anticipated future addition of six more floors. The MEP systems at the lowest level were supplied steam and hot water from existing services extended to the building. Complete design of four different projects involving six 5,000 CFM air compressors, including dryers, piping, and controls for the U.S. Navy in Virginia, and General Motors in Ohio and Indiana
- And technical consultant to team using computer based system analysis to identify need for a new central chilled water plant and distribution system to correct low pressure problems in a 25,000 ton campus chilled

water system at the satellite chilled water plant, Purdue University, West Lafayette, Indiana. The 12,000 ton Satellite Chilled water plant was located 2 miles from the existing plant on a site with special concerns for esthetics and noise. The plant operation during extreme weather confirmed that adequacy of the computer based model and the central plant design.

- And technical consultant for conceptual development and design of a central heating and cooling plant to provide thermal services to the BBSRB Central Utility Plant and Infrastructure, University of Kentucky, Lexington KY. The first building was the Biomedical Biological Services Research Building. The CUP included 15,000 tons of chilled water and 120,000 lb/hr of steam. The infrastructure was designed to supply chilled water and steam to buildings in the precinct with

Glenn W. Williams

Senior Mechanical Engineer

Education

B.S. Mechanical Engineering 1972, New Jersey Institute of Technology

Relevant Training/Courses

AutoCAD, Warren County Career Center 2002

Microsoft Visual Basic, Miami University 1999

Affiliations

Ingersoll-Rand Pump Distributor Association, Treasurer 1988-1992

Previous Employment

National Pump & Process 2004-2008

Ohio Transmission & Pump 1998-2004

Prime Pump Company 1983-1998

Ingersoll-Rand Company 1972-1983

Williams Heating and Air Conditioning 1966-1972

Summary

Mr. Williams specializes in boiler system design. He has extensive experience with pumps, motors, mechanical seals, air compressors, rotary lobe blowers, gearboxes, instrumentation, control panels, programmable logic controllers (PLCs) and steam turbines. Mr. Williams composed a Visual Basic computer program that selects the appropriate pump kits, bases, seals, motors, couplings, guards and risers for pump assemblies, and has developed a quote log tracking program for project management.

Professional Experience

- Trimble County Generating Station, LG&E Division of E-ON US Bedford, Kentucky. Mechanical design for staged construction of pipes serving an 86-acre ash pond while the dike walls were raised 30 feet.
- Ghent Station, Kentucky Utilities E-ON U.S. Ash Handling Conceptual, Warsaw, Kentucky. Conceptual study to handle the CCP ash and FGD and decide on wet or dry conveying or tube conveying to landfills. Studied six alternative methods including cost estimates.
- Municipal Solid Waste Gasification Plant, Recycling Solutions Technology LLC, Prestonburg, Kentucky. Mechanical design of equipment for a municipal solid waste gasification plant.
- Emergency Boiler Feedwater Pump Replacement, University of Cincinnati, Cincinnati, Ohio. Design of a boiler feedwater pump, including expedited delivery, to replace a major pump damaged due to lack of oil lubrication. This effort included root cause analysis, hurry-up acquisition of the replacement pump, as well as check out and start-up after installation.
- Boiler Feedwater Modifications, Goodyear Tire & Rubber, St. Mary, Ohio. Start-up and commissioning of a duplex station of Grundfos boiler feedwater pumps. Start-up included pumps, piping, and PLC controller.
- University of Cincinnati (UC) Boiler House Expansion, Cincinnati, Ohio. Commissioning and startup of three Ingersoll-Rand Boiler feed Pumps for UC's new 600-PSI waste boiler system of a gas turbine co-generation system.
- Experience with power house services including boiler feed pumps, condensate pumps, heater drain pumps, condenser circulating water pumps, house water, ash sluice pumps, cooling tower.
- Experience with pump types including API, ANSI, air operated, end suction, horizontal split case, vertical turbine, self primers, submersible, submersible XP sewage, multiple stage, gear pumps, multiple phase, propeller, sanitary, 3A, metering plunger, piston, steam pumps.

- Experience with steel mill applications including roll coolant, de-scaling, electro-galvanizing, pickling, cooling water.
- Experience with other equipment including vacuum pumps, air compressors, rotary lobe blowers, motors, controls, PLC's, Freon air conditioning, cooling towers.

Ralph E. Davidson

Fire Protection Engineer

Education

Bell & Howell Technical College, Electrical Engineering

Numerous NFPA and NFSA seminars and classes

Registrations/Certifications

NICET (National Institute for Certification in Engineering Technologies®)

Certified Engineering Technician, C.E.T

Level III, Engineering Technician – Automatic Sprinkler System Layout (since 1984)

Relevant Training/Courses

State of Ohio – Fire Protection System Component Designer for Automatic Sprinkler Systems (since 1982)

Previous Employment

Owner of Davidson Fire Protection Services, Inc. (2006 to present)

Summary

Mr. Davidson has 37-years experience in the fire protection industry, with the fabrication design and installation of all types of water based fixed fire sprinkler systems and related devices, providing a finished product that is code compliant, functional with efficiency of performance, while at the same time, cost effective based on cost conscious decisions. Mr. Davidson has preformed tasks such as Engineering Technician / Design Technician, Design Department Manager, Purchasing Agent, Estimator, Specification writing, and technical review of vendor shop drawings and hydraulic calculations, as well as being responsible for stock listing and purchasing material and devices for projects, receiving of shipped material and identifying for project inventory.

In the past, Mr. Davidson has served as Secretary for the Ohio Fire Suppression Association for three years, served as Vice-Chairman for the Ohio Fire Suppression Association for three years, and served as Secretary-Treasurer of Cincinnati Sprinkler Contractors Association for four years.

Professional Experience

- Clopay Building Products, Troy, Ohio. Responsible for extensive hydraulic study of existing site fire sprinkler systems related to integration of new and existing piping networks.
- Clopay Building Products, Russia, Ohio. Responsible for establishing design criteria necessary to replace existing diesel driven booster pump and failing suction tank with a new city water connection and electric booster pump.
- Procter & Gamble, Augusta Georgia. Responsible for extensive hydraulic study of existing site fire sprinkler systems related to warehousing for system upgrades.
- Procter & Gamble, Lima, Ohio. Booster Pump Replacement Project: Responsible for establishing design criteria necessary to replace existing diesel driven booster pump at the
- Lima Manufacturing Facility. Procter & Gamble, Lima, Ohio. Currently assisting P&G HHC Facilities Engineering acting as temporary P&G facilities coordinator for projects at the Lima, Ohio facility until new replacement is found.
- A.M. Kinney Engineering, IWATA Bolt Project. Responsible for working with insurance underwriter to prepare design specifications and criteria drawings for the fixed fire suppression systems, including wet and small AFFF foam/water deluge systems.
- Jedson Engineering, P&G Ivorydale Water Supply Project. Responsible for establishing design criteria necessary to replace existing diesel driven booster pump and failing suction tank with a

new city water connection at the Ivorydale campus. Sun Devil Fire & Equipment, Cal-Jet of America Project, Phoenix, AZ. AFFF foam/water deluge system for fuel loading/unloading station.

- Procter & Gamble, Green Bay, Wisconsin. Wildfire Project. Responsible for designing ESFR sprinkler system for new proposed three high parent roll storage. This design was successfully fire tested at UL Labs.
- Procter & Gamble, Green Bay, Wisconsin. Wildfire Project: Responsible for the design for replacing existing underground fire loop at the Green Bay facility and interface to existing risers and on-site fire and booster pumps. Material used to replace existing ductile iron pipe was HDPE, excavation method, directional boring.
- Procter & Gamble, New Orleans, LA: Responsible for expanding master plan scope to conceptual provisions for two new water storage tanks and fire pumps to replace existing water supplies. Related and associated scope studies are on-going to include hydraulic evaluation of existing fixed fire sprinkler systems.
- Essential Fire Protection, El Paso, TX: Abundant Living Faith Center. Responsible for the complete design of underground water supply and interior piping networks for new 2000 seat circular sanctuary and associated learning facilities.
- Procter & Gamble, Lima, Ohio. New Distribution Center Project: Responsible for working with insurance underwriter to prepare design specifications and criteria drawings for the fixed fire suppression systems, including exterior underground fire loop, associated fire pumps and suction tanks, as well as interior fixed fire suppression systems. 1.3MM square foot facility. Clopay Building Products, Russia, Ohio. Fire Pump Replacement Project.
- Responsible for determining required modifications to existing pump room piping network to accommodate replacement of existing pump with new unit.
- Procter & Gamble, Green Bay, Wisconsin, Fire Loop Replacement Project: Responsible for determining required modifications to entire existing site underground piping network to accommodate new business and maintain service during change over. Outline existing plant underground fire loop and related appurtenances for systematic and sequential replacement
- Procter & Gamble, Lima, Ohio. Fire Loop Replacement Project: Responsible for determining required modifications to existing site underground piping network to accommodate new business and maintain service during change over. Outline existing plant underground fire loop and related appurtenances for systematic and sequential replacement.
- Procter & Gamble, Alexandria, Louisiana. Launchpad Project. Modify existing structures, underground fire loop and existing fixed fire sprinkler systems and prepare site for new and modified existing process buildings, new conventional warehousing and new ASRS warehousing. Replace existing site fire and booster pumps and install new fire water storage tank. Provide hydraulic studies of existing systems for upgrading. Write performance specification and provide criteria based drawings.
- Procter & Gamble, Brockville, Ontario. Launchpad Project. Decommissioning of dry powder soap from site and site preparation for new Swiffer, Swiffer Wet & Wet Jet businesses. Modify existing structures and existing fixed fire sprinkler systems and prepare site for new processes. Provide hydraulic studies of existing systems for resupply and upgrade. Write performance specification for demo and remediation scope and provide criteria based design drawings for required modifications.
- Procter & Gamble, Stamford, Connecticut. Hydraulic Study. Survey and hydraulically calculate twelve existing sprinkler systems throughout the plant to establish required modifications for upgrade to current design criteria and requirements.
- Procter & Gamble, Green Bay, Wisconsin. Fire Loop Replacement Project: Responsible for determining required modifications to existing site underground piping network to accommodate new business and maintain service during change over. Outline existing plant underground fire loop and related appurtenances for systematic and sequential replacement.
- Procter & Gamble, Lima, Ohio. Modify existing structures to convert existing warehouse facilities to new packing areas.

John M. Priester, PE

Electrical & Controls Engineer

Education

B.S. Electronics Engineering Technology 1995, Northern Kentucky University

A.S. Electronics Technology, Minor in Applied Technical Science 1995, Northern Kentucky University

Registrations/Certifications

Professional Engineer, Ohio / 1981 / Electrical
Master Electrical in Tennessee, North & South Carolina.

Previous Employment

Owner of JMP Associates, Inc.

Summary

Mr. Priester specializes in electrical design for construction, wastewater treatment systems, mine control systems, and industrial applications. He has used the National Electric Code to complete designs, and he has experience designing and developing Programmable Logic Controller (PLC) programs.

Mr. Little received a NASA Space Flight Awareness Team Award for a Friction Stir Welder project.

Professional Experience

- Electrical design of controls, power distribution, step-up substation and protective relaying to tie new 20 mW back pressure and condensing turbine units into existing plant electrical distribution system and 69 kV MESO utility line for selling of excess power to MESO grid.
- Designed all control systems and electrical power tie to plant electrical distribution systems of two (2) 250 kW natural gas fired turbine generators to supply high temperature hot water for production sterilization and process as well as 500 kW of power to be used in the plant.
- Designed and managed installation of upgrade project for the State Avenue Plant's aging 10 mW electrical 4,160 V to 240V delta distribution system to modern 15 kV /480y/277V/3Ø/4W system. System change over accomplished with only one (1) total, plant outage. Included providing new ground fault sensing systems on the required to remain, 240V delta distribution system.
- Waste Water Treatment facility. The system when completed shall allow plant personnel from four (4) satellite locations to monitor the overall plant operation and control the process located at the satellite locations. At a main control station, all plant processes are monitored, be controlled and operation altered. In addition, at the main control station EPA required influent and effluent flows, effluent quality and chemical level injections are monitored and recorded.
- Designed and managed the installation of all power, lighting, instrumentation and data network for new a Flint Ink product development lab and QA lab adjacent to existing 50,000 ft.² ink proceeding facility . Highlights included special lighting for good color rendition in QA area, tie in of various lab testing equipment into central data acquisition system to record test findings directly into their data system from the instrument's data ports.
- Lead electrical engineer for the design and support for a 3.5 MW cogeneration plant, including all power and control interfaces to three protective relaying and SCATA systems.
- Lead electrical engineer for the design of all power and lighting for a 7.5 MW cogeneration facility for a pressboard plant.
- Electrical design for new 10 MVA 69 kV to 15 kV substations, 1500 TR of multistage ammonia refrigeration system and controls for an automated flour batching plant.
- Upgrade of manufacturing campus 4160 V to 12.47 kV distribution, including all incoming protective relaying and 22 MVA of substations, transformers, over current devices, and relays.

- Consolidation of a manufacturing campus's eighteen separate electrical utility services into one central service point and distribution system.
- Complete design and specification of all power and controls for a new $35 million vertical lime-kiln plant and off-shore unloading terminal.
- Power, lighting, and data networking design for a $13.2 million food research and development facility upgrade and expansion.
- Complete power and control system design and programming for new propane terminals in Pennsylvania, Ohio, Illinois, Indiana, and the Dominican Republic.
- Power and lighting for a new boiler and chiller plant at a turbine engine facility.
- Fault load coordination and arc flash studies of a paper plant's eight-substation power distribution system.
- Multiple power factor correction and harmonic remediation projects on 500 to 3,000 kVAR systems.
- Electrical design, construction, and programming of $2.5 million in power and controls for a new friction stir welding system for NASA on the external fuel tank of the space shuttle.

Francis P. Weider, P.E., S.E.

Structural Engineer

Education

B.S., Civil Engineering, Illinois Institute of Technology
Master of Business Administration, DePaul University

Registrations/Certifications

Licensed Structural Engineer: Illinois
Registered Professional Engineer: Kentucky, Tennessee, Ohio, Indiana

Relevant Training/Courses

Continuing education is an ongoing endeavor that includes training/courses related to current code requirements and engineering practice as well as effective business management.

Affiliations

Structural Engineers Association of Kentucky (past president)

Structural Engineers Association of Illinois

Society of American Military Engineers

Previous Employment

Broad based background including work as a direct employee of two major Midwest electric power generating corporations in addition to refinery, chemical, paper, hydro and other heavy industrial applications. Experience also includes repair and retrofit of government, commercial, religious and residential facilities.

Summary

Thirty-Nine Years Total Experience in industrial, residential and commercial design, manufacturing and construction. Project management; leading multi-discipline design teams; project development; estimating; preparation of specifications and procedures; conceptual studies; scheduling; development and administration of budgets.

Fields of Experience includes residential, institutional and commercial structures as well industrial structures related to power, industrial and process industries involving fossil generating stations, storage and material handling facilities, and process plant work for the chemical, petroleum, paper, food, pharmaceutical, and plastics manufacturers. Experience involved considerable applications in the design of new structures as well as the evaluation, modification and repair of existing structures throughout the United States.

Professional Experience

- Principal Civil/Structural Engineer for Duke Energy Midwest responsible for engineering support of existing company facilities as well as for power houses operated and maintained for Fortune 500 companies from Texas to New York. Responsibilities included project management for the relicensing of Markland Hydro; engineering certification of SPCC plans; emergency repair of structures, cladding, boilers, conveyors, stacks/chimneys, dead end structures, Taintor Gates at dam, correction of site runoff problems, failure investigations. Additionally, services included civil/structural engineering for repowering an old fossil generating station, addition of new FGD and Baghouse systems to existing facilities.
- Project Manager at mid-west consulting engineering firm for multidiscipline work on electric and gas utility projects. Included are expansions of multiple substations for increased load capability including dead end structures at each end of a 40 mile long 345 kV transmission line addition. Upgrades to an existing gypsum facility to improve gypsum quality and solve problems with meeting moisture specifications. Addition of new water treatment capacity at 300 mW combustion turbine facility. Natural gas pipeline transfer station

modifications with provisions for heaters, dryers and metering. Addition of new process column and related equipment at Paducah area chemical plant. Fertilizer plant work including a Prill Tower inspection, structural analysis and repair recommendations as well as design of various types of secondary containment for existing storage tanks sized from forty thousand to five million gallons.

- Project Manager at Commonwealth Edison with responsibility for scope, schedule and budget for a 1700 megawatt fossil generating station in Pekin, IL with responsibility for the replacement of twelve high pressure feedwater heaters with the units on-line, a twenty-five million dollar boiler overhaul, expedited replacement of a failed 900 mva transformer, control room consolidation and upgrades as well as ongoing maintenance and repair activities.
- Project Engineer for the design, manufacture and erection of freestanding storage racks and rack supported buildings throughout the United States. Included are refrigerated and freezer building as well as systems serviced by either conventional lift trucks or high rise automated storage retrieval systems. Among the industries supplied were metal processing facilities, grocery (including rooms with special atmospheres for holding product), dairy, automotive, furniture, paint, glass hardware and marine.
- Project Engineer for responsible for the multidiscipline design effort of a thirty million dollar refinery addition in Pennsylvania.
- Project Engineer for multidiscipline design of a platformer heater modification for increased capacity at a refinery in southern Illinois.
- Supervising Engineer with responsibility for all Civil, Structural and Architectural design activities for maintenance, modification and repair in the fossil division of Commonwealth Edison Company (ten generating stations and one hydro unit with a total of 11,000 megawatts of installed capacity).
- Supervising Engineer for design of office, training and locker facilities (IL & IN).
- Supervising Engineer for a fire fighting training facility including classrooms, a burn tower and water treatment facilities (IL).
- Supervising Engineer for facilities modifications to comply with the requirements of the Americans with Disabilities Act (IL & IN).
- Supervising Engineer for large roofing repair and replacement projects (IL & IN).
- Supervising Engineer for the realignment and repair of a 150 to bridge crane runway (IN).
- Senior Engineer for major scrubber addition at a refinery in southern Illinois.
- Senior Engineer responsible for inspection, modification and repair of chimneys, precipitators, air heaters and ducts (IL).
- Senior Engineer providing emergency repair recommendations following three separate boiler explosions including the flame straightening of twenty-seven inch deep wide flange beams (IL & IN).
- Senior Engineer for the overhaul of a rotary car dumper including significant repairs to the end rings (IL).
- Senior Engineer responsible for the inspection, modification, and repair of barge unloading cranes (IL).
- Senior Engineer responsible for inspection, maintenance and repair of dock walls and other structures at barge unloading facilities and a rail to barge transfer facility. Includes repairs to failed steel sheet piling and grout stabilization of soil behind Wakefield (timber) sheetpile walls (IL & IN).
- Senior Engineer for inspection, maintenance and repair of circulating water intake and discharge channels, tunnels and piping. Includes underwater repair and dredging (IL & IN).
- Senior Engineer for design of drainage, containment ponds, spillways and treatment facilities for storm water runoff at multiple locations (IL).
- Senior Engineer for the installation of a new paper winder at an existing paper plant in Michigan.
- Senior Engineer for the installation of a new injection molding facility for hospital supplies in Northern Illinois.
- Senior Engineer for the addition of a six story corn digestion facility to an existing corn processing plant in Northern Illinois.
- Senior Engineer for the addition of a six story corn milling facility to an existing corn processing plant in Central Illinois
- Senior Engineer responsible for demolition of structures including the removal of PCB, asbestos & lead contaminated materials (IL & IN).
- Senior Engineer for a chlorine processing plant in Tennessee.
- Senior Engineer for maintenance and repair of steel, aluminum, and fiberglass storage tanks (IL & IN).
- Senior Structural Engineer for the new parish hall at church, Louisville, KY.
- Senior Structural Engineer for personal care facility, Louisville, KY.
- Design Engineer for a plastic film production plant in Pennsylvania.

Alan Weiskopf, AIA

Managing Principal **Perfido Weiskopf Wagstaff + Goettel**

Education
University of Cincinnati
Bachelor of Architecture, 1975
Registration
Registered Architect in PA, WV, MD, OH, IN, NY, NC & SC
Professional Associations
NCARB Certification
American Institute of Architects
Chairman, City of Pittsburgh Board of Appeals
AIA Pittsburgh Board of Directors (1990-1996)
AIA PA Board (1997-2001)
Member, Urban Land Institute
Member, CEO's for Cities

Alan joined PWWG in 1981 as an associate and became a principal of the firm in 1986. He has served as the project architect or principal-in-charge of many of the firm's most significant projects, including several award winning projects. He has a wide range of experience in terms of project type and size, with a particular emphasis on higher education projects, projects involving restoration, renovation and preservation of culturally significant structures and hotel projects. He has also managed several of the firm's joint venture relationships. Among other activities, Alan is a past President of AIA Pennsylvania and has served on the Convention Center Design Commission Task Force for the David L. Lawrence Convention Center in Pittsburgh. He is a graduate of Leadership Pittsburgh, a past member of the Board of Code Review and he currently serves as Chairman of the Board of Standards and Appeals for the Bureau of Building Inspection in the City of Pittsburgh.

Notable Project Experience:
PA Historic & Museum Commission, Pennsylvania - three 5 year open-end contracts for historic restoration work
575 Broadway, New York, NY - adaptive reuse of historic urban building for office and museum uses
Main Capitol Rotunda, Charleston, WV - historic restoration of rotunda interior
Main Capitol Restoration, Harrisburg, PA - multi-phased historic restoration
Courtyard by Marriott Hotel, Pittsburgh - adaptive reuse of historic urban building for 182 room hotel
FORE Systems Campus, Warrendale, PA - high tech office and manufacturing campus - 5 buildings
Hamburg Hall, Carnegie Mellon University - renovation of historic building for academic facility
Oglebay Hall & Ming Hsieh Hall, West Virginia University - 55,000 sf historic renovation and 20,000 new building, LEED
Information Science & Technology Building, Penn State University - $50 million academic building
Uhler Hall, Indiana University of Pennsylvania - academic building for psychology department
West General Robinson Street Garage, Pittsburgh - 10 story event garage with 1200 spaces
West Virginia Capitol Building Three, Charleston, WV - renovation of historic office building
Pittsburgh International Airport, Pittsburgh - addition of landside and airside building passenger elevators
Metropole Hotel, Cincinnati, OH - rehabilitation of historic downtown hotel for new upscale 170 room hotel

Joe Filar AIA

Associate **Perfido Weiskopf Wagstaff + Goettel**

Education
Penn State University
Bachelor of Architecture, 1995
Sede di Roma - Foreign Studies Program, 1993
Registration
Registered Architect in PA,
Professional Associations
American Institute of Architects
National Historic Trust
Pittsburgh History & Landmarks Foundation
Pittsburgh Downtown Partnership

Joe began his professional career working in New York City, first for Castro-Blanco Piscioneri and Associates and then for Carpenter/Grodzins. After working in New York City, Joe moved back to Pittsburgh in 1999 and joined Perfido Weiskopf Architects as an intern architect. He became licensed and an associate in the firm in July of 2003. Joe has a broad range of design experience as a project architect on diverse project types including higher education, market rate and subsidized housing, corporate offices, and historic rehabilitation of landmarks buildings. Several of his projects have received awards from the Pittsburgh and Pennsylvania chapters of the AIA.

Notable Project Experience
West Virginia State Office Building No.3, Charleston, WV - historic renovation of a 154,000 sf office building, LEED
Dixie Cup Factory Lofts, Easton, PA - 588,000 sf historic factory renovation into -/+ 300 one and two bedroom units
Oglebay Hall & Ming Hsieh Hall, West Virginia University - 55,000 sf historic renovation and 20,000 new building, LEED
R. B. Harrison Village, McKeesport, PA - conversion of 3 story walkups to townhouse apartments
Courtyard by Marriott Hotel, Pittsburgh, PA - conversion of 9-story historic building into a 182-room downtown hotel
Palace Theatre, Greensburg, PA - restoration and renovation of historical theatre and administrative spaces
Information Sciences & Technology Building, Pennsylvania State University - new 200,000 sf campus building
Three Rivers Center for Independent Living, Wilkinsburg, PA - conversion of a nursing home into a disability center
Marconi Communications, Buildings 5 and 6, Warrendale, PA - headquarters buildings in a corporate campus
Pittsburgh International Airport, Pittsburgh, PA - addition of private/public elevators in the airside terminal

Section 4

Project Methodology

Project Methodology

The section describes the approach to perform this project.

- We will review past cooling and heating load operating parameters for Building 9 and compare it to know changes in the future operation of the building. This will determine the cooling and heating load requirements for the building and the required sizes of the new chillers and boilers.

- Discuss with the building operating staff what 'back-up' cooling and heating equipment arrangements are required. This will determine the number and sizes of chillers, cooling tower, and boilers that will be required. Whether or not back-up services are to be supplied by the existing campus utility system will impact this conclusion on number and sizes.

- With the above information, and after thorough examination of the available space in Building 9 for a new/expanded utility room, prepare equipment layout and building modifications sketches for approval by the West Virginia General Services Division.

- Prepare a 'Design Basis' book for approval West Virginia General Services Division. This book will contain cooling/heating load calculations, outline specifications for the equipment, piping, controls logic diagrams, and building modification drawings that define the final scope of work for this project.

- After the Design Basis book has been accepted, GAI will proceed to prepare preliminary and final construction drawings and specifications. This design effort will pause after the preliminary design for input and approval from the West Virginia General Services Division before continuing on to the final phase.

- GAI will participate in the construction solicitation process by presenting the prebid conference, evaluating the bids, and other pertinent tasks. We will perform a preconstruction conference with the selected contractor.

- GAI will perform the Construction Supervision and Inspection services (SIOH), if requested.

Section 5

Related Experiences

Related Experience

GAI Consultants has the personnel and experience to quickly and efficiently provide the West Virginia General Services Division engineers with Professional Planning and Design Services for the evaluation, preparation of contract and permitting plans and related documents, and construction administration and monitoring for the Building 9 Chiller and Boiler Project.

GAI provides engineering services for all phases of a project from planning through design and construction. GAI services include feasibility studies, detailed design drawings and specifications, and construction management/ administration/ observation. GAI's engineering services are provided by an experienced staff of mechanical, electrical, structural, and civil engineers. GAI's Charleston office is currently preparing construction documents encompassing civil and site development projects at several sites in West Virginia. GAI's construction monitoring staff is currently in the field at multiple sites in West Virginia observing numerous construction projects.

Our recent experience and performance record in organizing a project team and **efficiently producing a quality product under time-sensitive schedules** offers considerable evidence of GAI's capabilities and commitment to quality and innovation.

The following projects are examples of projects that we have provided services.

Replace Air Conditioning Chiller and System Components (Butler, PA V-A)

The project commenced with an evaluation of the existing chilled water and heating hot water generation equipment; the supporting systems; and the building housing all the components. Equipment and systems evaluated included:

- Electric Centrifugal Water Chillers
- Cooling Tower
- Heat Exchangers
- Electrical Switchgear (4160V)
- Monitoring and Control Systems
- Chilled Water Pumps
- Condenser Water Pumps
- System Pumps
- Motor Control Center (480V)

After determination of appropriate alternatives by the Owner, design documents were developed for expansion of the chiller building to house a new maintenance shop. Existing equipment and systems were removed from the utility building (Bldg. 18) and new systems were designed to optimize chilled water and heating hot water generation. New equipment and systems included:

- One 400 Ton Electric Centrifugal Chiller
- Three Expansion Tanks
- Retrofitted Secondary Chilled Water Pumps and the Interface to Existing Facility Distribution System
- New Refrigerant Monitoring System
- Replaced Air Separator
- Two 1,200 gpm Cooling Towers
- Replaced Primary Chilled Water Pumps and Loop
- Replaced Condenser Water Pumps and Loop
- Two Shell and Tube Heat Exchangers
- New Condensate Receiver

- New Refrigerant Recovery System
- Replaced Motor Control Center
- New Building Transformer
- Replaced Monitoring and Control System
- Retrofitted Unit Substation

Heating, Air Conditioning System Replacement (Knoxville, TN, V-A)

This project involved the analyze of the air balance within the ten floor Medical Center and development of a schematic design which would allow for the complete replacement of the HVAC systems to meet the current loads of the facility. The analysis and design also included the upgrading of the chilled water and steam/condensate systems that feed the central air handling units and the fan coil units throughout the hospital.

Careful examination of the facility was required architecturally to coordinate finishes, patching and replacement requirements, fire-stopping, and service accessibility. Supplemental structural systems were developed to support new ductwork in fire rated enclosures, including a dual exhaust system in an existing 13-story shaft.

The study of the chilled water and steam/condensate systems included a "water balance" analysis, hydraulic analysis, and a thermal load analysis to determine if capacity of the existing equipment was sufficient for the increasing hospital load.

Schematic design was then developed to provide for a phased replacement of the HVAC and support systems over a five year period. Construction documents were developed for the Phase I replacement.

Replace Air Conditioning Chiller and System Components (Knoxville, IA, V-A)

The project commenced with an evaluation of the existing chilled water generation equipment; the supporting systems; and the building housing all the components. Equipment and systems evaluated included:

- Electric Centrifugal Water Chillers
- Cooling Tower
- Heat Exchangers
- Electrical Switchgear (4160V)
- Monitoring and Control Systems
- Chilled Water Pumps
- Condenser Water Pumps
- System Pumps
- Unit Substation (13,200/480V)
- Motor Control Center (480V)

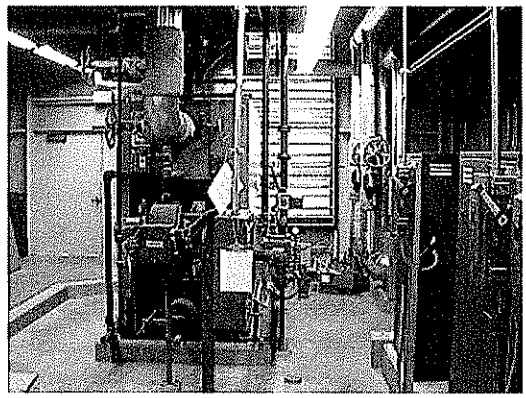
After determination of appropriate alternatives by the Owner, design documents were developed for expansion of the chiller building to house the new electrical gear and provide support for the new cooling tower to be mounted on the roof. Existing equipment and systems were removed from the utility building (Bldg. 18) and new systems were designed to optimize chilled water and heating hot water generation. New equipment and systems included:

- Three 800 Ton Electric Centrifugal Chillers
- Three Expansion Tanks
- Three 2,400 gpm Cooling Towers
- Retrofitted Primary Chilled Water Pumps and Loop

- Retrofitted Secondary Chilled Water Pumps and the Interface to Existing Facility Distribution System
- New Unit Substation
- Refrigerant Recovery System
- Retrofitted Condenser Water Pumps and Loop
- Motor Control Center
- Monitoring and Control System with Interface Panel for Connection to Central System

Hot Water Boiler Replacement (Avenal, NJ, Procter & Gamble)

This project involved the phased replacement of two hot water boilers and circulating pumps in such a manner that the plant was never without a hot water supply. The existing equipment was worn out, virtually unsafe to operate, so were replaced with the same capacity



Equipment and systems replaced included:

- Hot water boilers
- New low NOx burners
- New controls
- New 'testable' burner management system
- New circulating water pumps

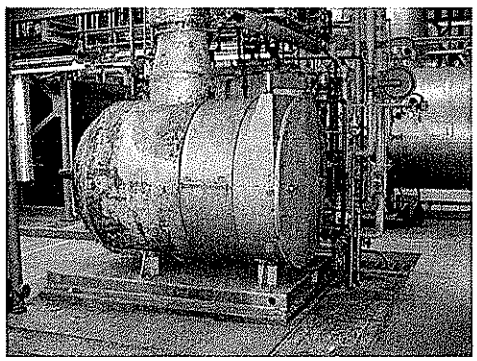
First one boiler was replaced, tuned and started-up then the process was repeated for the next boiler so that the plant was never without a hot water supply.

Four Steam Boiler Replacements (Lima, OH, Procter & Gamble)

This project involved the replacement of four steam boilers over a three year period in such a manner that the plant was never without a hot water supply. The existing boilers were 40 years old, worn out, virtually unsafe to operate, so were replaced with the larger capacity units.

Equipment and systems evaluated included:

- Coil, forced circulation boilers
- Plant master load controller
- Upgraded burner management system
- New building addition
- Fire-tube boilers
- New natural gas main thru building
- Equipment layout



Equipment and systems replaced included:

- Four steam boilers
- New low NOx burners
- New controls
- New 'testable' burner management system
- New circulating water pumps

West Virginia State Capitol Building #3

Charleston, West Virginia **Perfido Weiskopf Wagstaff + Goettel**

MEP Subconsultant **CJL Engineering**

Size 165,000 s.f.
Construction Cost
$ 24,000,000
Firm Responsibility
Programming
Architectural Design
Contract Documents
Contract Administration
Completion Date
Projected 2010
Client Contact
David Oliverio
Dept of General Services
State of West Virginia

The State Capitol Campus in Charleston, West Virginia consists of seven buildings including the main Capitol Building and Rotunda. The second most prominent building, Building #3, was built in 1950 and designed by the successor firm of the main building, Cass Gilbert Jr. It was intended for the sole use of the Department of Motor Vehicles and was the singular facility for this department, drawing people from across the state. The first floor was designed to handled the large influx of people. Just off its marble clad, main lobby is an equally grand, large bank-like space with a counter and "teller" windows to serve the people.

Over the years several other departments have been located in the 8 story building and all original systems have been used beyond expected life and capacity.

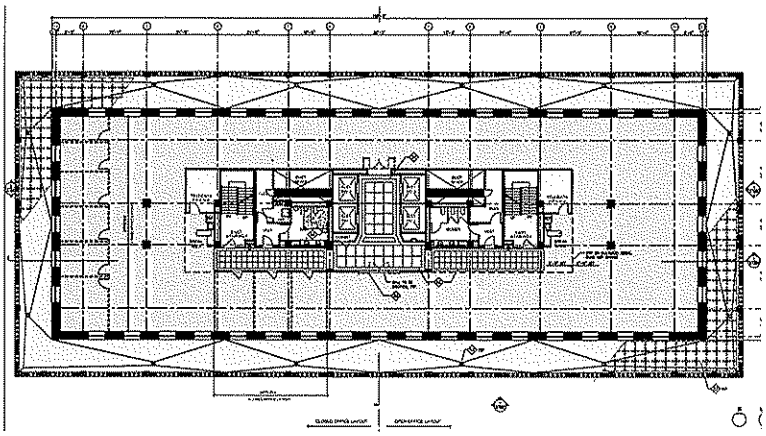
The design challenge is to renovate the building so that it can be an office building for the 21st century. This requires extensive demolition on all levels. The building will be taken back to its structural shell and core, while maintaining and restoring the historically important features and spaces. The exterior of the building will also receive extensive restoration. The functional core of the building will be reconfigured to provide new amenities to the building occupants. New utilities including data and telecommunications will be installed.

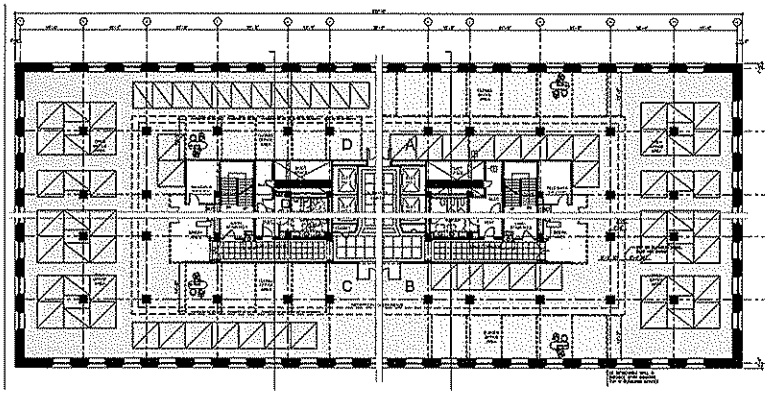
The planning concept for floors 2 through 8 will provide maximum open office spaces that permit maximum flexibility for the varied departmental needs. Systems furniture will be used to create the varied working group relationships required.

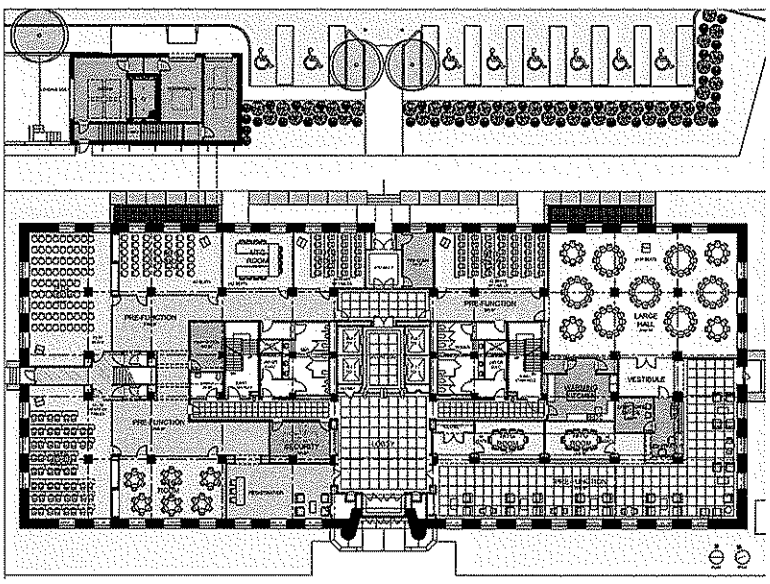
The first floor will house a conference center for the variety of users needing this kind of space in the state capital. A variety of meeting rooms and work spaces will service those who work on the State Capitol Campus as well as those who visit for a single day or extended stay. Individuals will be able to spend time in separate work carrels or small meeting rooms to conduct business while in Charleston. Large meetings, receptions or exhibits will be accommodated as well, including food service.

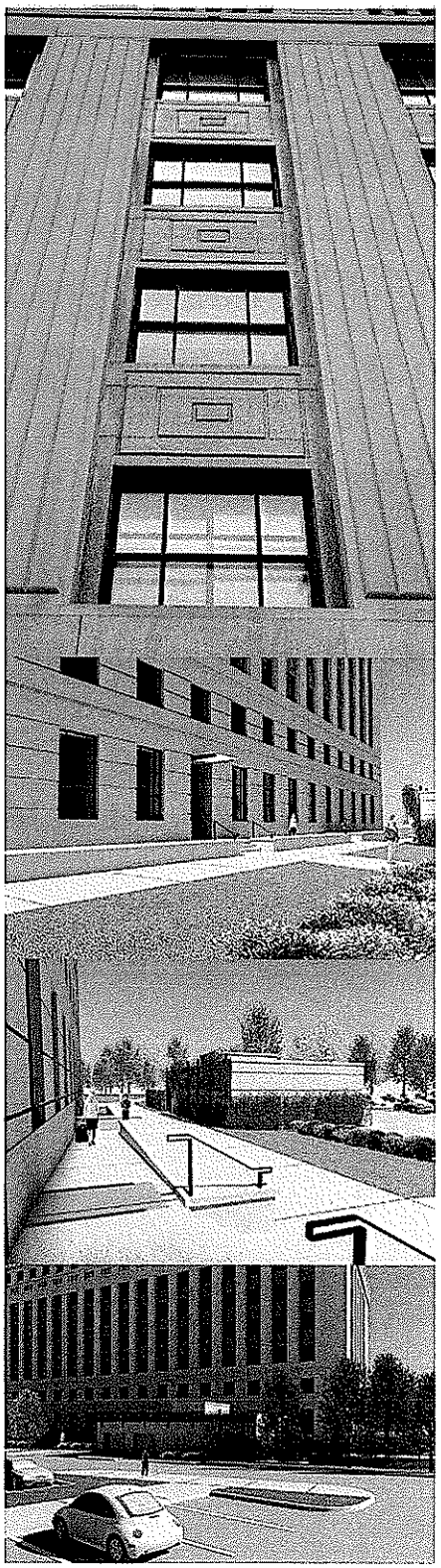
The building will be LEED certified.

PERFIDO WEISKOPF WAGSTAFF + GOETTEL







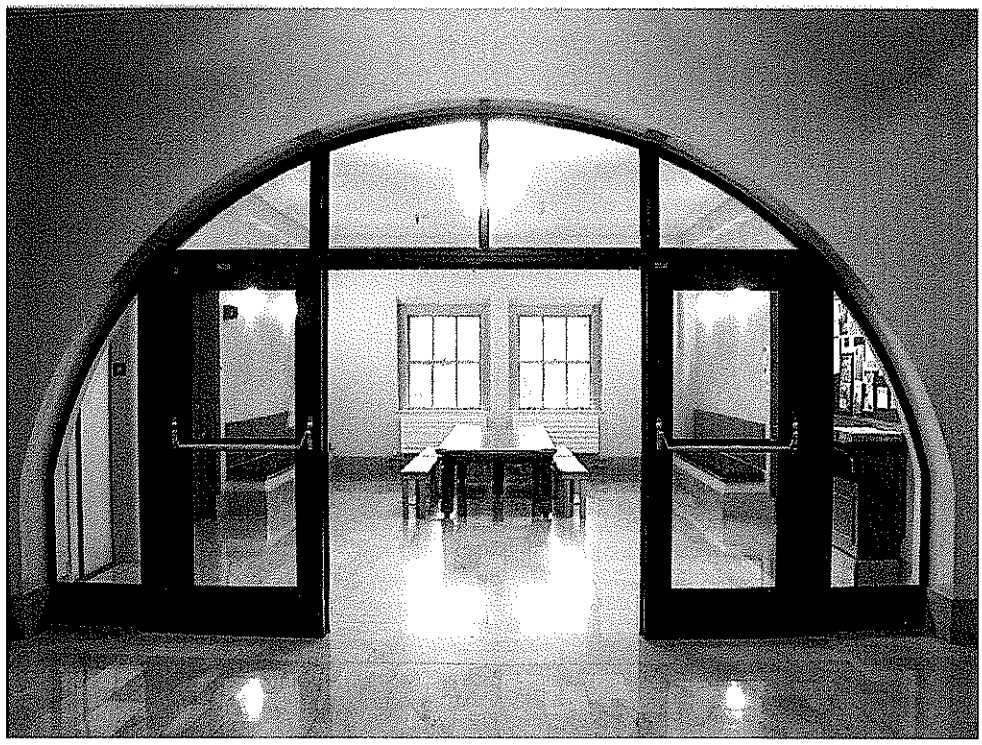


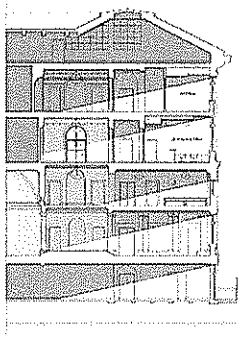
PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

College of Fine Arts, Carnegie Mellon University

Pittsburgh, Pennsylvania **Perfido Weiskopf Wagstaff + Goettel**

Size Not Applicable
Construction Cost
$ 850,000
Firm Responsibility
Programming
Architectural Design
Contract Documents
Contract Administration
Completion Date 2005
Client
Carnegie Mellon University



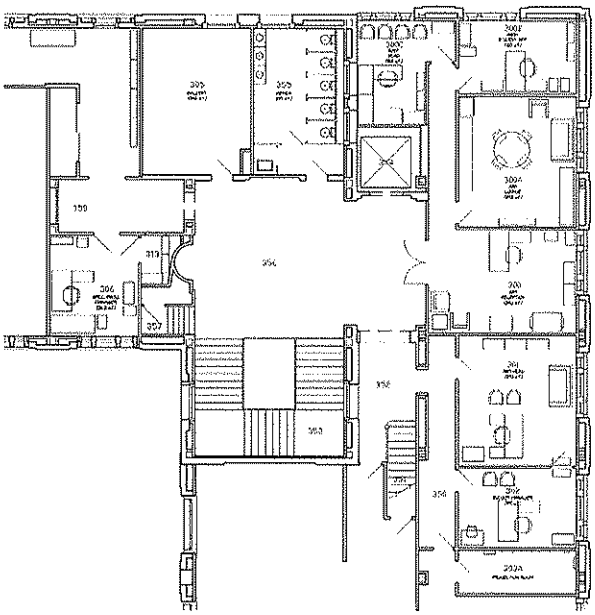


This project in the historic College of Fine Arts building (CFA) combines renovation and historic restoration. CFA is at the center of the cross axes of the original Carnegie Tech quad. It is among the most prominent buildings on campus and is the home of the Schools of Art, Music, and Architecture. The exterior has elaborate painted terra cotta cornices, and is graced with niches with stone carvings that represent the fine art traditions of diverse times and cultures. The interior of the building has a grand entrance hall with painted ceiling canvases, and the hall connects to a cross hall with groin vault ceilings. The entry has marble floors with inlays of historic buildings and leads to granite stair pavilions that connect the schools floor by floor. This building is the centerpiece of the original Henry Hornbostel-designed campus.

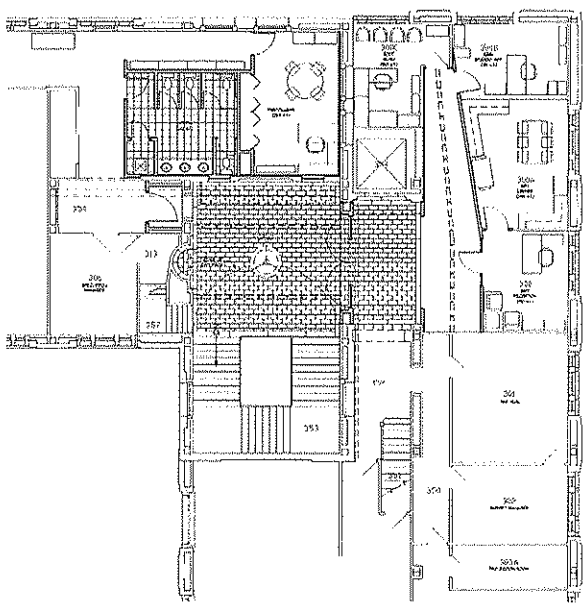
In 2002 the school was notified by the City of Pittsburgh that the building was not in compliance with the current Property Maintenance Code, particularly with respect to requirements for emergency egress, and that the historic stair pavilions would need to be modified.

PWA assisted the University in negotiating an agreement with the City that preserves the original architectural character of these stair pavilions. The pavilions remain open and unchanged on the lower floors. This includes all spaces that are seen from the grand public space in the historic core. On floors 2, 3, and 4, new steel frame glass firewalls and doors with hold-opens are installed in a manner that is consistent with the original architecture and that replaces haphazard renovations from the 1940s, 50s, and 60s. The effect has been to restore these floors to conditions very similar to their original 1914 form while satisfying the code. The work has provided bright reception spaces, presentation spaces, and social spaces for Music, Architecture, and Art.

PERFIDO WEISKOPF WAGSTAFF + GOETTEL



Third Floor Plan - Before



Third Floor Plan - After

PERFIDO WEISKOPF WAGSTAFF + GOETTEL