	Request for Qualifications Solicitation No. ADSP017-00006796 Description: 2017 Annual Professional Services List	Arizona Department of Administration State Procurement Office 100 N 15th Ave., Suite 201 Phoenix, AZ 85007
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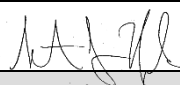
Attachment 1
Offer and Acceptance Form

SUBMISSION OF OFFER: Undersigned hereby offers and agrees to provide qualifications for **2017 Annual Professional Services List** in compliance with the Solicitation indicated above and our Offer indicated by the latest dated version below:

Initial Offer:	1. 2/17/2017 date	BM initial	
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Affiliated Engineers, Inc.

Offeror company name	4742 N. 24th Street, Suite 100
Address	Phoenix, Arizona 85016
City State ZIP	39-1287168
Federal tax identifier (EIN or SSN)	

 Signature of person authorized to sign Offer	SY Initials
Seven J. Yanke, Principal	Printed name and title
Steven J. Yanke, Principal, Managing Director	Contact name and title
syanke@aeieng.com (602) 429-5800 X 5812 Contact Email Address Contact phone number	

CERTIFICATION: By signature in the above, Offeror certifies that it:

1. will not discriminate against any employee or applicant for employment in violation of Federal Executive Order 11246, [Arizona] State Executive Order 2009-9 or A.R.S. §§ 41-1461 through 1465;
2. has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted offer. Failure to provide a valid signature affirming the stipulations required by this clause will result in rejection of the Offer. Signing the Offer with a false statement will void the Offer, any resulting contract, and may be subject to legal penalties under law;
3. complies with A.R.S. § 41-3532 when offering electronics or information technology products, services, or maintenance; and
4. is not debarred from, or otherwise prohibited from participating in any contract awarded by federal, state, or local government.

ACCEPTANCE OF OFFER: State hereby **accepts the initial Offer**, Revised Offer, or Best and Final Offer identified by number **ADSP017-00006796** at the top of this form, and which was dated 02/17/17 (the Accepted Offer). Offeror is now bound (as Contractor) to carry out the Work under the attached Contract, of which the Accepted Offer forms a part. Contractor is cautioned not to commence any billable work or to provide any material or perform any service under the Contract until Contractor receives the applicable Order or written notice to proceed from Procurement Officer.

State's Contract No. is: **ADSP017-00006796** The effective date of the Contract is: 04/03/17-01/31/18 Contract awarded 04/03/17

 Procurement Officer signature	Gina DeCotiis Procurement Officer printed name
--	---

Contract qualification award can be viewed at <https://spo.az.gov/procurement-services/professional-services>



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Attachment 2-A
Experience and Capacity

STATE MAY DETERMINE YOUR SUBMITTAL IS NON-RESPONSIVE IF YOU DO NOT ANSWER ALL QUESTIONS FULLY.

DEFINITIONS

Architect Services, Engineer Services, Land Surveying Services, Assayer Services, Geologist Services and Landscape Architect Services: Those professional services within the scope of the practice of those services as provided in A.R.S § 32-101.

Branch Office: A geographically distinct place of business or subsidiary office of a firm that has a key role on the team.

Discipline: Primary technical capabilities of key personnel, as evidenced by academic degree, professional registration, certification, and/or extensive experience.

Firm: Defined in A.R.S § 32-101(B.13.).

Key Personnel: Individuals who will have major contract responsibilities and/or provide unusual or unique expertise.

Structure: How a business is organized to accomplish its objectives (ie, Sole Proprietor, Limited Liability Company, Cooperative, Corporation, Partnership, S Corporation).

1.0 Five (5) Example Projects

List no more than five (5) **ARIZONA PROJECT** Example Projects Which Best Illustrate Firms Qualification for this contract in the chart provided below. Select project where multiple team members worked together, if possible, that demonstrate the team's capability to perform work similar to that required for this qualifications list contract. (NOTE: The integrity of the chart table columns shall remain unchanged, however the rows for each project may be expanded by the Offeror to accommodate the information).

- a. Title and Locations of project or contract. For an indefinite delivery contract, the location is the geographic scope of the contract.
- b. Enter the year completed of the professional services (such as planning, engineering study, or design), and/or the year completed if construction. If any of the professional services or the construction projects are not complete, leave Year Completed blank and indicate the status in Brief Description of Project and Relevance to This Contract (block f).
- c. Project Owner or user, such as a government agency or installation, an institution, a corporation or private individual.
- d. Provide the original budget or not to exceed dollar amount for the project.
- e. Provide the Total Cost of the Project. If any of the professional services or construction projects is not complete, indicate the percentage compete and whether this project will be on budget, over or under budget.
- f. Brief Description: Indicate scope, size, and length of project, principle elements and special features of the project. Discuss the relevance of the example project to this contract.



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Title and Location of Project	Design Completion Year	Construction Completion Year	Project Owner	Project Original Budget (or not to exceed amount)	Total Cost of the Project	Brief Description of Project
State of Arizona Fire Pump Replacement(s) – Various Locations Phoenix, AZ	Started in 3/2016 and is On-going	Started 4/2016 and is On-going. Estimated Completion date 5/2017	State of Arizona Arizona Department of Administration Planning & Construction Services	Unknown-Scope and budget continuously changing.	\$522,430 (Est.) If scope remains unchanged.	1600 W. Monroe Fire Pump Replacement - AEI organized several meetings and on-going discussions with the facilities electrical personnel to determine the project scope and power outage coordination. The project consisted of piping/plumbing and electrical engineering design for the replacement of a failed fire pump, the existing switch feeding the SES pump controller, and a new fire department connection (FDC). 1700 W Washington – Fire Pump Replacement - The project consisted of piping/plumbing and electrical engineering design for the replacement of a failed fire pump, and the installation of a new 2-hour electrical feeder from the main electrical room to the fire pump.



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City of Phoenix - Sky Harbor International Airport Economy Garages Lighting Replacement Phoenix, AZ	5/2016	7/2016	City of Phoenix	\$2,000,000	\$1,833,675 Under budget.	<p> AEI was retained as a Prime Consultant for the replacement and upgrading of existing HPS light fixtures in the economy parking garages and associated stairwells and garage perimeter. The team was able to provide owner approved fixtures that met the aesthetic and energy goals for the project. A majority of the existing fixtures were installed or retrofitted with a 277V, 15A receptacle. Overall, the project is expected to save between 45-60% on the existing installation. At \$00.10 KW/h, this translates to a savings of \$180k-\$200K/year. </p>
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<p>Banner University Medical Center Tucson-New Central Utility Plant Tucson, AZ</p>	<p>7/2016</p>	<p>11/2017(Est.) In construction phase.</p>	<p>Banner Health</p>	<p>\$24,035,000(Est.)</p>	<p>\$24,035,000(Est.) Should remain on budget.</p>	<p>AEI was selected to design the mechanical, electrical and plumbing systems for Banner Health's 670,000 sf hospital on the University Medical Center Campus. As part of this project, AEI evaluated the utility needs for the medical center over the 20-year planning horizon. AEI collected meter data from the University of Arizona, Tucson Electric Power, Southwest Gas and the City of Tucson Water Department relative to the existing use and then projected future needs with consideration to energy conservation measures that were being implemented for the existing buildings and new technologies that were being incorporated into the design of the hospital. This information was used as the basis for a life cycle cost analysis that highlighted the positive economics of building a Central Utility Plant (CUP). This CUP, with 6,000 tons of chilled water production, 72,000 MBH heating hot water plant and 6 MW of diesel engine/generators.</p>
<p>City of Phoenix - Public Works Facilities Natural Gas Generators Various Locations, Phoenix, AZ</p>	<p>Started in 1/2013 and is On-going</p>	<p>Started 4/2014 and is On-going. Estimated Completion date 12/2017</p>	<p>City of Phoenix</p>	<p>\$1,500,000</p>	<p>Unknown-Scope and budget continuously changing.</p>	<p>AEI was selected to for piping/plumbing engineering design and electrical engineering design for new natural gas engine-generators for five (5) Public Works Department facilities throughout the city. Based upon review of existing site conditions, demands and capacities, the project team selected</p>



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						appropriately-sized natural gas fueled engine/generator's to support identified building and site functions. New automatic transfer switches were also provided at each facility to transfer power from the electric utility to the new engine/generator in the event utility service is lost. Provisions were also made for the connection of portable load banks for periodic generator load testing.
University of Arizona Old Main Building Rehabilitation Tucson, AZ	11/2013	8/2014	University of Arizona	\$9,700,000	\$13,500,000 Additional scope was added so the budget was adjusted accordingly.	AEI was selected for mechanical, electrical, piping/plumbing and information technology design services for the historic renovation and reconstruction. The new facility houses administrative and executive university functions and offices. Approximately 60% of the existing building underwent a rework to meet current programming needs. Renovations included new HVAC, energy-efficient LED lighting on the second floor, a new elevator, a finishing kitchen, and an executive boardroom and multi-purpose meeting space. New heat exchangers, pumps, and a water heater were also installed. The project has attained LEED Silver Certification and has received numerous awards including the Arizona State Historic Preservation's - 2015 Governor's Heritage Preservation Award.



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Attachment 2-A
Experience and Capacity

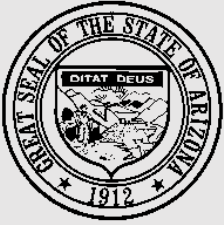
STATE MAY DETERMINE YOUR SUBMITTAL IS NON-RESPONSIVE IF YOU DO NOT ANSWER ALL QUESTIONS FULLY.

2.0 EMPLOYEES BY DISCIPLINE

Aeronautical Engineer	Electrical Engineer	Mechanical Engineer
Agricultural Engineer	Environmental Engineer	Metallurgical Engineer
Archeologist	Environmental Scientist	Mining Engineer
Architect	Fire Protection Engineer	Nuclear Engineer
Architectural Engineering	Geodetic Surveyor	Petroleum Engineer
Biologist	Geographic Information System Specialist	Photogrammetrist
CADD Technician	Geological Engineer	Project Manager
Chemical Engineer	Geologist	Sanitary Engineer
Civil Engineer	Hydrographic Surveyor	Soils Engineer
Construction Manager	Hydraulic Engineer	Structural Engineer
Construction Inspector	Hydrologist	Technician/Analyst
Control Systems Engineer	Industrial Engineer	Transportation Engineer
Cost Engineer/Estimator	Landscape Architect	Water Resources Engineer

Enter requested information in the chart provided below:

- a. Select disciplines from the List of Disciplines. For employees that do not qualify for any of the disciplines, select "Other".
- b. Each person can be counted only twice; once for his/her primary function and once for his/her secondary function. Primary and secondary functions should be indicated by including a "P" or an "S" in column b after the Description Title is given.
- c-d. If the form is completed for a firm (including all branch offices), enter the number of employees by disciplines in column c. If the form is completed for a branch office, enter the number of employees by discipline in column d and for the firm in column c. (NOTE: The Offeror may insert or delete rows in the existing Employees by Discipline chart table on page six (6 as necessary to complete the requirements for Question 2).



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EXAMPLE:

a. Discipline Title	b. Function: Primary (P) or Secondary (S)	c. No. of Employees Firm	d. No. of Employees Branch
Example: Architect	P	138	50-Yuma Branch 50-Tempe Branch 38 – Phoenix Branch
Example: Architect	S	20	5-Yuma Branch 5-Tempe Branch 5 – Phoenix Branch 5- Tucson Branch

a. Discipline Title	b. Function: Primary (P) or Secondary (S)	c. No. of Employees Firm	d. No. of Employees Branch
CADD Technician	P	20	4
Electrical Engineer	P	88	4
Fire Protection Engineer	P	3	1
Mechanical Engineer	P	59	5
Project Manager	P	77	3
Sanitary Engineer	P	35	1
Technician/Analyst	P	101	8
Other	P	236	9
Total		619	35

3.0 FIRMS EXPERIENCE AND REVENUE

- a. Firm shall complete the Excel spreadsheet titled “Amendment I Project Experience Number of Projects and Revenue”, using same document title and upload in Excel format as an “Attachment” with firm’s offer in ProcureAZ. (NOTE: Amendment I version clarifies column instructions and additions of project experience categories).



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4.0 FIRMS SERVICES

- a. Firm shall complete the Excel spreadsheet titled “**2017 Professional Services List of Firms Services**” [shall be completed and uploaded in Excel format only as an “Attachment” in ProcureAZ at time of offer submission.](#)

Amendment I ADSP017-00006796 Project Experience Number of Projects and Revenue
ADSP017-00006796 2017 Annual Professional Services Qualifications List

FIRMS NAME AFFILIATED ENGINEERS INC.:

TYPE OF PROJECT	TOTAL NUMBER OF FIRM PROJECTS (ALL FIRM LOCATIONS) COMPLETED IN LAST THREE YEARS	Using the Revenue Index (Enter 1-10) indicate the approximate revenue the firm has earned over the last three years from ARIZONA ONLY state, municipal, federal etc. government projects only	Using the Revenue Index (Enter 1-10) indicate the approximate revenue the firm has earned over the last three years from ARIZONA ONLY non-government projects only	TYPE OF PROJECT	TOTAL NUMBER OF FIRM PROJECTS (ALL FIRM LOCATIONS) COMPLETED IN LAST THREE YEARS	Using the Revenue Index (Enter 1-10) indicate the approximate revenue the firm has earned over the last three years from ARIZONA ONLY state, municipal, federal etc. government projects only	Using the Revenue Index (Enter 1-10) indicate the approximate revenue the firm has earned over the last three years from ARIZONA ONLY non-government projects only
Acoustics, Noise Abatement	3			Land Surveying			
Activity Centers	9			Landscape Architecture	1		
Aerial Photography; Airborne Data and Imagery Collection and Analysis				LEED Accredited A/E			
Agricultural Development; Grain Storage; Farm Mechanization				LEED Independent 3rd Party Building Commissioning	3		
Air Pollution Control				Libraries; Museums; Galleries	44	1	1
Airports; Navoids; Airport Lighting; Aircraft Fueling				Lighting (Exteriors; Streets; Memorials; Athletic Fields, Etc.)	9	2	
Airports; Terminals and Hangars; Freight Handling	17	5		Lighting (Interior; Display; Theater, Etc.)	33	1	
Animal Facilities	6			Lighting (Cave; Cavern)			
Anti-Terrorism/Force Protection				Mapping Location/Addressing Systems			
Area Master Planning	43		1	Materials Handling Systems; Conveyors; Sorters			
Auditoriums and Theaters	8	1		Materials Testing			
Automation; Controls; Instrumentation				Measurement / Verification / Conservation Water Consumption			
Barracks; Dormitories	5			Medical Related	105	1	3
Bridge Design; Bridges	2			Metallurgy			
Cartography				Mining and Mineralogy			
Cemeteries (Planning and Relocation)				Modular Systems Design; Pre-Fabricated Structures or Components			
Chemical Processing and Storage				Mold Investigation			
Child Care/Development Facilities				Museums			
Codes; Standards; Ordinances				Nuclear Facilities; Nuclear Shielding			
Cold Storage; Refrigeration and Fast Freeze	8			1 Office Buildings; Industrial Parks	88	1	4
Commercial Building (Low Rise); Shopping Centers	235	1	3	3 Outdoor Recreation	17		
Communications Systems; TV; Microwave				Petroleum and Fuel (Storage and Distribution)	1		
Community Facilities				Phase I Environmental			
Computer Facilities	45			Photogrammetry			
Conservation and Resource Management				Pipelines (Cross-Country - Liquid and Gas)			
Construction Management				Plumbing and Piping Design	14		1
Construction Materials Testing				Pneumatic Structures, Air-Support Buildings			
Construction Surveying				Power Generation, Transmission, Distribution			
Controls and Electronics Engineer				Prisons and Correctional Facilities	2		
Corrosion Control; Cathodic Protection Electrolysis	1			Product, Machine Equipment Design			
Cost Estimating; Cost Engineering and Analysis; Parametric Costing; Forecasting	2			Public Safety Facilities	5	2	
Cryogenic Facilities				Radar; Sonar; Radio and Radar Telescopes			
Dams (Concrete; Arch)				Radio Frequency Systems and Shieldings			
Dams (Earth; Rock); Dikes; Levees				Railroad; Rapid Transit			
Desalination (Process and Facilities)				Recreation Facilities (Parks, Marinas, Etc.)	32		3
Design & Planning Structured Parking Facilities				Refrigeration Plants/Systems			
Design-Build - Preparation of Requests for Proposals				Rehabilitation (Buildings; Structures; Facilities)			
Detention Security Systems				Research Facilities			
Digital Elevation and Terrain Model Development				Resources Recovery; Recycling			
Digital Orthophotography				Rivers; Canals; Waterways; Flood Control			
Dining Halls; Clubs; Restaurants	5			Roof Infrared Imaging to Identify Water Leaks			
Disability / Special Needs				Roofing			
Dredging Studies and Design				Safety Engineering; Accident Studies; OSHA Studies			
Ecological and Archeological Investigations				Security Systems; Intruder and Smoke Detection	6		
Educational Facilities; Classrooms				Seismic Designs and Studies			
Electrical Studies and Design	190	3	3	Sewage Collection, Treatment and Disposal			
Electronics				Soils and Geologic Studies; Foundations			
Elevators; Escalators; People-Movers	2			Solar Energy Utilization	1	1	
Energy / Water Auditing Savings				Solid Wastes; Incineration; Landfill	2		
Energy Conservation; New Energy Sources	29			Special Environments; Clean Rooms, Etc.	4		
Environmental Impact Studies, Assessments or Statements	4			Specifications Writing			
Fallout Shelters; Blast-Resistant Design	1			Storm Water Handling and Facilities			
Fire Protection	24		1	Structural Design; Special Structures			
Fisheries; Fish Ladders				Surveying; Platting; Mapping; Flood Plain Studies			
Forensic Engineering				Sustainable Design	3		
Garages; Vehicles Maintenance Facilities; Parking	13		1	Swimming Pools			
Gas Systems (Propane; Natural, Etc.)				Testing and Inspection Services	65		
Geodetic Surveying; Ground and Airborne				Topographic Surveying and Mapping			
Heating; Ventilating; Air Conditioning	133	1	3	Towers (Self-Supporting and Guyed Systems)			
Highways; Streets; Airfield Paving; Parking Lots				Toxicology			
Historical Preservation	1			Traffic and Transportation Engineering			
Hospital and Medical Facilities	767	1	6	Traffic Studies			
Hotels; Motels	2			Transportation	1	1	
Housing (Residential, Multi-Family; Apartments; Condominiums)	10			Tunnels and Subways	6		
Hydraulics and Pneumatics				Urban Renewals; Community Development			
Hydrographic Surveying				Utilities (Gas and Steam)	337	1	3
Industrial Buildings; Manufacturing Plants	75		1	Value Analysis; Life-Cycle Costing			
Industrial Processes; Quality Control				Warehouse and Depots			
Industrial Waste Treatment				Waste Water Treatment Facility			
Intelligent Transportation Systems				Water Resources; Hydrology; Ground Water			
Infrastructure				Water Supply; Treatment and Distribution			
Irrigation; Drainage				Water Well Rehabilitation; Water Well Work			
Judicial and Courtroom Facilities				Wind Tunnels; Research/Testing Facilities Design			
Laboratories; Medical Research Facilities	579		5	Zoning; Land Use Studies			
Labs - General	14						
Labs - Research - Dry	7						
Labs - Research - Wet							

Professional Services Index Number	Revenue
1.	Less than \$100,000
2.	\$100,000 to less than \$250,000
3.	\$250,000 to less than \$500,000
4.	\$500,000 to less than \$1 Million
5.	\$1 Million to less than \$2 Million
6.	\$2 Million to less than \$5 Million
7.	\$5 Million to less than \$10 Million
8.	\$10 Million to less than \$25 Million
9.	\$25 Million to less than \$50 Million
10.	\$50 Million or greater



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EXPERIENCE REFERENCES:

THE PRIME FIRM SHALL LIST A TOTAL OF THREE (3) CLIENT REFERENCES FOR ANY PROJECTS COMPLETED IN THE LAST YEAR BY THE FIRM (OR A BRANCH LOCATION). REFERENCES MAY BE CONTACTED BY ANY ELIGIBLE AGENCY.

1	Client Company/Address	Contact	Begin Date	End Date
	City of Phoenix Aviation Department Facilities & Services Division 2515 East Buckeye Road Phoenix, AZ 85034	Gary S. Lovgren Electrical Facilities Supervisor	1/2016	7/2016
	Phone Number	Email Address		
	(602) 273-3482	gary.lovgren@phoenix.gov		
	List project name, project location, original design fee, final design fee, construction costs (if applicable), and program facilities.			
	Phoenix Sky Harbor International Airport Economy Parking Garages Lighting Replacement Phoenix, AZ Original Design Fee: \$80,188 Final Design Fee: \$75,188 Construction Costs: \$1,800,000			
	Services performed similar to those described in Solicitation			
	Facilities Assessment, Electrical Engineering Design, & Construction Administration & Filed Services			
2	Client Company/Address	Contact	Begin Date	End Date
	State of Arizona Arizona Department of Administration Planning & Construction Services 100 North 15th Avenue, Suite 202 Phoenix, AZ 85007	Britt Olachea Senior Project Manager	3/2016	On-going 5/2017 (Est.)
	Phone Number	Email Address		
	(602) 542-6229	Britt.olachea@azdoa.gov		
	List project name, project location, original design fee, final design fee, construction costs (if applicable), and program facilities.			
	State of Arizona Fire Pump Replacement(s) – Various Location Phoenix, AZ Original Design Fee: \$36,090 Final Design Fee: N/A On-going Construction Costs: \$522,430 (Est.)			
	Services performed similar to those described in Solicitation			
	Mechanical, Electrical, Plumbing Engineering Design, & Fire Protection Design			



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3 Client Company/Address	Contact	Begin Date	End Date
Banner Health Design & Construction 1441 North 12th Street Phoenix, AZ 85006	Mark Barkenbush Senior Project Executive	6/2016	10/2018 (Est.)
Phone Number	Email Address		
(602) 239-3039	mark.barkenbush@bannerhealth.com		
List project name, project location, original design fee, final design fee, construction costs (if applicable), and program facilities.			
Banner University Medical Center New Central Utility Plant Tucson, AZ Original Design Fee: \$1,035,000 Final Design Fee: N/A On-going Construction Costs: \$23,000,000 (Est.)			
Services performed similar to those described in Solicitation			
Mechanical, Electrical, Plumbing, & Sustainable Engineering Design, Utility Infrastructure Assessment & Design, Energy Modeling			

End of Attachment 2-A

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Attachment 2-B
Organization Profile

STATE MAY DETERMINE YOUR PROPOSAL IS NON-RESPONSIVE IF YOU DO NOT ANSWER ALL QUESTIONS FULLY.

ORGANIZATION PROFILE

Firm Name	Affiliated Engineers, Inc.		Year established	1978
Principal address (street, city, state)	4742 N. 24 th Street, Suite 100, Phoenix, AZ 85016			
Entity type:	Corporation	Structure:	C Corporation	
Branch or Division:	Branch	Parent:	Affiliated Engineers, Inc. 5802 Research Park Boulevard Madison, WI 53719	
Years the organization has conducted business in Arizona.				10
Contract Representatives to Contact				
	Name	Title	Telephone Number	E-Mail Address
1.	Steven J. Yanke	Principal	(602) 429-5800	syanke@aeieng.com
2.	x	x	x	x
3.	x	x	x	x
Firm Professional Licenses/Certifications (INCLUDE COPY OF DOCUMENT IN OFFER)				
	Description	Issuer	Number	Expiration
1.	Arizona Board of Technical Registration	State of Arizona	33014	9/30/2019
2.	Arizona Board of Technical Registration	State of Arizona	52320	6/30/2017
3.	Arizona Board of Technical Registration	State of Arizona	52023	3/31/2017
4.	Arizona Board of Technical Registration	State of Arizona	60452	9/30/2018
5.	Arizona Board of Technical Registration	State of Arizona	54768	6/30/2019
6.	Arizona Corporate Commission Registration	State of Arizona	F00417125	7/20/2017

PART 4 of the Solicitation Documents:
 Offer Forms (Attachments)

Date: February 7, 2017
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End of Attachment 2-B

PART 4 of the Solicitation Documents:
Offer Forms (Attachments)

Date: February 7, 2017
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Available online at: Procure.AZ.gov



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Attachment 3-A
Method Proposal
(Method of Approach)

RESERVED FOR AWARDED DESIGN PROFESSIONAL UPON SERVICE REQUEST

End of Attachment 3-A



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Attachment 3-B
Key Personnel Proposal

Answer all questions thoroughly in the spaces provided. **Complete this form in full for each one of the key personnel who will participate in this contract.** Insert or attach a separate resume if desired, but any attached resumes are supplemental to this form and **do not substitute resumes for this form.** Offeror shall list any resume filename within the Key Personnel Form resume section and Attach as titled in ProcureAZ with offer. Resumes shall not be listed in Attachment 3-B as Supplements.

1	Name:	Steve Yanke, PE, LEED AP	How long with company?	10 years
	Current position in company:	Principal, Managing Director, Electrical Engineer	How long in position?	10 years
	Position for the Services:	Principal-in-Charge	How much of time will be dedicated to the Services?	5 %
	What primary functions will be assigned?	Principal-in-Charge Project Oversight Electrical Design & Engineering Review		
	Describe person's experience in performing services like those that are to be assigned:	As Principal-in-Charge, Steve will be engaged in these assigned projects from start of design through the close-out of construction. He will provide executive leadership of AEI's team throughout all phases of the project(s) and will assure the level of staff commitment necessary to deliver a highly successful project. In addition to executive leadership, Steve's extensive experience planning and conceiving engineered systems will be instrumental in developing appropriate, high performance, sustainable, and innovative ideas for consideration and evaluation by the team during the concept / schematic and design development phases.		
	List person's job-related training and education:	Education Bachelor of Science Electrical Engineering Milwaukee School of Engineering Registrations / Certifications Registered Professional Engineer Arizona – #33014 (Registered in 23 other States) NCEES Record LEED Accredited Professional		
	Resume:	AEI Team Resumes		



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2	Name:	Jeremy Barrette, PE, HFDP, EDAC	How long with company?	6 years
	Current position in company:	Project Manager / Mechanical Engineer	How long in position?	6 years
	Position for the Services:	Project Manager / Mechanical Engineer	How much of time will be dedicated to the Services?	40 %
	What primary functions will be assigned?	Project Management, Mechanical Design & Engineering, Construction Administration, & Field Services		
	Describe person's experience in performing services like those that are to be assigned:	<p>As project manager, Jeremy will be responsible for the day-to-day execution of the work effort, providing continuity in the design, overseeing process standards, setting team expectations; and ensuring efficient and clear communication. He will lead our team and create an environment of collaboration and team integration. Jeremy will manage, and be responsible for the implementation of our quality assurance/quality control program and be responsible for providing quality documents reflecting the scope of the MEP design. His involvement in these areas will be through all phases from kick-off to project close-out. He will also use his 18+ years of mechanical systems design experience to inform and guide the development of the mechanical design.</p>		
	List person's job-related training and education:	<p>Education Bachelor of Science Mechanical Engineering Oral Roberts University</p> <p>Master of Science Management of Marketing and Technology Innovation Worcester Polytechnic Institute</p> <p>Registrations / Certifications Registered Professional Engineer Arizona – #52320 (Registered in 3 other States)</p> <p>NCEES Record</p> <p>ASHRAE Healthcare Facility Design Professional – #8241101</p> <p>Evidence Based Design Accreditation & Certification – CHD #101365</p>		
	Resume:	AEI Team Resumes		



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3	Name:	Jason Clausen, PE, CDT	How long with company?	4 years
	Current position in company:	Project Manager / Electrical Engineer	How long in position?	2.5 years
	Position for the Services:	Project Management Electrical Engineer	How much of time will be dedicated to the Services?	30 %
	What primary functions will be assigned?	Project Management, Electrical Design & Engineering, Construction Administration, & Field Services		
	Describe person's experience in performing services like those that are to be assigned:	<p>As project manager, Jason will be responsible for the day-to-day execution of the work effort, providing continuity in the design, overseeing process standards, setting team expectations; and ensuring efficient and clear communication. He will lead our team and create an environment of collaboration and team integration. Jason will manage, and be responsible for the implementation of our quality assurance/quality control program and be responsible for providing quality documents reflecting the scope of the MEP design. His involvement in these areas will be through all phases from kick-off to project close-out. He will also use his 12+ years of electrical systems design experience to inform and guide the development of the electrical design.</p>		
	List person's job-related training and education:	<p>Education Bachelor of Science Electrical Engineering South Dakota University</p> <p>Registrations / Certifications Registered Professional Engineer Arizona – #52023 (Registered in 1 other State) Construction Documents Technologist</p>		
	Resume:	AEI Team Resumes		



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4	Name:	Charlie McGowan, PE	How long with company?	6 years
	Current position in company:	Mechanical Engineer	Current position in company:	3 years
	Position for the Services:	Mechanical Engineer	How much of time will be dedicated to the Services?	60%
	What primary functions will be assigned?	Mechanical Design & Engineering		
	Describe person's experience in performing services like those that are to be assigned:	<p>In this role, Charlie will be fully engaged in all phases of these projects. During schematic design, he will work with the team to conceive and evaluate various mechanical system options, including sustainable design options. During Design Development, Charlie will be responsible for the quality of the mechanical design, its integration with other building systems, and the preparation of construction documents. He will also support the construction phase for the mechanical design.</p>		
	List person's job-related training and education:	<p>Education Bachelor of Science Architectural Engineering Milwaukee School of Engineering</p> <p>Registrations / Certifications Registered Professional Engineer Arizona – #60452 (Registered in 1 other State)</p>		
	Resume:	AEI Team Resumes		



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5	Name:	Paul Hurt, PE	How long with company?	3 years
	Current position in company:	Project Manager / Electrical Engineer	Current position in company:	3 years
	Position for the Services:	Electrical Engineer	How much of time will be dedicated to the Services?	60%
	What primary functions will be assigned?	Electrical Design & Engineering		
	Describe person's experience in performing services like those that are to be assigned:	<p>In this role, Paul will be fully engaged in all phases of these projects. During schematic design, he will work with the team to conceive and evaluate various electrical system options, including sustainable design options. During Design Development, Paul will be responsible for the quality of the electrical design, its integration with other building systems, and the preparation of construction documents. He will also support the construction phase for the electrical design.</p>		
	List person's job-related training and education:	<p>Education Bachelor of Science Electrical Engineering Technology Georgia Southern University</p> <p>Registrations / Certifications Registered Professional Engineer Arizona – #54768</p>		
	Resume:	AEI Team Resumes		



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6	Name:	Jeff Cordell, CPD, GPD	How long with company?	3 years
	Current position in company:	Project Manager / Lead Piping/Plumbing Designer	Current position in company:	2 years
	Position for the Services:	Piping/Plumbing Designer	How much of time will be dedicated to the Services?	40%
	What primary functions will be assigned?	Piping/Plumbing Design		
	Describe person's experience in performing services like those that are to be assigned:	<p>Jeff will provide overall leadership for the development of the plumbing design on these projects. In schematic design he will conceive plumbing systems that meet the needs of the program and contribute to the over-all sustainability goals. He will be responsible for the development of the plumbing system design and additional documentation to represent the concepts. He will be responsible for the development of the design detail and the quality of the construction documents reflecting the plumbing design. During the construction document phase Jeff will provide the required oversight of the contractor's spatial design and document preparation activities. Jeff will also support the plumbing design during construction.</p>		
	List person's job-related training and education:	<p>Education Associate Degree in Specialized Technology Architectural Computer Aided Drafting and Design Triangle Technical Institute</p> <p>Registrations / Certifications Certified Plumbing Designer Arizona – #27751</p> <p>Certified Green Plumbing Designer, American Society of Plumbing Engineers (ASPE)</p>		
	Resume:	AEI Team Resumes		



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7	Name:	Brett McQuillan, EIT	How long with company?	1.5 years
	Current position in company:	Sustainable Design Consultant	Current position in company:	1.5 years
	Position for the Services:	Sustainable Designer / Energy Modeler	How much of time will be dedicated to the Services?	10%
	What primary functions will be assigned?	Sustainable Design, & Energy Modeling		
	Describe person's experience in performing services like those that are to be assigned:	Brett will be responsible for generating, developing, evaluating, presenting and recommending the ideas, concepts and measures most appropriate for application to these projects. He has experience with a multitude of energy conserving concepts and his involvement will primarily be during the schematic and design development phases.		
	List person's job-related training and education:	Education Master of Science Civil Engineering University of Colorado at Boulder Bachelor of Science Architectural Engineering Illinois Institute of Technology Registrations / Certifications Registered Professional Engineer-in-Trainng		
	Resume:	AEI Team Resumes		



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8	Name:	<input checked="" type="checkbox"/>	How long with company?	<input checked="" type="checkbox"/> x years
	Current position in company:	<input checked="" type="checkbox"/>	Current position in company:	<input checked="" type="checkbox"/>
	Position for the Services:	<input checked="" type="checkbox"/>	How much of time will be dedicated to the Services?	<input checked="" type="checkbox"/>
	What primary functions will be assigned?	<input checked="" type="checkbox"/>		
	Describe person's experience in performing services like those that are to be assigned:	<input checked="" type="checkbox"/>		
	List person's job-related training and education:	<input checked="" type="checkbox"/>		
	Resume:	<input checked="" type="checkbox"/> List filename		

ATTACHMENT 3-B SUPPLEMENTS:

(For submission of additional Key Personnel qualifications beyond the number of forms provided in the Offer Documents: Offeror shall copy the Key Personnel Form in its entirety and complete in a separate Word Document for

PART 4 of the Solicitation Documents:
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submission with the offer, and list file name below or type "None" on first line if not applicable. Offeror shall title Supplement(s) with the same title as named herein and upload with offer.).

	Title	Document Date	No. of pages	Purpose in Offer
1.	Enter or delete row if not needed	x	x	
2.	Enter or delete row if not needed			
3.	Enter or delete row if not needed			
4.	Enter or delete row if not needed			
5.	Enter or delete row if not needed			
6.	Enter or delete row if not needed			
7.	Enter or delete row if not needed			

(NOTE: The Offeror may insert additional rows as required).

End of Attachment 3-B



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Attachment 3-C
Proposed Subcontractors

RESERVED FOR AWARDED DESIGN PROFESSIONAL UPON SERVICE REQUEST

Check "NO" if you WILL NOT subcontract any portion of the Work and will therefore be carrying out all of the Work with your own personnel.

NO, the Offeror will not subcontract any portion of the Work.

If you WILL subcontract any portion of the Work, check "YES" below and list name of persons or companies you propose to use as subconsultants.

- Fill in the information in the chart below for every proposed subcontractor – indicate the role and services work the subconsultant may provide in performing any of the services as outlined in the Requirements Document in the solicitation.
- Offeror shall complete an Attachment 3-B Key Personnel Form in its entirety for each proposed subcontractor and submit with offer. The term "Subconsultant" shall be annotated in parenthesis after each subcontractor key personnel name typed in the "Name" section of the 3-B form.
- State may demand additional information about proposed subcontractors as a precondition of award.

YES, the Offeror will use the Subcontractors listed below:

	Subcontractor Key Personnel Name; Subcontractor Firm Name and Contact Information	List Proposed Subcontractor Role(s) and Services	Capacity % Dedicated to Perform the Proposed Role/Service For Any Project Under This Contract
1.	Name		
2.	Name		
3.	Name		
4.	Name		
5.	Name		
6.	Name		
7.	Name		
8.	Name		
9.	Name		
10.	Name		



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ATTACHMENT 3-C SUPPLEMENTS:

(Offeror to insert as required and list here or type "None" on first line. Offeror shall title any Supplement(s) with the same title as named herein and upload with offer.)

	Title	Document Date	No. of pages	Purpose in Offer
1.	Enter or type "None for Sub #1"	x	x	x
2.	Enter or type "None for Sub #2"	x	x	x
3.	Enter or type "None for Sub #3"	x	x	x
4.	Enter or type "None for Sub #4"	x	x	x
5.	Enter or type "None for Sub #5"	x	x	x
6.	Enter or type "None for Sub #6"	x	x	x
7.	Enter or type "None for Sub #7"	x	x	x
8.	Enter or type "None for Sub #8"	x	x	x
9.	Enter or type "None for Sub #9"	x	x	x
10.	Enter or type "None for Sub #10"	x	x	x

End of Attachment 3-C



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Attachment 3-D
Performance Guarantee

RESERVED FOR AWARDED DESIGN PROFESSIONAL UPON SERVICE REQUEST

End of Attachment 3-D

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Attachment 4
Pricing Sheet

RESERVED FOR AWARDED DESIGN PROFESSIONAL SERVICE ORDER CONTRACT

End of Attachment 4

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Attachment 5-A
Confidential Information Designation

All materials submitted as part of a response to a solicitation are subject to Arizona public records law and will be disclosed if there is an appropriate public records request at the time of or after the award of the contract.

Recognizing there may be materials included in a solicitation response that are proprietary or a trade secret, a process is set out in A.A.C. R2-7-103 (copy attached) that will allow qualifying materials to be designated as confidential and excluded from disclosure. For purposes of this process the definition of "trade secret" will be the same as that set out in A.A.C. R2-7-101(52).

Complete this form return it with your Offer along with the appropriate supporting information to assist State in making its determination as to whether any of the materials submitted as part of your Offer should be designated confidential because the material is proprietary or a trade secret and therefore not subject to disclosure.

STATE WILL NOT CONSIDER ANY MATERIAL IN YOUR OFFER "CONFIDENTIAL" UNLESS DESIGNATED ON THIS FORM.

Check one of the following – if neither is checked, State will assume that as equivalent to "DOES NOT":

<input checked="" type="radio"/>	This response DOES NOT contain proprietary or trade secret information. I understand that my entire response will become public record in accordance with A.A.C. R2-7-C317.
<input type="checkbox"/>	This response DOES contain trade secret information because it contains information that: <ol style="list-style-type: none"> 1. Is a formula, pattern, compilation, program, device, method, technique or process, AND 2. Derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; AND 3. Is the subject of efforts by myself or my organization that are reasonable under the circumstances to maintain its secrecy.

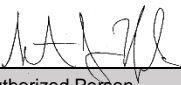
NOTE: Failure to attach an explanation may result in a determination that the information does not meet the statutory trade secret definition. All information that does not meet the definition of trade secret as defined by A.A.C. R2-7-101(52) will become public in accordance with A.A.C. R2-7-C317. State may make its own determination on materials in accordance with A.A.C. R2-7-103.

If State agrees with Offeror's designation of trade secret or confidentiality and the determination is challenged, the undersigned hereby agrees to cooperate and support the defense of the determination with all interested parties, including legal counsel or other necessary assistance.

By submitting this response, Offeror agrees that the entire Offer, including confidential, trade secret and proprietary information may be shared with an evaluation committee and technical advisors during the evaluation process. Offeror agrees to indemnify and hold State, its agents and employees, harmless from any claims or causes of action relating to State's withholding of information based upon reliance on the above representations, including the payment of all costs and attorney fees incurred by State in defending such an action.

Affiliated Engineers, Inc.

Offeror Company Name	Affiliated Engineers, Inc.
Address	4742 N. 24th Street, Suit 100

Signature of Authorized Person	
Printed Name	Steven J. Yanke

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<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City	Title

ATTACHMENT 5-A SUPPLEMENTS:
 (Offeror to insert as required and list here or type "None" on first line. Offeror shall title any Supplement(s) with the same title as named herein and upload with offer.)

	Title	Document Date	No. of pages	Purpose in Offer
1.	Enter or type "None"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.	Enter or delete row if not needed			
3.	Enter or delete row if not needed			
4.	Enter or delete row if not needed			
5.	Enter or delete row if not needed			
6.	Enter or delete row if not needed			
7.	Enter or delete row if not needed			

End of Attachment 5-A



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**Copy of A.A.C. R2-7-103 [Confidential Information]
as was current at time of Solicitation issuance**

PROVIDED FOR REFERENCE ONLY

- A. *If a person wants to assert that a person's offer, specification, or protest contains a trade secret or other proprietary information, a person shall include with the submission a statement supporting this assertion. A person shall clearly designate any trade secret and other proprietary information, using the term "confidential". Contract terms and conditions, pricing, and information generally available to the public are not considered confidential information under this Section.*
- B. *Until a final determination is made under subsection (C), an agency chief procurement officer shall not disclose information designated as confidential under subsection (A) except to those individuals deemed by an agency chief procurement officer to have a legitimate state interest.*
- C. *Upon receipt of a submission, an agency chief procurement officer shall make one of the following written determinations:*
- 1. The designated information is confidential and the agency chief procurement officer shall not disclose the information except to those individuals deemed by the agency chief procurement officer to have a legitimate state interest;*
 - 2. The designated information is not confidential; or*
 - 3. Additional information is required before a final confidentiality determination can be made.*
- D. *If an agency chief procurement officer determines that information submitted is not confidential, a person who made the submission shall be notified in writing. The notice shall include a time period for requesting a review of the determination by the state procurement administrator.*
- E. *An agency chief procurement officer may release information designated as confidential under subsection (A) if:*
- 1. A request for review is not received by the state procurement administrator within the time period specified in the notice; or*
 - 2. The state procurement administrator, after review, makes a written determination that the designated information is not confidential.*



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Attachment 5-B
Conformance Statements

STATE WILL NOT CONSIDER ANY EXCEPTIONS UNLESS DESIGNATED ON THIS FORM.

READ THE INSTRUCTIONS TO OFFERORS BEFORE TAKING ANY EXCEPTIONS – TAKING EXCEPTIONS CAN BE
 GROUNDS FOR STATE REJECTING YOUR OFFER IN EVALUATION.

CONFORMANCE TO THE INSTRUCTIONS:
 (PART 1 OF THE SOLICITATION)

Check one of the following – if neither is checked, State will assume that as equivalent to “YES”:

- YES – Offeror acknowledges that it has read and understands the Solicitation Summary in Section 1-A of the Solicitation Documents and the Instructions to Offerors in Section 1-B of the Solicitation Documents and the and attests that its Offer complies with both.
- NO – Offeror acknowledges that it has read and understands the Solicitation Summary in Section 1-A of the Solicitation Documents and the Instructions to Offerors in Section 1-B of the Solicitation Documents, and attests that its Offer complies with both EXCEPT FOR the exceptions listed in **Attachment 5-B Supplement 1**.

CONFORMANCE TO THE CONTRACT TERMS AND CONDITIONS:
 (PART 2 OF THE SOLICITATION)

Check one of the following – if neither is checked, State will assume that as equivalent to “YES”:

- YES – Offeror acknowledges that it has read and understands the [AIA Documents \(for state agencies only\), and Special Terms and Conditions and the Uniform Terms and Conditions, along with their respective Exhibits and Appendices, in Part 2 of the Solicitation Documents](#) and attests that its Offer complies with both.
- NO – Offeror acknowledges that it has read and understands the [AIA Documents \(for state agencies only\), and Special Terms and Conditions and the Uniform Terms and Conditions, along with their respective Exhibits and Appendices](#) in Part 2 of the Solicitation Documents and attests that its Offer complies with both EXCEPT FOR the exceptions listed in **Attachment 5-B Supplement 2**.

CONFORMANCE TO THE TECHNICAL DOCUMENTS:
 (PART 3 OF THE SOLICITATION)

Check one of the following – if neither is checked, State will assume that as equivalent to “YES”:

- YES – Offeror acknowledges that it has read and understands the [Requirements Document and the Compensation Document](#) in Part 3 of the Solicitation Documents and attests that its Offer complies with both.

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- NO – Offeror acknowledges that it has read and understands the [Requirements Document and the Compensation Document](#), in Part 3 of the Solicitation Documents and attests that its Offer complies with both EXCEPT FOR the exceptions listed in **Attachment 5-B Supplement 3**.

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ATTACHMENT 5-B Supplement No. 1:

Exceptions to Instructions

Article / Paragraph or Exhibit Reference	Proposed Changes / Alternate Language	Rationale for Proposed Change
Section 1-A: Solicitation Summary		
x	x	x
x	x	x
x	x	x
Section 1-B: Instructions to Offerors		
x	x	x
x	x	x
x	x	x

Company Name

Signature of Person Authorized to Sign

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ATTACHMENT 5-B Supplement No. 2:
Exceptions to Contract Terms & Conditions

Article/ Paragraph or Exhibit Reference	Proposed Changes / Alternate Language	Rationale for Proposed Change
Section 2-A: Special Terms & Conditions		
x	x	x
x	x	x
x	x	x
x	x	x
x	x	x
Section 2-B: Uniform Terms & Conditions		
x	x	x
x	x	x
x	x	x
Section 2-C: AIA Documents with AZ Modifications		
x	x	x
x	x	x
x	x	x

Company Name

Signature of Person Authorized to Sign

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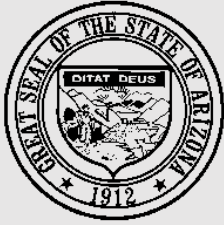
ATTACHMENT 5-B Supplement No. 3:
Exceptions to Technical and Commercial

Article / Paragraph or Exhibit Reference	Proposed Changes / Alternate Language	Rationale for Proposed Change
Section 2-A Scope of Work (Requirements Document)		
x	x	x
x	x	x
x	x	x
x	x	x
x	x	x
Section 2-B: Compensation Document		
x	x	x
x	x	x
x	x	x
x	x	x
x	X	x

Company Name

Signature of Person Authorized to Sign

End of Attachment 5-B



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Attachment 5-C
Insurance Evidence

RESERVED FOR AWARDED DESIGN PROFESSIONAL UPON SERVICE REQUEST

End of Attachment 5-C



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Attachment 5-D
Offer Checklist

STATE MAY DETERMINE YOUR PROPOSAL IS NON-RESPONSIVE IF YOU DO NOT SUBMIT ALL ATTACHMENTS.

	DOCUMENT	SUBMITTED
1.	Attachment 1: Offer and Acceptance Form	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
2.	Attachment 2-A: Experience and Capacity	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
3.	Attachment 2-A: References	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
4.	Attachment 2-B: Organization Profile	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
5.	Attachment 3-A: Method Proposal – RESERVED FOR AWARD	<input type="checkbox"/> YES <input checked="" type="checkbox"/> no
6.	Attachment 3-B: Key Personnel Proposal	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
7.	Attachment 3-C: Proposed Subcontractors – RESERVED FOR AWARD	<input type="checkbox"/> YES <input checked="" type="checkbox"/> no
8.	Attachment 3-D: Performance Guarantee – RESERVED FOR AWARD	<input type="checkbox"/> YES <input checked="" type="checkbox"/> no
9.	Attachment 3-E: Israel Boycott Form	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
10.	Attachment 4: Pricing Sheet – RESERVED FOR AWARD	<input type="checkbox"/> YES, <input checked="" type="checkbox"/> no
11.	Attachment 5-A: Confidential Information Designation	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
12.	Attachment 5-B: Conformance Statements	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
13.	Attachment 5-C: Insurance Evidence – RESERVED FOR AWARD	<input type="checkbox"/> YES <input checked="" type="checkbox"/> no
14.	Attachment 5-D: Offer Checklist	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
15.	Excel File: Project Experience Number of Projects and Revenue	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no
16.	Excel File: 2017 Professional Services List of Firms Services	<input checked="" type="checkbox"/> YES <input type="checkbox"/> no

End of Attachment 5-D

End of Part 4

PART 4 of the Solicitation Documents:
 Offer Forms (Attachments)

Date: February 7, 2017
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Steve Yanke, PE, LEED AP

Principal-in Charge / Electrical Engineer

Steve leads AEI's Phoenix office. He is a registered engineer with over 29 years of demonstrated success in positions of increasing responsibility in electrical engineering design, project management, marketing and business operations. He brings his clients strong project design and construction experience in government, corporate and institutional, higher education and healthcare facilities.

PROJECT EXPERIENCE

Banner University Medical Center Tucson – New Central Utility Plant (CUP) – Tucson, Arizona: Principal-in-Charge and Project Manager for the design of mechanical, electrical and plumbing systems for a new CUP which will have 6,000 tons of chilled water production, a 72,000 MBH heating hot water plant, and 6 MW of diesel engine/generators serving the medical campus, and new 9-story, 670,000 sf hospital bed tower. AEI evaluated the utility needs for the campus over the 20-year planning horizon and collected meter data from multiple local utility sources relative to the existing use and projected future needs based on the planned expansion with consideration to energy conservation measures and new technologies. This information was used as the basis for a life cycle cost analysis that highlighted the positive economics of building relative to other options.

City of Phoenix – Phoenix Sky Harbor International Airport – Economy Parking Garages – Phoenix, Arizona: Principal-in-Charge and Electrical Engineer for the replacement and upgrading of existing HPS light fixtures in the garages, stairwells and perimeter. The team was able to provide owner approved fixtures that met the aesthetic and energy goals for the project. A majority of the existing fixtures were installed or retrofitted with a 277V, 15A receptacle and mounting hook. Overall, the project is expected to save between 45-60% on the existing installation.

City of Phoenix – Public Works Facilities Natural Gas Generators – Phoenix, Arizona: Principal-in-Charge for piping and electrical engineering design for new natural gas engine-generators for five (5) Public Works Department (PWD) facilities throughout the city. Based upon review of existing site conditions, demands and capacities, the project team selected appropriately-sized natural gas fueled engine/generators to support identified buildings and site functions. New automatic transfer switches were also provided at each facility to transfer power from the electric utility to the new engine/generator in the event utility service is lost. Provisions were also made for the connection of portable load banks for periodic generator load testing.

The University of Arizona – Biomedical Sciences Partnership Building (BSPB) –Phoenix, Arizona: Principal-in-Charge and Project Manager for the new 10-story 245,000 sf building. The research facility will be located on the 30-acre Phoenix Biomedical Campus and is a collaboration between The University of Arizona and the City of Phoenix. The building will provide flexible open space for interdisciplinary, interactive research. AEI's is providing mechanical systems designed for staff safety, reliability, ease of maintenance and energy efficiency. DOAS air handlers are located on each floor and will provide primary air to chilled beams. Exhaust air will pass through an energy recovery system before discharging at the roof. The 12.47 kV electrical service will be via the University of Arizona primary service that has been established. The project will be designed/constructed to LEED Silver standards as a minimum.

Arizona State University – Hayden Library Learning Laboratories –Tempe, Arizona: Principal-in-Charge for this renovation to transform approximately 22,500 sf of student study space into two 75-person learning labs and one 150-person learning lab. Mechanical scope included the addition of a new air handling system, and electrical capacity was upgraded to meet computer and charging station needs; additional scope included fire sprinkler revisions. AEI was prime contract holder on this project.

EDUCATION

Bachelor of Science
Milwaukee School of Engineering

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Engineer
Arizona - 33014

(Registered in 22 other States)

NCEES Record

LEED Accredited Professional

YEARS WITH AEI

10

TOTAL YEARS OF EXPERIENCE

29



Jeremy Barrette, PE, EDAC, HFDP

Project Manager / Mechanical Engineer

Jeremy has more than 18 years of mechanical engineering, product development, and project management experience focusing on the design of mechanical products and control systems for government, higher education, laboratory and healthcare clients. His responsibilities at AEI include project management and mechanical systems design from concept development and systems evaluation through construction document completion and construction phase project support.

PROJECT EXPERIENCE

The University of Arizona – Old Main Building Rehabilitation – Tucson, Arizona: Project Manager and Mechanical Engineer for mechanical, electrical, piping/plumbing and information technology design services for the historic renovation and reconstruction of the Old Main Building. The new facility houses administrative and executive university functions and offices. Approximately 60% of the existing building underwent a rework to meet current programming needs. Renovations included new HVAC, energy-efficient LED lighting on the second floor, a new elevator, a finishing kitchen, and an executive boardroom and multi-purpose meeting space. New heat exchangers, pumps, and a water heater were also installed. The project is seeking LEED Certification.

Arizona State University – Biodesign Institute Building C – Tempe, Arizona: Project Manager and Mechanical Engineer for a new five-story (plus basement), 193,000 sf flexible research laboratory to support the Biodesign Institute, the School of Engineering, and the School of Life Sciences. The building maximizes net lab area to create a workhorse lab facility that upon opening will house a specialty laser linear accelerator lab, high bay lab, organic chemistry labs, and generic, flexible labs to support ASU's growth in research programs. The building is being designed to complement the architecture and sustainability performance of Bio Buildings A and B, targeting LEED Gold as a minimum. A variety of sustainable strategies are being integrated for performance and financial reasons, including a high performance envelope, daylighting, chilled beams, reduced air change rates, demand controlled ventilation in labs and offices, enhanced energy recovery, and water harvesting. AEI is providing MEP/FP, sustainability, energy and water modeling, architectural lighting and daylighting, and audiovisual design services.

City of Las Cruces – IT Server Room Evaluation & Revisions – Las Cruces, New Mexico: Project Manager and Mechanical Engineer for professional services to evaluate adequacy of the existing design and construction methods to the HVAC and Fire Suppression systems in the IT server room located in City Hall. Previously there were paths of air leakage from the server room to adjacent offices that undetermined origins and were part of the assessment and evaluation. A Site Analysis Report along with a cost estimate, schedule, and corrective measures for the recommended repairs were presented to the City. Upon recommendation the City approved the required work to upgrade and repair the Server Room. AEI observed construction methodology used to make the repairs.

US Department of Veterans Affairs – Southern Arizona VA Health Care System (SAVAHCS) – Tucson, Arizona: Project Manager and Mechanical Engineer responsible for mechanical, electrical and piping/plumbing design for the replacement of air handlers and a feasibility analysis for energy recovery on buildings 3 and 4 of the Southern Arizona VA Health Care System campus. Scope includes new direct digital controls (DDC), fire alarm upgrades, and variable frequency drives, as well as providing sprinkler protection within the building 4 mechanical room. This project is the first task order for a 5-year IDIQ contract with the VA's Southwest Health Care Network, Veterans Integrated Service Network (VISN) 18.

EDUCATION

Bachelor of Science
Mechanical Engineering
Oral Roberts University

Master of Science
Management of Marketing and
Technology Innovation
Worcester Polytechnic Institute

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Engineer
Arizona - 52320

(Registered in 3 other States)

ASHRAE Healthcare Facility
Design Professional - 8241101

Evidence Based Design
Accreditation & Certification -
CHD 101365

NCEES Record

YEARS WITH AEI

6

TOTAL YEARS OF EXPERIENCE

18



Charles McGowan, PE

Mechanical Engineer

As a mechanical engineer, Charlie works closely with the team in the production and coordination of ductwork, and in piping plan layouts. He also diagrams the process and instrumentation of heating and cooling systems for a variety of building types such as healthcare, hospital and research facilities, and higher education buildings. Charlie provides analysis and design of the systems including load calculations, equipment/material selection, layout, sizing, control and other design considerations. Charlie has surveyed project sites, served as the liaison for the mechanical teams, and coordinated mechanical requirements with architectural and structural designs.

PROJECT EXPERIENCE

City of Phoenix – Phoenix Sky Harbor International Airport – Terminal 3 Modernization – Phoenix, Arizona: Mechanical Engineer for mechanical, electrical and piping/plumbing program verification and conceptual design services for the complete renovation of the 210,000 sf Terminal 3 at Phoenix Sky Harbor International Airport. Additional scope includes establishing overall electrical direction and electrical service design for expanded security checkpoints and a replacement South Concourse. Once this phase is complete the team expects to continue into the schematic design/construction administration phase of the project.

Banner University Medical Center Tucson – New Central Utility Plant (CUP) – Tucson, Arizona: Mechanical Engineer for the design of mechanical, electrical and plumbing systems for a new CUP which will have 6,000 tons of chilled water production, a 72,000 MBH heating hot water plant, and 6 MW of diesel engine/generators serving the medical campus, and new 9-story, 670,000 sf hospital bed tower. AEI evaluated the utility needs for the campus over the 20-year planning horizon and collected meter data from multiple local utility sources relative to the existing use and projected future needs based on the planned expansion with consideration to energy conservation measures and new technologies. This information was used as the basis for a life cycle cost analysis that highlighted the positive economics of building relative to other options.

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Banner Thunderbird Medical Center – OR Renovation and Mechanical Upgrades– Glendale, Arizona: Mechanical Designer for this project which included complete demolition of the mechanical duct along with electrical infrastructure upgrades and architectural improvements. The air handler which serves 6 OR's, 2 C- Section Rooms, Sterile Core, and Labor and Delivery, was replaced with a new single duct system to the existing campus surgery chiller in a booster configuration, all while maintaining operation and occupancy. In lieu of existing local humidifiers, new master humidifiers were provided resulting in lower static pressure minimizing noise. The isolation panels along with existing light fixtures were replaced with new high efficient LED light fixtures providing adequate illumination levels.

EDUCATION

Bachelor of Science, Architectural Engineering, Milwaukee School of Engineering

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Engineer
Arizona - 60452

YEARS WITH AEI

6

TOTAL YEARS OF EXPERIENCE

6



Jason Clausen, PE, CDT

Project Manager / Electrical Engineer

Jason has over 12 years of experience in electrical engineering design, document production, quality control and specifications for new and renovated facilities. He has both designed and supervised the design of many types of building electrical systems, including medium and low-voltage power distribution, emergency power systems, lighting, lighting controls, telecommunication and life-safety notification systems. He has significant experience in many diverse markets, including higher education, healthcare and public buildings.

PROJECT EXPERIENCE

City of Phoenix – Public Works Facilities Natural Gas Generators – Phoenix, Arizona: Project Manager and Lead Electrical Engineer for piping and electrical engineering design for new natural gas engine-generators for five (5) Public Works Department (PWD) facilities throughout the city. Based upon review of existing site conditions, demands and capacities, the project team selected appropriately-sized natural gas fueled engine/generators to support identified buildings and site functions. New automatic transfer switches were also provided at each facility to transfer power from the electric utility to the new engine/generator in the event utility service is lost. Provisions were also made for the connection of portable load banks for periodic generator load testing.

State of Arizona – Fire Pump Replacement Project – 2 Locations – Phoenix, Arizona
1600 W Monroe – Fire Pump Replacement: Project Manager and Lead Electrical Engineer for piping/plumbing and electrical engineering design for the replacement of a failed fire pump, existing switch feeding the SES pump controller, and a new fire department connection.

1700 W Washington – Fire Pump Replacement: Project Manager and Lead Electrical Engineer for piping/plumbing and electrical engineering design for the replacement of a failed fire pump, and the installation of a new 2-hour electrical feeder from the main electrical room to the fire pump.

City of Phoenix – Phoenix Sky Harbor International Airport – Economy Parking Garages – Phoenix, Arizona: Electrical Engineer for the replacement and upgrading of existing HPS light fixtures in the garages, stairwells and perimeter. The team was able to provide owner approved fixtures that met the aesthetic and energy goals for the project. A majority of the existing fixtures were installed or retrofitted with a 277V, 15A receptacle and mounting hook. Overall, the project is expected to save between 45-60% on the existing installation.

The University of Arizona – Old Main Building Rehabilitation – Tucson, Arizona: Electrical Engineer for mechanical, electrical, piping/plumbing and information technology design services for the historic renovation and reconstruction of the Old Main Building. The new facility houses administrative and executive university functions and offices. Approximately 60% of the existing building underwent a rework to meet current programming needs. Renovations included new HVAC, energy-efficient LED lighting on the second floor, a new elevator, a finishing kitchen, and an executive boardroom and multi-purpose meeting space. New heat exchangers, pumps, and a water heater were also installed. The project is seeking LEED Certification.

City of Casa Grande – Police Dispatch and Library Renovation – Casa Grande, Arizona: Project Manager and Electrical Engineer for this 8,500 sf, one-story renovation of an existing building into the Casa Grande Police Dispatch building and library. Scope includes electrical renovation of the dispatch area to expand the existing IT server rack capacity, provide new low-voltage lighting design, consolidate multiple uninterrupted power supplies into a single unit, and integrate new HVAC and mechanical systems, and MEP renovation of the existing library facility.

EDUCATION

Bachelor of Science
Electrical Engineering
South Dakota University

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Engineer
Arizona - 52023

(Registered in 1 other State)

Certified Construction Documents
Technologist

YEARS WITH AEI

4

TOTAL YEARS OF EXPERIENCE

12



Paul Hurt, PE

Electrical Engineer

Paul has over 11 years of electrical system design experience from concept to final product, producing power, lighting and fire alarm construction documents for a wide variety of projects, including higher education, government, commercial and data center facilities. Most recently, he has been designing a myriad of power, lighting and fire alarm designs for highly complex facilities. His vast knowledge across many areas makes Paul a vital resource to any design team.

PROJECT EXPERIENCE

City of Phoenix – Phoenix Sky Harbor International Airport – Economy Parking Garages – Phoenix, Arizona: Project Manager and Lead Electrical Engineer for the replacement and upgrading of existing HPS light fixtures in the garages, stairwells and perimeter. The team was able to provide owner approved fixtures that met the aesthetic and energy goals for the project. A majority of the existing fixtures were installed or retrofitted with a 277V, 15A receptacle and mounting hook. Overall, the project is expected to save between 45-60% on the existing installation.

City of Phoenix – Phoenix Sky Harbor International Airport – Terminal 3 Modernization – Phoenix, Arizona: Electrical Engineer for mechanical, electrical and piping/plumbing program verification and conceptual design services for the complete renovation of the 210,000 sf Terminal 3 at Phoenix Sky Harbor International Airport. Additional scope includes establishing overall electrical direction and electrical service design for expanded security checkpoints and a replacement South Concourse. Once this phase is complete the team expects to continue into the schematic design/construction administration phase of the project.

City of Phoenix – Phoenix Sky Harbor International Airport Emergency Operations Command Center, Phoenix, Arizona: Electrical Engineer for the design of a single story 10,000 sf emergency operations center. The building consists of a 24/7 operations and command center during an emergency state-of-affairs that can continue operations for 72 hours without any disruptions. Sections of the building are designed as raised floor air distribution systems with variable air volume terminal units. A domestic solar hot water system has been utilized to serve all the bathrooms for energy efficiency purposes. Both the mechanical and electrical systems were designed with layers of redundancy to ensure continuous operation. The site is located adjacent to the airport runway and an ionization system has been implemented to eliminate jet plane odors that could enter the building. The building is being designed to achieve minimum LEED Silver certification.

Banner Health – Cooper Village Electrical Design – Mesa, Arizona: Project Manager and Electrical Engineer for the design of temporary electrical services for egress lighting and fire alarms. The project included conducting a physical inspection of existing on-site electrical distribution conditions to determine new 200A, 120/208V service locations and trenching paths from the existing SRP transformer. SRP was provided with one-line diagrams, site plans and load letters for approval of the new service. The emergency lighting and fire alarm system design was in accordance with NFPA regulations.

***Paradise Valley Community College – College Academic Math Building (Building Q) Café Addition – Phoenix, Arizona:** Electrical Engineer for a 69,000 sf addition of an on-site café as part of a larger renovation for the existing math building, which included redesign of classrooms, media rooms and office space. As Electrical Engineer for the cafe addition, Paul's responsibilities included reviewing lighting submittals and requests for information regarding power, fire alarms, lighting and lighting controls upon project completion.

** Experience Prior to AEI*

EDUCATION

Bachelor of Science
Electrical Engineering
Technology Georgia Southern
University

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Engineer
Arizona - 54768

YEARS WITH AEI

3

TOTAL YEARS OF EXPERIENCE

11



Jeff Cordell, CPD

Piping/Plumbing Designer

Jeff has over 18 years of experience in plumbing, medical gas, and fire protection system design, the vast majority of which is dedicated to large-scale healthcare, research, higher education, and commercial projects. Jeff's attention to detail and commitment to responsive communication are critical traits that bring increased value to any design team.

PROJECT EXPERIENCE

City of Phoenix – Public Works Facilities Natural Gas Generators – Phoenix, Arizona: Lead Plumbing/Piping Designer for piping and electrical engineering design for new natural gas engine-generators for five (5) Public Works Department (PWD) facilities throughout the city. Based upon review of existing site conditions, demands and capacities, the project team selected appropriately-sized natural gas fueled engine/generators to support identified buildings and site functions. New automatic transfer switches were also provided at each facility to transfer power from the electric utility to the new engine/generator in the event utility service is lost. Provisions were also made for the connection of portable load banks for periodic generator load testing.

The University of Arizona – Old Main Building Rehabilitation – Tucson, Arizona: Lead Plumbing/Piping Designer for mechanical, electrical, piping/plumbing and information technology design services for the historic renovation and reconstruction of the Old Main Building. The new facility houses administrative and executive university functions and offices. Approximately 60% of the existing building underwent a rework to meet current programming needs. Renovations included new HVAC, energy-efficient LED lighting on the second floor, a new elevator, a finishing kitchen, and an executive boardroom and multi-purpose meeting space. New heat exchangers, pumps, and a water heater were also installed. The project is seeking LEED Certification.

Banner University Medical Center Tucson – New Central Utility Plant (CUP) – Tucson, Arizona: Lead Plumbing/Piping Designer for the design of mechanical, electrical and plumbing systems for a new CUP which will have 6,000 tons of chilled water production, a 72,000 MBH heating hot water plant, and 6 MW of diesel engine/generators serving the medical campus, and new 9-story, 670,000 sf hospital bed tower. AEI evaluated the utility needs for the campus over the 20-year planning horizon and collected meter data from multiple local utility sources relative to the existing use and projected future needs based on the planned expansion with consideration to energy conservation measures and new technologies. This information was used as the basis for a life cycle cost analysis that highlighted the positive economics of building relative to other options.

Banner Thunderbird Medical Center – OR Renovation and Mechanical Upgrades – Glendale, Arizona: Senior Plumbing/Piping Designer for the OR modernization, which included complete demolition of the OR mechanical duct along with electrical infrastructure upgrades and architectural improvements. The air handler (AH-6) modernization served 6 OR's, 2 C- section rooms, sterile core, and labor and delivery was renovated while maintaining operation and occupancy. The project team designed a single duct system that allowed construction to be complete for half of the OR's while maintaining the air flow in the activate OR Suite. The air handler was added to the existing campus surgery chiller in a booster configuration. New master humidifiers were provided at the air handler resulting in lower static pressure in the duct and to minimize noise. The isolation panels in OR 1-6 and 11-15 were replaced with new standard panel boards which were approved per Banner Health's OR Wet Location Assessment. All existing light fixtures within the corridor and operating rooms were replaced with new high efficient LED light fixtures.

EDUCATION

Associate in Specialized
Technology Degree
Architectural Computer Aided
Drafting and Design
Triangle Technical Institute

CERTIFICATIONS

Certified Plumbing Designer,
Arizona – 27751

Certified Medical Gas Inspector,
Arizona - 99-2012

YEARS WITH AEI

3

TOTAL YEARS OF EXPERIENCE

18



Brett McQuillan, EIT

Building Performance Analyst/Sustainable Design Consultant

As a project sustainable consultant Brett participates in the design and analysis of high-performance buildings and supports the entire life-cycle of facilities through new construction, facilities operations and renovation. His project experience is in mechanical system design, renewable energy, lighting, building performance simulation, and commissioning for clients in the healthcare, higher education, government, corporate, and commercial sectors.

Brett is experienced using eQuest, Trane TRACE, Carrier HAP, PVWatts, RETScreen, HOMER, and an array of other simulation and renewable energy system design tools.

PROJECT EXPERIENCE

Intel CH-11 Building Retro-Commissioning Study – Chandler, Arizona: Commissioning Specialist to perform retro-commissioning services for Salt River Project (SRP) Business Solutions, through program administrator Nexant, in evaluating existing conditions and perform retro-commissioning services of Intel's 154,000 sf CH11 building. System trending was performed to identify existing equipment and systems that may negatively impact the energy costs for the facility and electrical trending to identify electrical consumption for each rooftop unit. AEI supported the retro-commissioning and development of the energy conservation measures (ECM's) site survey, energy modeling, and life cycle cost analyses, cost estimation and implementation. Based on the information provided the targeted savings for the project will be up to 10% or approximately 403,677 kWh based on annual usage of 4,036,776 kWh.

Banner University Medical Center Tucson – New Central Utility Plant (CUP) – Tucson, Arizona: Systems Performance Analyst for new CUP which will have 6,000 tons of chilled water production, a 72,000 MBH heating hot water plant, and 6 MW of diesel engine/generators serving the medical campus, and new 9-story, 670,000 sf hospital bed tower. Brett used Energy+ to analyze annual performance for 12 chiller plant potential configurations and multiple boiler configurations to select the most efficient combinations in terms of lifecycle cost and control. The central plant analysis model was built based on actual energy consumption data from existing Banner facilities.

United Services Automobile Association (USAA) – Emergency Generator Fuel Tank – Phoenix, Arizona: Mechanical Designer and Commissioning Technician for an assessment and retrofit of an existing generator belly tank serving a critical data center. AEI designed modifications to the existing system to bring the tank into service and be re-permitted under current code requirements through the Phoenix AFP permitting program. New venting was installed along with overflow protection, a fill station and a total fuel management system to integrate with the building's existing BMS and generator monitoring systems. AEI lead the tank commissioning to ensure proper operation. The assessment, design, construction and testing was completed without interruption in service.

The University of Arizona – Health Sciences Innovation Building (HSIB) – Tucson, Arizona: Building Energy Performance Modeler for LEED certification for programming and conceptual design for a 220,000 sf new medical education building located on the University of Arizona's Tucson campus. The facility will be a multi-disciplinary, inter-professional education and simulated practice building fostering trans-disciplinary collaborations and serving as a unique place for interactions between multidisciplinary teams of health professionals, students and faculty. Project will be designed/constructed to LEED Silver standards as a minimum.

EDUCATION

Master of Science
Civil Engineering
University of Colorado at Boulder

Bachelor of Science
Architectural Engineering
Illinois Institute of Technology

REGISTRATIONS/ CERTIFICATIONS

Registered Professional
Engineer- in-Training

YEARS WITH AEI

1

TOTAL YEARS OF EXPERIENCE

4