



# Offer and Acceptance

State of Arizona  
State Procurement Office

SOLICITATION NO.: ADSP016-00005912 Request  
for Qualifications: 2016 Annual Professional  
Services List

PAGE  
1

100 N. 15<sup>th</sup> Ave. Suite 201  
Phoenix, AZ 85007

Offeror: Van Boerum & Frank Associates, Inc.

OF  
1

## OFFER

### TO THE STATE OF ARIZONA:

The Undersigned hereby offers and agrees to furnish the material, service or construction in compliance with all terms, conditions, specifications and amendments in the Solicitation and any written exceptions in the offer. Signature also certifies Small Business status.

Signature of Person Authorized to Sign Offer

Byron Torgersen, P.E.

Printed Name

Van Boerum & Frank Associates, Inc.

Company Name

1602 S. Priest Drive, #103

Address

Principal / Director of Arizona Operations

Title

Tempe

Arizona

85281

City

State

Zip

Phone: 480.889.5075

Fax: 480.889.5076

btorgersen@vbfa.com

Contact Email Address

By signature in the Offer section above, the Offeror certifies:

1. The submission of the Offer did not involve collusion or other anticompetitive practices.
2. The Offeror shall not discriminate against any employee or applicant for employment in violation of Federal Executive Order 11246, State Executive Order 2009-9 or A.R.S. §§ 41-1461 through 1465.
3. The Offeror 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 shall result in rejection of the offer. Signing the offer with a false statement shall void the offer, any resulting contract and may be subject to legal remedies provided by law.
4. The Offeror certifies that the above referenced organization IS/ X IS NOT a small business with less than 100 employees or has gross revenues of \$4 million or less.

## ACCEPTANCE OF OFFER

The Offer is hereby accepted.

The Contractor is now bound to sell the materials or services listed by the attached contract and based upon the solicitation, including all terms, conditions, specifications, amendments, etc., and the Contractor's Offer as accepted by the State.

This Contract shall henceforth be referred to as Contract No. ADSP016-00005912

The effective date of the Contract is March 1, 2016

The Contractor is cautioned not to commence any billable work or to provide any material or service under this contract until Contractor receives purchase order, contract release document or written notice to proceed.

State of Arizona  
Awarded this 29 day of February 2016

Procurement Officer



ATTACHMENT I – General Qualifications

ANNUAL REQUEST FOR QUALIFICATIONS AND EXPERIENCE NO:  
ADSP016-00005912

STATE PROCUREMENT OFFICE  
Department of Administration  
100 North 15<sup>th</sup> Avenue, Suite 201  
Phoenix, Arizona 85007

**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 ARS § 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 ARS § 32-101(B.19.).

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

**SPECIFIC INSTRUCTIONS:**

1. Complete this form for each branch office seeking work under this RFQ.
  - a. – e. **Firm (or Branch Office) Name and Address.** Self-explanatory.
  - f. **Year Established.** Enter the year the firm (or branch office, if appropriate) was established under the current name.
  - g. **Ownership.**
    - (g1). *Type.* Enter the type of ownership or legal structure of the firm (sole proprietor, partnership, corporation, joint venture, etc.).
    - (g2). *Small Business Status.* A firm is a small business if the firm has less than 100 employees **or** has gross revenues of \$4 million or less.
  - h.-j. **Point of Contact.** Provide this information for a representative of the firm that the Customer can contact for additional information. The representative must be empowered to speak on contractual and policy matters.
  - k. **Name of Firm.** Enter the name of the firm.
2. **Employees by Discipline.**
  - a. Select disciplines from the List of Disciplines (Function Code) listed on Page 3 of 4 Instructions. For employees that do not qualify for any of the disciplines, select "Other". *Note: The intended searchable database indicated in the RFQ will be populated from the Qualifications Form I Excel attachment only.*
  - 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.
3. **Profile of Firm's Experience and Annual Average Revenue for Last Year.**
  - a. Enter the approximate number of projects the firm (or branch) has done attributable by Profile Code listed on Page 3 of 4 Instructions over the last year.



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- b. Enter the appropriate Profile Codes from Instructions Pages 3 of 4 that represent the type of work the firm (or branch) has done over the last year.
  - c. Using the Revenue Index Number on Page 3 of 6 Form, indicate the approximate revenue the firm has earned over the last year per Profile Code entered into the table.
4. **Resumes of Key Personnel Proposed for This Contract.** Complete this section for each key person who will participate in this contract.
  - a. Self-explanatory.
  - b. Self-explanatory
  - c. Total years of relevant experience (block c1), and years of relevant experience with current firm, but not necessarily the same branch/office (block c2).
  - d. Name, City and State of the firm where the person currently works, which must correspond with one of the firms (or branch office or a firm, if appropriate) listed in Section 1.
  - e. Provide information on the highest relevant academic degree(s) received. Indicate the area(s) of specialization for each degree.
  - f. Provide information on current relevant professional registration(s) and in which State(s) they are current.
  - g. Provide information on any other professional qualifications relating to this contract, such as education, professional registration, publications, organizational memberships, certifications, training, awards, and foreign language capabilities.
  - h. Provide information on no more than five (5) projects in the last year which the person had a significant role that demonstrates the person's capability relevant to her/his proposed role in this contract. These projects do not necessarily have to be any of the projects presented in Section 5 for the project team if the person was not involved in any of those those projects or the person worked on other projects that were more relevant than the team projects in Section 5. Use the check box provided to indicate if the project was performed with any office of the current firm. If any of the professional services or construction projects are not complete, leave Year Completed blank and indicate the status in Brief Description and Specific Role.
5. **Example Projects Which Best Illustrate Firms Qualification for this contract.** 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 contract. Complete one Section 5 for each project. List no more than five (5) projects.
  - 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 complete 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.
6. **Additional Information.** Use this section to provide additional information you feel may be necessary to describe your firm's qualifications for this contract.
7. **Annual Average Professional Services Revenues of Firm for Last 3 Years.** Complete this block for the firm or branch office for which this form is completed. In column a, enter an approximate percentage of total work attributable to State, Federal or Municipal Work. In column b, enter an approximate percentage of total work attributable to Non-Government work. Percentages should take into consideration work completed over the last 3 years.



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8. **Authorized Representative.** An authorized representative of the firm or branch office must sign and date the completed form. Signing attests that the information provided is current and factual. Provide the name and title of the authorized representative who signed the form.

List of Disciplines (Function Codes) for Question 2

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

List of Experience Categories (Profile Codes for Question 3)

- |   |  |
|---|--|
| Acoustics, Noise Abatement  | Dams ( <i>Concrete; Arch</i> )                                       |
| Aerial Photography; Airborne Data and Imagery Collection and Analysis           | Dams ( <i>Earth; Rock</i> ); Dikes; Levees                           |
| Activity Centers  | Desalinization ( <i>Process and Facilities</i> )                     |
| Air Pollution Control   | Design-Build - Preparation of Requests for Proposals                 |
| Airports; Navajds; Airport Lighting; Aircraft Fueling                           | Digital Elevation and Terrain Model Development                      |
| Airports; Terminals and Hangars; Freight Handling                               | Digital Orthophotography   |
| Agricultural Development; Grain Storage; Farm Mechanization                     | Dining Halls; Clubs; Restaurants                                     |
| Animal Facilities   | Dredging Studies and Design  |
| Anti-Terrorism/Force Protection   | Design & Planning Structured Parking Facilities                      |
| Area Master Planning  | Detention Security Systems   |
| Auditoriums and Theaters  | Disability / Special Needs   |
| Automation; Controls; Instrumentation   | Ecological and Archeological Investigations                          |
| Barracks; Dormitories   | Educational Facilities; Classrooms                                   |
| Bridge Design: Bridges  | Electrical Studies and Design  |
| Cartography   | Electronics  |
| Cemeteries ( <i>Planning and Relocation</i> )                                   | Elevators; Escalators; People-Movers                                 |
| Chemical Processing and Storage   | Energy / Water Auditing Savings                                      |
| Child Care/Development Facilities   | Energy Conservation; New Energy Sources                              |
| Codes; Standards; Ordinances  | Environmental Impact Studies, Assessments or Statements              |
| Cold Storage; Refrigeration and Fast Freeze                                     | Fallout Shelters; Blast-Resistant Design                             |
| Commercial Building ( <i>Low Rise</i> ); Shopping Centers                       | Fire Protection  |
| Community Facilities  | Fisheries; Fish Ladders  |
| Communications Systems; TV; Microwave   | Forensic Engineering   |
| Computer Facilities   | Garages; Vehicles Maintenance Facilities; Parking                    |
| Conservation and Resource Management  | Gas Systems ( <i>Propane; Natural, Etc.</i> )                        |
| Construction Management   | Geodetic Surveying: Ground and Airborne                              |
| Construction Surveying  | Heating; Ventilating; Air Conditioning                               |
| Corrosion Control; Cathodic Protection Electrolysis                             | Highways; Streets; Airfield Paving; Parking Lots                     |
| Cost Estimating; Cost Engineering and Analysis; Parametric Costing; Forecasting | Historical Preservation  |
| Cryogenic Facilities  | Hospital and Medical Facilities                                      |
| Construction Materials Testing  | Hotels; Motels   |
|   | <i>Housing (Residential, Multi-Family; Apartments; Condominiums)</i> |



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Hotels; Motels  
Hydraulics and Pneumatics  
Hydrographic Surveying  
Industrial Buildings; Manufacturing Plants  
Industrial Processes; Quality Control  
Industrial Waste Treatment  
Intelligent Transportation Systems  
Infrastructure  
Irrigation; Drainage  
Judicial and Courtroom Facilities  
Laboratories; Medical Research Facilities  
Land Surveying  
Landscape Architecture  
Libraries; Museums; Galleries  
Lighting (*Interior; Display; Theater, Etc.*)  
Lighting (*Exteriors; Streets; Memorials; Athletic Fields, Etc.*)  
Labs - General  
Labs – Research – Dry  
Labs – Research – Wet  
LEED Accredited A/E  
LEED Independent 3<sup>rd</sup> Party Building Commissioning  
Mapping Location/Addressing Systems  
Materials Handling Systems; Conveyors; Sorters  
Metallurgy  
Materials Testing  
Measurement / Verification / Conservation Water Consumption Savings  
Mining and Mineralogy  
Medical Related  
Modular Systems Design; Fabricated Structures or Components  
Mold Investigation  
Museums  
Nuclear Facilities; Nuclear Shielding  
Office Buildings; Industrial Parks  
Outdoor Recreation  
Petroleum and Fuel (*Storage and Distribution*)  
Photogrammetry  
Pipelines (*Cross-Country - Liquid and Gas*)  
Phase I Environmental  
Prisons & Correctional Facilities  
Plumbing and Piping Design  
Prisons and Correctional Facilities  
Product, Machine Equipment Design Pneumatic Structures, Air-Support Buildings Power Generation, Transmission, Distribution Public Safety Facilities  
Radar; Sonar; Radio and Radar Telescopes  
Radio Frequency Systems and Shielding's  
Railroad; Rapid Transit  
Recreation Facilities (*Parks, Marinas, Etc.*)  
Refrigeration Plants/Systems  
Rehabilitation (*Buildings; Structures; Facilities*)  
Research Facilities  
Resources Recovery; Recycling  
Roof Infrared Imaging to Identify Water Leaks

Roofing  
Safety Engineering; Accident Studies; OSHA Studies  
Security Systems; Intruder and Smoke Detection  
Seismic Designs and Studies  
Sewage Collection, Treatment and Disposal  
Soils and Geologic Studies; Foundations  
Solar Energy Utilization  
Solid Wastes; Incineration; Landfill  
Special Environments; Clean Rooms, Etc.  
Structural Design; Special Structures  
Surveying; Platting; Mapping; Flood Plain Studies  
Sustainable Design  
Swimming Pools  
Storm Water Handling and Facilities  
Specifications Writing  
Toxicology  
Testing and Inspection Services  
Traffic and Transportation Engineering  
Topographic Surveying and Mapping  
Towers (*Self-Supporting and Guyed Systems*)  
Tunnels and Subways  
Traffic Studies  
Transportation  
Urban renewals; Community Development  
Utilities (*Gas and Steam*)  
Value Analysis; Life-Cycle Costing  
Warehouse and Depots  
Water Resources; Hydrology; Ground Water  
Water Supply; Treatment and Distribution  
Wind Tunnels; Research/Testing Facilities Design  
Waste Water Treatment Facility  
Water Well Rehabilitation; Water Well Work  
Zoning; Land Use Studies



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(If a firm has branch offices, complete for each specific branch office seeking work.)

1. **Annual Request for Qualifications**

a. FIRM (OR BRANCH OFFICE ) NAME:	Van Boerum & Frank Associates, Inc.
b. FIRM (OR BRANCH OFFICE) STREET:	1602 South Priest Drive, Suite 103
c. FIRM (OR BRANCH OFFICE) CITY:	Tempe (AZ Branch Registration #13059-1)
d. FIRM (OR BRANCH OFFICE) STATE:	Arizona
e. FIRM (OR BRANCH OFFICE) ZIP CODE:	85281
f. YEAR ESTABLISHED:	2003 – Branch Office
(g1). OWNERSHIP - TYPE:	Corporation (C Corp)
(g2) OWNERSHIP - SMALL BUSINESS STATUS:	Not a small business
h. POINT OF CONTACT NAME AND TITLE:	Byron Torgersen, P.E. - Director of Arizona Operations
i. POINT OF CONTACT TELEPHONE NUMBER:	480.889.5075
j. POINT OF CONTACT E-MAIL ADDRESS:	btorgersen@vbfa.com
k. NAME OF FIRM (If block 1a is a branch office):	Van Boerum & Frank Associates, Inc.



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**2. EMPLOYEES BY DISCIPLINE**

a. Discipline Title	b. Function: Primary (P) or Secondary (S)	c. No. of Employees - Firm	d. No. of Employees - Branch
<b>Mechanical</b>	<b>P</b>		
- Principal Engineer		16	1
- Project Engineer / Project Manager		12	2
- Associate Principal Engineer / Manager		3	
- Associate		7	
- Senior Engineer/ Manager		8	1
- Engineer / Designer		17	1
<b>Electrical</b>	<b>P</b>		
- Principal Engineer		1	1
- Project Engineer / Project Manager			
- Associate Principal Engineer / Manager			
- Associate		2	
- Senior Engineer/ Manager		1	1
- Senior Engineer / Designer		1	1
- Engineer / Designer		4	
<b>Fire Protection</b>	<b>P</b>		
- Principal Engineer		2	
<b>Other (CADD / Revit, Interns, Administrative etc.)</b>		39	4
-			
<b>Total</b>		113	12



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**3. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST YEAR**

a. Approximate No. of Projects	b. Experience	c. Revenue Index Number (see below)
6	Airports: Terminals and Hangars; Freight Handling Barracks: Dormitories	1
1	Animal Facilities	1
5	Auditoriums and Theaters	1
1	Cold Storage: Refrigeration and Fast Freeze	1
9	Commercial Building (Low Rise); Shopping Centers	1
8	Community Facilities	3
3	Computer Facilities	1
17	Dining Halls; Clubs; Restaurants	2
65	Educational Facilities; Classrooms	6
227	Electrical Studies and Design	5
9	Fire Protection	2
2	Garages; Vehicles Maintenance Facilities; Parking	1
156	Gas Systems (propane; Natural, Etc.)	2
450	Heating; Ventilating; Air Conditioning	7
48	Hospitals and Medical Facilities	4
2	Housing (Residential, Multi-Family)	1

**PROFESSIONAL SERVICES REVENUE INDEX NUMBER**

- |   |   |
|---|---|
| 1. Less than \$100,000                  | 6. \$2 million to less than \$5 million   |
| 2. \$100,000 to less than \$250,000     | 7. \$5 million to less than \$10 million  |
| 3. \$250,000 to less than \$500,000     | 8. \$10 million to less than \$25 million |
| 4. \$500,000 to less than \$1 million   | 9. \$25 million to less than \$50 million |
| 5. \$1 million to less than \$2 million | 10. \$50 million or greater               |



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**3. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST YEAR**

a. Approximate No. of Projects	b. Experience	c. Revenue Index Number <i>(see below)</i>
14	Hotels / Motels	1
4	Housing (Residential, Multi-Family; Apartments; Condominiums)	2
9	Industrial Buildings; Manufacturing Plants	1
5	Judicial and Courtroom Facilities	2
1	Laboratories; Medical Research Facilities	1
1	Libraries; Museums; Galleries	1
75	Lighting (Interior, Display, Theater, Etc.)	1
30	Lighting (Exteriors; Streets; Memorials; Athletic Fields, Etc.)	1
8	Labs – General	3
3	Labs – Research – Dry	1
4	Labs – Research – Wet	1
3	LEED Accredited A/E (VBFA – Engineering)	1
34	Medical Related	4
1	Mining and Mineralogy	1
1	Museums	1
3	Nuclear Facilities; Nuclear Shielding	1

**PROFESSIONAL SERVICES REVENUE INDEX NUMBER**

- |   |   |
|---|---|
| 1. Less than \$100,000                  | 6. \$2 million to less than \$5 million   |
| 2. \$100,000 to less than \$250,000     | 7. \$5 million to less than \$10 million  |
| 3. \$250,000 to less than \$500,000     | 8. \$10 million to less than \$25 million |
| 4. \$500,000 to less than \$1 million   | 9. \$25 million to less than \$50 million |
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**3. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST YEAR**

a. Approximate No. of Projects	b. Experience	c. Revenue Index Number (see below)
24	Office Buildings; Industrial Parks	4
8	Outdoor Recreation	1
119	Plumbing and Piping Design	4
1	Refrigeration Plants / Systems	1
1	Rehabilitations (Buildings; Structures; Facilities	1
1	Research Facilities	1
3	Security Systems; Intruder and Smoke Detection	1
1	Special Environments; Clean Rooms, Etc.	1
4	Swimming Pools	1
320	Specification Writing	1
3	Warehouse and Depots	1

**PROFESSIONAL SERVICES REVENUE INDEX NUMBER**

- |   |   |
|---|---|
| 1. Less than \$100,000                  | 6. \$2 million to less than \$5 million   |
| 2. \$100,000 to less than \$250,000     | 7. \$5 million to less than \$10 million  |
| 3. \$250,000 to less than \$500,000     | 8. \$10 million to less than \$25 million |
| 4. \$500,000 to less than \$1 million   | 9. \$25 million to less than \$50 million |
| 5. \$1 million to less than \$2 million | 10. \$50 million or greater               |



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**4. Resumes of Key Personnel Proposed for this Contract (Complete one Section 4 for each key person.)**

a. NAME Byron R. Torgersen, P.E.	b. ROLE IN THIS CONTRACT Principal-in-Charge – Mechanical	c. YEARS EXPERIENCE	
		1. TOTAL 27 Years	2. WITH CURRENT FIRM 25 years
d. LOCATION (City and State) Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) Bachelor of Science, Mechanical Engineering		g. PROFESSIONAL TRAINING – REGISTRATIONS Registered Professional Engineer, AZ, 2005, #42112	
g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.) ASHRAE, ACEC, International Institute of Sustainable Laboratories (I2SL), CASHE			

**H. RELEVANT PROJECTS**

1.	(1) TITLE AND LOCATION (City and State) Mesa LDS Temple Air Handling Units Replacement Mesa, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2015
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the engineering to replace three (3) existing Building Air Handlers with two (2) new units. The new AHU's had to be fabricated onsite in the basement mechanical rooms. Estimated Cost: \$300,000.00 Role: Byron Torgersen was Project Mechanical Engineer	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) State of Arizona Critical Document Building Phoenix, Arizona	(2) YEAR COMPLETED	
		Professional Services 2012	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided mechanical engineering services associated with the HVAC upgrades at the critical documents facility. The upgrades include replacing old rooftop HVAC equipment with new variable refrigerant (VRV) HVAC systems. The project was a remodel designed to allow continuous operation of the existing building functions. Phasing was important. Size: 16,425 square feet. Estimated Cost: \$350,000.00 Role: Byron Torgersen was Project Mechanical Engineer	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (City and State) Maricopa County Durango Jail Kitchen Ventilation Upgrades Phoenix, Arizona	(2) YEAR COMPLETED	
		Professional Services 2011	Construction (if applicable) 2012
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the mechanical engineering services associated with the ceiling and HVAC upgrades at the kitchen & dishwashing areas. The project included the addition of new rooftop equipment to ventilate the dishwashing areas and the new kitchen dishwashing equipment. Size: 11,310 sq. ft. Est.cost: \$300,000.00 Role: Byron Torgersen - Project Mechanical Engineer.	<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (City and State) CRMC Patient Tower Addition Chandler, Arizona	(2) YEAR COMPLETED	
		Professional Services 2011	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Scope of work included the mechanical and electrical design of a new 200,000 sq. ft. patient tower addition at an existing hospital. Project included dedicated air handlers, heating hot water converters, exhaust systems and an expansion to the existing central plant. Cost: \$14 million. Role: Byron Torgersen – Project Mechanical Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (City and State) LDS Gilbert Temple Gilbert, Arizona	(2) YEAR COMPLETED	
		Professional Services 2011	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the mechanical engineering services for this 85,000 sq. ft. LDS Temple including chillers, cooling tower, pumps and multiple air handlers. Role: Byron Torgersen – Project Mechanical Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm



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**Phoenix, Arizona 85007**

**4. Resumes of Key Personnel Proposed for this Contract** (Complete one Section 4 for each key person.)

a. NAME Gary Nelson, P.E.	b. ROLE IN THIS CONTRACT Project Engineer - Mechanical	c. YEARS EXPERIENCE	
		1. TOTAL 41 years	2. WITH CURRENT FIRM 2 years
d. LOCATION (City and State) Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) Bachelor of Science, Mechanical Engineering		f. PROFESSIONAL TRAINING - REGISTRATIONS Registered Professional Engineer, AZ, 1985, #18502, High Performance Building Design	
g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.) ASHRAE, ACEC			

**H. RELEVANT PROJECTS**

1.	(1) TITLE AND LOCATION (City and State) Havasu Regional Medical Center Pet & CT Scan Facility Lake Havasu, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Renovated an existing medical office building to support a new PET & CT facility. New HVAC systems were designed for the building. Cost: \$180,000.00 Role: Gary Nelson was Project Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) Tucson VA Medical Center Mental Health Expansion Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the mechanical design for the expanded mental health facility. Provided new air handlers, chiller, pumps, steam convertors for the project Cost = \$1.25 million. Role: Gary Nelson was Project Engineer for this project..	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (City and State) CRMC CT Scan Upgrades Chandler, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014 (design only)	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the HVAC upgrades to support the new CT equipment being installed at the existing building. Cost: \$65,000.00. Role: Gary Nelson was Project Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (City and State) Arizona State University Laboratory Project Tempe, Arizona	(2) YEAR COMPLETED	
		Professional Services 2015 (	Construction (if applicable) (currently in design)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the mechanical design for three (3) separate research laboratory remodels including, ventilating, fume hoods and special exhausts and specialized piping. Cost: \$1.5 million Role: Gary Nelson was Project Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (City and State) Pima County Wireless Emergency Operations Center Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2012	Construction (if applicable) 2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the mechanical, plumbing and fire protection design for the emergency operations center with data center and call center. Central water cooled chiller plant with backup air cooled chiller and back up air handling units. Role: Gary Nelson was Project Engineer for this project.	<input type="checkbox"/>	Check if project performed with current firm



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**4. Resumes of Key Personnel Proposed for this Contract** (Complete one Section 4 for each key person.)

a. NAME Ryan Goettl, P.E. (in progress)	b. ROLE IN THIS CONTRACT Project Engineer - Mechanical	c. YEARS EXPERIENCE	
		1. TOTAL 9 years	2. WITH CURRENT FIRM 9 years
d. LOCATION (City and State) Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) Bachelor of Science, Mechanical Engineering		f. PROFESSIONAL TRAINING - REGISTRATIONS HVAC Design, Revit CADD, Load Calculations, Passed the P.E. – paperwork in progress (12/2015)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.) ASHRAE			

**H. RELEVANT PROJECTS**

1.	(1) TITLE AND LOCATION (City and State) LDS Temple HVAC Upgrades – Phase I Mesa, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Replacement of existing basement HVAC unit and upgrades to existing ductwork systems. Cost: \$800,000.00 Role: Ryan Goettl was Mechanical Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) LDS Central Chapel HVAC Upgrades Mesa, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Scope of work included replacement of the existing building's air handlers with new units. Cost: \$125,000.00 Role: Ryan Goettl was Mechanical Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (City and State) Arizona Nutritional Supplements Bulk Facility Chandler, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Scope of work consisted of the complete mechanical design for a new 85,000 square foot manufacturing facility. Project also included a central plant. Cost: \$2.5 million Role: Ryan Goettl was Mechanical Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (City and State) CRMC Patient Tower Addition Chandler, AZ	(2) YEAR COMPLETED 2014	
		Professional Services 2011	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Scope of work included the mechanical design of a new 200,000 sq. ft. patient tower addition at an existing hospital. Project included the expansion to the existing central plant. Cost: \$14 million. Role: Ryan Goettl was Mechanical Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (City and State) San Tan Charter Academy Multi-Purpose and Classroom Buildings Gilbert, AZ	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Scope of work included the mechanical design of a new 36,000 sq. ft. charter school and 14,500 sq. ft. Gymnasium. Role: Ryan Goettl was Mechanical Engineer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm



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**4. Resumes of Key Personnel Proposed for this Contract** (Complete one Section 4 for each key person.)

<b>a. NAME</b> Michael Olson	<b>b. ROLE IN THIS CONTRACT</b> Plumbing Designer	<b>c. YEARS EXPERIENCE</b>	
		1. TOTAL 21 years	2. WITH CURRENT FIRM 9 years
<b>d. LOCATION (City and State)</b> Tempe, Arizona			
<b>e. EDUCATION (DEGREE AND SPECIALIZATION)</b> MBA, Bachelor of Science, Aeronautical Science		<b>f. PROFESSIONAL TRAINING - REGISTRATIONS</b> CPD Certification Plumbing, HVAC Design, Commissioning	
<b>g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.)</b> ASHRAE, AZAA			

**H. RELEVANT PROJECTS**

1.	(1) TITLE AND LOCATION (City and State) Arizona Nutritional Supplements Bulk Facility Chandler, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Scope of work consisted of the complete mechanical design for a new 85,000 square foot manufacturing facility. Project also included a central plant. Cost: \$2.5 million Role: Michael Olson was the Plumbing Designer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) CRMC Patient Tower Addition Chandler, Arizona	(2) YEAR COMPLETED	
		Professional Services 2011	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the complete plumbing design for a new 200,000 square foot patient tower addition at an existing hospital. New water softeners and hot water heaters were provided. Cost: \$14 million Role: Michael Olson was the Plumbing Designer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (City and State) Arizona Nutritional Supplements Powder Facility Chandler, Arizona	(2) YEAR COMPLETED	
		Professional Services 2012	Construction (if applicable) 2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the complete plumbing design for a new vitamin supplement facility. Cost: \$2 million Role: Michael Olson was the Plumbing Designer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (City and State) Durango Jail Chilled Water Revisions Phoenix, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided mechanical upgrades to the existing campus chilled water system and plant. Provided new chilled water pumps and waterside economizer. Cost: \$1.1 million Role: Michael Olson was the Project Designer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (City and State) Tucson VA Medical Center Mental Health Expansion Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2013	Construction (if applicable) 2013 - 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the plumbing design for the expanded mental health facility. Provided new plumbing equipment and fixtures for the project Cost - \$1.25 million. Role: Michael Olson was the Plumbing Designer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm



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**4. Resumes of Key Personnel Proposed for this Contract** (Complete one Section 4 for each key person.)

<b>a. NAME</b> Barry Hulet, P.E.	<b>b. ROLE IN THIS CONTRACT</b> Principal-in-Charge - Electrical	<b>c. YEARS EXPERIENCE</b>	
		1. TOTAL 41 years	2. WITH CURRENT FIRM 7 years
<b>d. LOCATION (City and State)</b> Tempe, Arizona			
<b>e. EDUCATION (DEGREE AND SPECIALIZATION)</b> Masters of Engineering, Electrical		<b>f. PROFESSIONAL TRAINING - REGISTRATIONS</b> Registered Professional Engineer, AZ, 2002, #38476; Generator Applications, Lighting, Power, Energy Code	
<b>g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.)</b> Member, National Council of Examiners for Engineering & Surveying (NCEES)			

**H. RELEVANT PROJECTS**

1.	(1) TITLE AND LOCATION (City and State) Target Financial Cooling Tower Tempe, Arizona	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided electrical engineering services for the upgrade and replacement of (2) existing cooling towers located at their office building. This was provided for (2) separate phases and two separate building systems. The building had to remain in operation during construction. Temporary and permanent power had to be installed to meet the HVAC demand. Estimated Cost: \$950,000.00 (\$475,000.00 each) Role: Barry Hulet was Project Electrical Engineer for this project.	Professional Services 2012	Construction (if applicable) 2012
		<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) State of Arizona Critical Document Building Phoenix, Arizona	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided electrical engineering services for the HVAC upgrades at the facility. The upgrades included replacing old rooftop HVAC equipment with new variable refrigerant (VRV) HVAC systems. The project was a remodel designed to allow continuous operation of the existing building functions. Phasing was important. Size: 16,425 sq. ft.. Estimated Cost: \$350,000.00 Role: Barry Hulet was Project Electrical Engineer.	Professional Services 2014	Construction (if applicable) 2014
		<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (City and State) Maricopa County Durango Jail Kitchen Ventilation Upgrades Phoenix, Arizona	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided the electrical engineering services associated with the ceiling and HVAC upgrades at the kitchen & dishwashing areas at the jail. The project included the addition of new rooftop equipment to ventilate the dishwashing areas and to ventilate the new kitchen dishwashing equipment. Size: 11,310 square feet. Estimated cost: \$300,000.00 Role: Barry Hulet was Project Electrical Engineer.	Professional Services 2012	Construction (if applicable) 2012
		<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (City and State) Maricopa County Star Call Center Phoenix, Arizona	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE A new HVAC system was designed for this 16,000 sf call center. The electrical system was redesigned to power the new equipment. The center had to remain operational during the remodel, so the work was designed to be installed in phases. Role: Barry Hulet was Project Electrical Engineer	Professional Services 2012	Construction (if applicable) 2012
		<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (City and State) Maricopa County Durango Jail Boiler Replacement Phoenix, Arizona	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE The domestic hot water boilers and pump system were out-of-date and had maintenance issues. The County hired VBFA to redesign the system with new equipment. Role: Barry Hulet was the Project Electrical Engineer on the project responsible for designing the necessary electrical changes for the project.	Professional Services 2010	Construction (if applicable) 2010
		<input checked="" type="checkbox"/>	Check if project performed with current firm



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**4. Resumes of Key Personnel Proposed for this Contract** (Complete one Section 4 for each key person.)

<b>a. NAME</b> James Johnson, E.I.T.	<b>b. ROLE IN THIS CONTRACT</b> Electrical Designer	<b>c. YEARS EXPERIENCE</b>	
		1. TOTAL 17 years	2. WITH CURRENT FIRM 5 years 12 months
<b>d. LOCATION (City and State)</b> Tempe, Arizona			
<b>e. EDUCATION (DEGREE AND SPECIALIZATION)</b> Associates Degree in Applied Science		<b>f. PROFESSIONAL TRAINING - REGISTRATIONS</b> Registered EIT in AZ, Electrical Engineering class from ASU, MCC	
<b>g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.)</b> Registered Electrical Engineer-in-Training in State of Arizona			

**H. RELEVANT PROJECTS**

1.	(1) TITLE AND LOCATION (City and State) 1818 Vital Records HVAC Phoenix, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided electrical power to new HVAC System and demolition of old HVAC System. Estimated cost \$950,000.00; 16,425 square feet. Role: James Johnson was Electrical Designer for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) Maricopa County OET Downtown Study Phoenix, Arizona	(2) YEAR COMPLETED	
		Professional Services 2013	Construction (if applicable) 2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Performed site investigation of I.T. rooms to evaluate existing conditions and recommend upgrades. 17 buildings. Cost = \$65,000.00 (study only). Role: James Johnson was Electrical Project Manager for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (City and State) Maricopa County Durango Jail Kitchen Ventilation Upgrades Phoenix, Arizona	(2) YEAR COMPLETED	
		Professional Services 2011	Construction (if applicable) 2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Revised drawings to provide power for new HVAC and humidity controls. 11,310 square feet. Cost= \$300,000.00 (estimated). Role: James Johnson was Electrical Project Manager for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (City and State) Target Financial Cooling Tower Tempe, Arizona	(2) YEAR COMPLETED	
		Professional Services 2012	Construction (if applicable) 2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Provided electrical engineering services for the upgrade and replacement of (2) existing cooling towers located at their Office Building. Services were for (2) separate phases and (2) separate building systems. The building had to remain operational during the construction. Temporary/ permanent power was installed to meet the HVAC demand. Estimated Cost: \$950,000.00 Role: James Johnson was Electrical Project Manager for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (City and State) CRMC Patient Tower Addition Chandler, Arizona	(2) YEAR COMPLETED	
		Professional Services 2011	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Scope of work included the electrical design of a new 200,000 sq. ft. patient tower addition at an existing hospital. Project included the expansion to the existing central plant. Cost: \$14 million. Role: James Johnson was the Electrical Project Manager for this project.	<input checked="" type="checkbox"/>	Check if project performed with current firm



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**4. Resumes of Key Personnel Proposed for this Contract** (Complete one Section 4 for each key person.)

<b>a. NAME</b> Eli Valdez, E.I.T.	<b>b. ROLE IN THIS CONTRACT</b> Electrical Designer	<b>c. YEARS EXPERIENCE</b>	
		1. TOTAL 17 years	2. WITH CURRENT FIRM 3 years
<b>d. LOCATION (City and State)</b> Tempe, Arizona			
<b>e. EDUCATION (DEGREE AND SPECIALIZATION)</b> BSEE, Electronic Engineering		<b>f. PROFESSIONAL TRAINING - REGISTRATIONS</b> Registered EIT in AZ, Generator Systems, Lighting, Grounding	
<b>g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.)</b> N/A			

**H. RELEVANT PROJECTS**

1.	(1) TITLE AND LOCATION (City and State) SE Juvenile Detention Central Plant Heating System Upgrade Mesa, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Electrical design in support of the replacement of two hot water boilers and the expansion of the existing building BMS System. Estimated cost \$55,000.00 Role: Eli Valdez was the Electrical Designer.	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) Durango Jail Chilled Water Revisions Phoenix, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Scope of work included electrical design support in four separate facility buildings. Replacement of chilled water pumps. Estimated cost \$1.1 million. Role: Eli Valdez was the Electrical Designer.	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (City and State) ASU Physical Science Process Chilled Water Tempe, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Electrical design in support of a new process chilled water system replacing the existing system in the physical science building. Estimated cost \$200,000.00 Role: Eli Valdez was the Electrical Designer	<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (City and State) Wells Fargo Consumer Credit Group Phoenix, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Electrical design in support of new rooftop air-to-air energy recovery ventilators and adjustments to existing fans. Estimated cost: \$410,000.00 Role: Eli Valdez was the Electrical Designer.	<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (City and State) Banner Health Boswell Sun City, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable) 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Electrical design in support of new medical building to include linear accelerator and computerized tomography scanner. Estimated cost: \$600,000.00 Role: Eli Valdez was the Electrical Designer.	<input checked="" type="checkbox"/>	Check if project performed with current firm



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5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

a. TITLE AND LOCATION (City and State)  Target Financial Cooling Tower Replacement	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2012	CONSTRUCTION (If applicable) 2012

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Target Financial	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT \$950,000.00	e. TOTAL COST OF PROJECT Estimated Cost: \$950,000.00
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

Van Boerum & Frank Associates provided the mechanical and electrical engineering services associated with the upgrade and replacement of (2) existing cooling towers located at the Target Financial Office Building. This engineering service was provided for (2) separate phases and two separate building systems. The cooled water is used to provide condensing water for the water cooled heat pumps.

Challenges:

The buildings had to remain in operation during the construction phase of the project. To accomplish this, temporary and permanent power had to be installed to meet the HVAC demand. In addition, a trailer mounted cooling tower had to be temporarily installed to cover the time each old tower was being demolished and the new tower was being installed.

The client's expectation of a more efficient, dependable cooling tower was met. The cooling system stayed in operation with the temporary equipment and power systems. The buildings remained in service during the change of the towers.



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**5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

*(Present no more than five (5) projects. Complete one Section 5 for each project.)*

b. TITLE AND LOCATION <i>(City and State)</i>  State of Arizona Critical Documents Facility HVAC Replacement Phoenix, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2014	CONSTRUCTION <i>(If applicable)</i> 2014

**23. PROJECT OWNER'S INFORMATION**

c. PROJECT OWNER State of Arizona	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT \$300,000.000	e. TOTAL COST OF PROJECT Estimated Cost: \$350,000.00
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**g. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)**

Van Boerum & Frank Associates provided the mechanical and electrical engineering services associated with the HVAC upgrades at the critical documents facility. The upgrades included replacing old rooftop HVAC equipment with new variable refrigerant (VRV) HVAC systems. The project was a remodel effort designed to allow the continuous operation of the existing building functions. The electrical system had to be evaluated and power obtained to provide for the new HVAC equipment.

The new equipment worked effectively and efficiently, and the change out caused very little inconvenience to the building employees. Thus, the client's objectives were met.

Size: 16,425 square feet



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**5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

*(Present no more than five (5) projects. Complete one Section 5 for each project.)*

c. TITLE AND LOCATION <i>(City and State)</i>	b. YEAR COMPLETED	
Maricopa County Durango Jail Kitchen Ventilation Upgrades Phoenix, Arizona	PROFESSIONAL SERVICES 2011	CONSTRUCTION <i>(If applicable)</i> 2011

**23. PROJECT OWNER'S INFORMATION**

c. PROJECT OWNER	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
Maricopa County	\$300,000.00	Estimated Cost: \$300,000.00

**h. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)**

Van Boerum & Frank Associates provided the mechanical and electrical engineering services associated with the HVAC and electrical upgrades at the kitchen & dishwashing areas at the Durango Jail. The project included the addition of new rooftop equipment to ventilate the dishwashing areas and to ventilate the new kitchen dishwashing equipment as well. New switching equipment and electrical feeder modifications were required to upgrade the overall electrical system. A speedy changeover was required to keep the kitchen downtime to a minimum.

**Challenges:**

Some challenges were encountered during the removal of some of the old ceiling. Despite the unforeseen setback, the project was completed on time and the client had a substantial reduction in the kitchen water vapor which as a great success.

Size: 11,310 square feet



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5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

d. TITLE AND LOCATION <i>(City and State)</i>	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If applicable)</i>
Maricopa County Star Call Center Phoenix, Arizona	2012	2013

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
Maricopa County	\$750,000.00	\$780,000.00

i. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

The existing HVAC system at the 16,000 square foot call center consisted of 10 direct expansion (DX) heat pumps. The system was unsuitable for the space with various units heating and cooling the space at the same time resulting in the units "fighting" with each other. Despite the client's efforts the space was often uncomfortable for some employees.

The system was replaced in four phases with a new air cooled chiller and multiple fan coil units with electrical heating elements.

Challenges:

As mentioned above, the challenging part of the design and construction was to phase the design and construction work so that the call center could stay in operation during the remodel and be completed in four months. This required close cooperation between the mechanical and electrical designs. A new air-cooled chiller was installed together with fan coil units at appropriate points throughout the call center.



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Phoenix, Arizona 85007**

**5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

*(Present no more than five (5) projects. Complete one Section 5 for each project.)*

e. TITLE AND LOCATION <i>(City and State)</i>	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If applicable)</i>
Mesa LDS Temple HVAC Upgrades – Phase I Mesa, Arizona	2014	2014

**23. PROJECT OWNER'S INFORMATION**

c. PROJECT OWNER	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
Church of Jesus Christ of Latter-Day Saints	Estimated Cost (First 3 air handler Replacements): \$800,000.00	\$800,000.00

**j. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT** *(include scope, size, and length of project)*

The seven major air handlers in the basement of the building were over 40 years old. They were not functioning well and were inefficient compared to the newer equipment. In addition, spare parts were unavailable. The owner requested that the project be designed such that the removal and replacement of the units be phased so that no construction phase would exceed approximately three weeks.

The first three units were removed and replaced in three weeks which included the disassembly of the three old units and assembly of a new larger unit in the basement. Duct work and electrical work was accomplished in the same time frame. The owner is pleased with the new air handler and its operation.

The remaining four units will be replaced in future phases.

If the state has similar HVAC and electrical issues, we have the relevant experience.



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6. ADDITIONAL INFORMATION

a. PROVIDE ANY ADDITIONAL INFORMATION YOU FEEL MAY BE NECESSARY TO DESCRIBE YOUR FIRMS QUALIFICATIONS. (ATTACH ADDITIONAL SHEETS AS NEEDED.)

VBFA was founded in 1972 and has grown to be a respected mechanical and plumbing, electrical and fire protection engineering firm. With 113 employees spread between three Utah offices and an Arizona office, VBFA has set itself apart with innovative, award-winning designs. VBFA prides itself in employing graduate and licensed engineers with programs that encourage creativity and total quality management on all projects. Our highly trained staff ensures that professional service is applied to each and every VBFA project.

**VBFA Arizona Branch Office**

VBFA Tempe, Arizona opened in 2003. Under Byron Torgersen’s direction, VBFA has provided engineering services for a multitude of successful projects and types throughout Arizona. Our talented mechanical and electrical engineers are committed to providing satisfaction for the State of Arizona and they have the full support of our Utah engineers and staff (of 105) to achieve project goals and timelines.

**Mechanical Engineering**

VBFA is pleased to be the recipient of the Best of State winner in Utah for Mechanical Engineering from 2009 to 2013. The firm’s mechanical expertise includes energy conservation studies, audits and retrofitting projects and the design and supervision of the installation of commercial and industrial mechanical systems, including boiler plants, building heating, ventilating, air conditioning plumbing, and fire protection systems, cogeneration systems, utility distribution systems and ice facilities.

**Electrical Engineering**

VBFA’s electrical expertise includes the design of an array of electrical systems including electrical power systems, emergency power, interior and exterior lighting, structured cabling, audio/video, security and fire alarm systems and renewable energy projects.

**Fire Protection / Building Code Analysis**

VBFA’s fire protection expertise includes fire protection building code analysis, forensic investigation, expert witness, engineered water supply analysis, building fire flow/hydrant analysis, fire hydrant flow tests, fire sprinkler performance specifications, full piping/hydraulic calculation, wet sprinklers (dry sprinklers, pre-action systems, deluge systems), clean agent suppression systems and fire alarm systems.

**Commissioning**

VBFA’s team of engineers has provided independent third party commissioning and commissioning services for projects that we have provided the MEP design. In these cases an engineer, who was not involved in the design, is utilized to give “third party” objectivity. Commissioning provides the owner with verification that the energy systems (Lighting Controls, Renewable Energy Systems, Pumps, Heat Pumps, Fluid Coolers, Fans, Air Handlers, and other related equipment) installed in their building function properly and deliver the expected level of performance and energy savings

**LEED / Sustainable Design Expertise**

Energy conservation (“green building design”) has been and continues to be a driving force for VBFA’s engineers. These dedicated LEED Accredited Professionals have been involved in the design of high-performance, sustainable buildings – including many buildings that have achieved up to LEED Double Platinum and others that are under construction and seeking LEED Silver or higher certification. VBFA’s engineers are experienced at providing MEP consulting services for state and local agencies. They are familiar with the unique design requirements for these types of facilities.

**On-Call Contracts**

VBFA has been involved with on-call term contracts for clients including Arizona State University’s College of Engineering, Maricopa County, City of Mesa, Maricopa Community Colleges, Salt Lake City Corporation Department of Airports and Weber State University (Utah). For these clients and other repeat clients, VBFA has been providing consulting engineering services for many years.

**Project Management / Capacity**

VBFA utilizes the project management system software, Ajera. This system allows us to load each individual on the team separately so that their workload does not exceed their available hours. As each project is put in to the system, the number of each team member’s



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hours is also put in to the system along with the design and construction time frames, thereby, allowing each member's schedule to be kept up-to-date. If a team member's assigned hours approach their capacity the next project is assigned to another team member. With eight (8) specific team members assigned to this work the work flow is managed appropriately to meet project deadlines.

Experienced team members are assigned to each project based on the estimated hours for the project and the time frame required. More team members are assigned depending on the project size and complexity in order to achieve the intermediate goals of the project. If an intermediate goal is approaching and the percent complete is lagging, additional help of the required type is injected to stay on schedule.

Accuracy and quality are ensured by regular oversight by the engineer, daily for many projects, and by following the guidelines and checklists provided for each VBFA project. Training and education is also a key element and it is ongoing, both at the firm's weekly training sessions and also in special training sessions.



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7. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

a. Percentage of Total Work Attributable to State, Federal and Municipal Government Work:	50%
b. Percentage of Total Work Attributable to Non-Government Work:	50%

8. AUTHORIZED REPRESENTATIVE. The foregoing is a statement of facts.

Signature: *Byron Torgersen*

Date: December 17, 2015

Name: Byron Torgersen, P.E.

Title: Director of Arizona Operations