



Offer and Acceptance

State of Arizona
State Procurement Office
100 N. 15th Ave. Suite 201
Phoenix, AZ 85007

SOLICITATION NO.: ADSPO16-00005912 Request
for Qualifications: 2016 Annual Professional
Services List

PAGE
1

Offeror: Tata & Howard 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.

Tata & Howard, Inc.

Company Name

528 West Aspen Avenue

Address

Flagstaff

Arizona

86001

City

State

Zip

dtata@tataandhoward.com

Contact Email Address

Signature of Person Authorized to Sign Offer

Donald. J. Tata

Printed Name

President

Title

Phone: 508-219-4007

Fax: 508-449-9400

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 / 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. ADSPO16-00005912

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

20th day of February

20 16

Procurement Officer



ATTACHMENT I – General Qualifications

ANNUAL REQUEST FOR QUALIFICATIONS AND EXPERIENCE NO:
ADSP016-00005912

STATE PROCUREMENT OFFICE
Department of Administration
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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 | Project Manager |
| Biologist | Specialist | Sanitary Engineer |
| CADD Technician | Geological Engineer | Soils Engineer |
| Chemical Engineer | Geologist | Structural Engineer |
| Civil Engineer | Hydrographic Surveyor | Technician/Analyst |
| Construction Manager | Hydraulic Engineer | Transportation Engineer |
| Construction Inspector | Hydrologist | Water Resources Engineer |
| Control Systems Engineer | Industrial Engineer | |
| Cost Engineer/Estimator | Landscape Architect | |
| Ecologist | Mechanical Engineer | |
| Electrical Engineer | Metallurgical 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; Nav aids; 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 3rd 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:	Tata & Howard, Inc.
b.	FIRM (OR BRANCH OFFICE) STREET:	528 West Aspen Avenue
c.	FIRM (OR BRANCH OFFICE) CITY:	Flagstaff
d.	FIRM (OR BRANCH OFFICE) STATE:	Arizona
e.	FIRM (OR BRANCH OFFICE) ZIP CODE:	86001
f.	YEAR ESTABLISHED:	1992 (Firm) 2011(Branch)
(g1).	OWNERSHIP - TYPE:	S Corporation
(g2).	OWNERSHIP - SMALL BUSINESS STATUS:	Small business
h.	POINT OF CONTACT NAME AND TITLE:	Donald J. Tata, P.E., President
i.	POINT OF CONTACT TELEPHONE NUMBER:	508-219-4007
j.	POINT OF CONTACT E-MAIL ADDRESS:	dtata@tataandhoward.com
k.	NAME OF FIRM (If block 1a is a branch office):	Tata & Howard, Inc.



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

<p>a. NAME Donald J. Tata</p>	<p>b. ROLE IN THIS CONTRACT President</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">c. YEARS EXPERIENCE</th> </tr> <tr> <td style="width:50%; text-align: center;">1. TOTAL 40</td> <td style="width:50%; text-align: center;">2. WITH CURRENT FIRM 23</td> </tr> </table>	c. YEARS EXPERIENCE		1. TOTAL 40	2. WITH CURRENT FIRM 23
c. YEARS EXPERIENCE						
1. TOTAL 40	2. WITH CURRENT FIRM 23					
<p>d. LOCATION <i>(City and State)</i> Tata & Howard, Inc. Marlborough, MA and 528 W. Aspen Avenue, Flagstaff, AZ 86001</p>						
<p>e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> MS, Northeast University, Environmental, Eng. 1981 BS, Worcester Polytechnic Institute, Civil Engineering, 1975</p>	<p>g. PROFESSIONAL TRAINING – REGISTRATIONS Arizona – Civil Engineer Massachusetts – Sanitary Engineer New Hampshire – Civil Engineer Rhode Island – Professional Engineer New York – Professional Engineer Connecticut – Professional Engineer</p>					
<p>g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i> Arizona Water Association American Water Works Association Massachusetts Water Works Association National Council of Engineering Examiners (Civil) New England Water Works Association Completed over 100 hydraulic models and over 20 water treatment designs, practice leader in Capital Efficiency Plans™, specialized expert in water system designs, technical papers on distribution, treatment and Public Private Partnership (PPP).</p>						

H. RELEVANT PROJECTS

1.	<p>(1) TITLE AND LOCATION <i>(City and State)</i> Water and Wastewater Hydraulic Modeling Wastewater Reclamation Facility Plan Wastewater Reclamation Facility Improvements City of Goodyear, Arizona</p>	<p>(2) YEAR COMPLETED 2008 to 2014</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Professional Services Professional Services Design, Facilities Planning, Modeling</td> <td style="width:50%;">Construction (if applicable) Construction Administration</td> </tr> </table>	Professional Services Professional Services Design, Facilities Planning, Modeling	Construction (if applicable) Construction Administration
Professional Services Professional Services Design, Facilities Planning, Modeling	Construction (if applicable) Construction Administration			
	<p>(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal. Multiple projects completed. Projects included the development and verification of water and wastewater hydraulic models, the completion of a Wastewater Reclamation Facility Plan and the design, bidding, construction administration and resident observation services for improvements to the Corgett WRF including: filter system, low lift pump station, modifications to the sand filter, and effluent diversion valve and turbidmeter control. Total Engineering Costs \$545K</p>			
2.	<p>(1) TITLE AND LOCATION <i>(City and State)</i> Energy Audits Blower Evaluation and Design Bar Screen Evaluation and Design Lake Mary Dam Reports Lake Mary WTP Sludge Basin Aquifer Protection Permit Rio De Flag Management, Operation and Maintenance Evaluation City of Flagstaff, Arizona</p>	<p>(2) YEAR COMPLETED On-Going</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Professional Services On-Call, Water, Wastewater and Energy Services</td> <td style="width:50%;">Construction (if applicable) Construction Administration</td> </tr> </table>	Professional Services On-Call, Water, Wastewater and Energy Services	Construction (if applicable) Construction Administration
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	<p>(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal. Multiple projects completed. Completed Energy Audits for the City's water and wastewater pumping stations and treatment facilities. Conducted evaluation to determine the aeration process basis of design, new turbo blower design criteria, design layout, ancillary system requirements, pre and proposed energy consumption, and ROI on implementation of turbo blower technology at Wildcat Hill and Rio de Flag Water Reclamation Facilities. Provided engineering services to prepare bid documents for the replacement of bar screens at Wildcat Hill WWTP and construction administration services. Completed annual evaluation of the City's Lake Mary Dam and prepared the required report for submittal to the state. Assisted the City in the preparation of a Determination of Applicability for the sludge lagoons at the City's water treatment plant and conducted a management operation and maintenance evaluation for the Rio De Flag WRF. Total Engineering Costs \$161K</p>			



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3.	<p>(1) TITLE AND LOCATION (<i>City and State</i>) Long Pond Water Treatment Plant Design Town of Falmouth, Massachusetts</p> <p>(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Principal. Design, permitting, and construction services for a new 8.0 million gallon per day dissolved air flotation (DAF) water treatment plant including, dual media filtration, granular activated carbon, ozonation and chemical feed for corrosion control and disinfection for the Town's Long Pond water supply source. \$5.15M Design</p>	<p>(2) YEAR COMPLETED On-Going</p> <table border="1"> <tr> <td data-bbox="883 443 1230 520">Professional Services Design, Permitting</td> <td data-bbox="1230 443 1474 520">Construction (if applicable)</td> </tr> </table> <p><input checked="" type="checkbox"/> Check if project performed with current firm</p>		Professional Services Design, Permitting	Construction (if applicable)
Professional Services Design, Permitting	Construction (if applicable)				
4.	<p>(1) TITLE AND LOCATION (<i>City and State</i>) Hydraulic Modeling 50 Year Water Use Projection Capital Efficiency Plans™ Annual Cleaning and Lining Program Pump Station and Treatment Facility Design Services Business Practice Evaluation South Central Connecticut Regional Water Authority</p> <p>(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Principal. Since 2005, we have been providing the SCCRWA professional engineering services for their water systems. SCCRWA is a private water company with over 300,000 customers located in several communities in Connecticut. We have completed a variety of studies including water distribution system studies, Capital Efficiency Plans™, a 50 year water use projection study, and evaluations of combining several distribution systems on different hydraulic gradelines. We have provided construction administration and resident observation services for the SCCRWA annual water main cleaning and lining program, and design services for pump stations and treatment facilities. Completed a business practice evaluation of the SCCRWA Water Division Field Practices and provided recommendations for areas of improvement. \$2.1M</p>	<p>(2) YEAR COMPLETED 2005 – On-Going</p> <table border="1"> <tr> <td data-bbox="883 709 1230 919">Professional Services General - Water Engineering</td> <td data-bbox="1230 709 1474 919">Construction (if applicable)</td> </tr> </table> <p><input checked="" type="checkbox"/> Check if project performed with current firm</p>		Professional Services General - Water Engineering	Construction (if applicable)
Professional Services General - Water Engineering	Construction (if applicable)				
5.	<p>(1) TITLE AND LOCATION (<i>City and State</i>) Arsenic Treatment Report – ADEQ, Phoenix, Arizona</p> <p>(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Principal. Evaluated the water quality of five wells relative to arsenic concentrations for a small resort for the ADEQ. Study included the evaluation of arsenic concentrations and proposed treatment methods for implementation by the owner of the resort. \$9,700.</p>	<p>(2) YEAR COMPLETED - 2015</p> <table border="1"> <tr> <td data-bbox="883 1205 1230 1283">Professional Services General – Water Engineering</td> <td data-bbox="1230 1205 1474 1283">Construction (if applicable)</td> </tr> </table> <p><input checked="" type="checkbox"/> Check if project performed with current firm</p>		Professional Services General – Water Engineering	Construction (if applicable)
Professional Services General – Water Engineering	Construction (if applicable)				



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Phoenix, Arizona 85007**

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

<p>a. NAME James Courchaine, Vice President</p>	<p>b. ROLE IN THIS CONTRACT Subject Matter Expert (Water, Wastewater)</p>	<p>c. YEARS EXPERIENCE</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">1. TOTAL 42</td> <td style="width:50%;">2. WITH CURRENT FIRM 2 years</td> </tr> </table>		1. TOTAL 42	2. WITH CURRENT FIRM 2 years
1. TOTAL 42	2. WITH CURRENT FIRM 2 years				
<p>d. LOCATION <i>(City and State)</i> Tata & Howard, Inc. 528 W. Aspen Avenue, Flagstaff, AZ. 86001</p>					
<p>e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> University of Massachusetts at Lowell – Water and Wastewater Management</p> <p>Specialization – Subject Matter Expert (Water and Wastewater) from over 42 years of experience in both the public, as Operator and Director, and the private sector.</p>		<p>f. PROFESSIONAL TRAINING - REGISTRATIONS Arizona Grade 4 Operators License Wastewater Treatment Plant Operation, Grade 4 (MA) Water Treatment and Distribution System Operator, Grade 4c (MA) Wastewater Collection System Operator, Grade 4 – New England Water Pollution Control Association RAM-W Risk Assessment Methodology for Water</p>			
<p>g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i> Authored – Wastewater Collection System Operator Certification Study Book, WEF Honoree and First Recipient of the NEWEA James J. Courchaine Collection System Award Former Lead Instructor, Industrial Technology Program at the University of Massachusetts at Lowell San Francisco Bay Area: Collection Systems California Water Environment Association: Collection Systems Arizona Water and Pollution Control Association (AWPCA): Collection Systems AWWA CA-NV Section Water Conservation Alliance of Southern AZ NEWEA NEWWA Water Environment Federation</p>					

H. RELEVANT PROJECTS

1.	<p>(1) TITLE AND LOCATION <i>(City and State)</i> Rio De Flag WRF MOM City of Flagstaff, Arizona</p>	<p>(2) YEAR COMPLETED - 2014</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Professional Services General Services</td> <td style="width:50%;">Construction (if applicable)</td> </tr> </table>		Professional Services General Services	Construction (if applicable)
	Professional Services General Services	Construction (if applicable)			
<p>(3) BRIEF DESCRIPTION <i>(Briefscope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager. Conducted an assessment of the management, operations, and maintenance of the City’s Rio De Flag Wastewater Reclamation Plant. The purpose of the assessment was to determine the cause of an event that resulted in the increase in turbidity and microorganism depletion at the plant. The assessment included the collection and review of job descriptions, operational data, and reports associated with the management, operations and maintenance of the plant. State and federal guidelines were reviewed for operational consistency and standard testing procedures and frequency. Interviews were conducted with plant staff and field observations of the hands-on operation of the plant were completed. \$13K</p>		<p><input checked="" type="checkbox"/> Check if project performed with current firm</p>			
2.	<p>(1) TITLE AND LOCATION <i>(City and State)</i> Organizational Alignment Plan BPE Phase II Water and Wastewater Treatment Snow and Ice Removal City of Westfield, Massachusetts</p>	<p>(2) YEAR COMPLETED – On-Going</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Professional Services General Water and Wastewater Services</td> <td style="width:50%;">Construction (if applicable)</td> </tr> </table>		Professional Services General Water and Wastewater Services	Construction (if applicable)
	Professional Services General Water and Wastewater Services	Construction (if applicable)			
<p>(3) BRIEF DESCRIPTION <i>(Briefscope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager. Conducted an Organizational Alignment Plan for the City’s Department of Public Works. The project included on-site workshops with appropriate personnel to evaluate the City’s organizational structure against desired business goals and industry best practices. The goal of the project is to align people, business processes and technology. Completed a business practice evaluation of the City’s water and wastewater treatment staff that included workshops, interviews with key field personnel, observation of field operational practices and provides recommendations for areas of improving</p>		<p><input checked="" type="checkbox"/> Check if project performed with current firm</p>			



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organizational efficiency and effectiveness. Also completed a snow and ice removal program assessment that included workshops, field testing of current and potential future snow and ice routes and provided recommendations for areas of improvement. **\$146K**

	<p>(1) TITLE AND LOCATION <i>(City and State)</i></p> <p>Management Consulting and Leadership Skill Building</p> <p>Lloyd, Gosselink, Attorneys and Counselors</p>	<p>(2) YEAR COMPLETED – On-Going</p>	
		<p>Professional Services</p> <p>General Wastewater Management</p>	<p>Construction (if applicable)</p>
<p>3.</p>	<p>(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE</p> <p>Provided management consulting and leadership skill building for the North Texas Municipal Water District. Project includes meeting with each of the nine wastewater treatment plant Superintendents and Chief Operators and wastewater collection system management one-on-one as well as meeting with supervisors and managers. Two briefing workshops were conducted to discuss the findings, overall observations and potential opportunities for improvement that benefits the treatment facilities. In addition, a management, operation and maintenance (MOM) workshop was completed that discussed work practices that were compared to industry standards. \$64.7K</p>	<p><input checked="" type="checkbox"/> Check if project performed with current firm</p>	
<p>4.</p>	<p>(1) TITLE AND LOCATION <i>(City and State)</i></p> <p>CMOM & Capital Improvement Plan</p> <p>Town of Auburn, Massachusetts</p> <p>(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE</p> <p>Project Manager. Developing a Collections, Management, Operations, and Maintenance Program (CMOM) and Capital Improvement Plan (CIP). Work for this project includes reviewing and updating the existing GIS database, compiling information from sewer system record plans into a database, collecting field data, evaluating the condition and capacities for force mains and gravity interceptors, providing summarized goals and objectives for the Town's CMOM/CIP, providing recommendations to update the Town's infiltration and inflow plan and system improvements, developing projected costs for improvement projects, and developing a recommended plan with short and long term implementation schedules. - \$39.5K</p>	<p>(2) YEAR COMPLETED – On-Going</p> <p>Professional Services General – Wastewater</p> <p>Construction (if applicable)</p> <p><input checked="" type="checkbox"/> Check if project performed with current firm</p>	
<p>5.</p>	<p>(1) TITLE AND LOCATION <i>(City and State)</i></p> <p>RWQ BPE Field Operation Services Assessment</p> <p>South Central Connecticut Regional Water Authority</p> <p>(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE</p> <p>Project Manager. Conducted field investigation of the SCCRWA Water Department's operational practices. The study assessed current work practices and efficiencies for the field operations group of the SCCRWA consisting of approximately 60 people and provided recommendations for improving organizational efficiency and effectiveness. \$49.5K</p>	<p>(2) YEAR COMPLETED –</p> <p>General Water Engineering Services</p> <p>Construction (if applicable)</p> <p><input checked="" type="checkbox"/> Check if project performed with current firm</p>	



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

a. NAME Jack E. O’Connell, P.E. Senior Vice President	b. ROLE IN THIS CONTRACT Principal	c. YEARS EXPERIENCE	
		1. TOTAL 40	2. WITH CURRENT FIRM 19
d. LOCATION (City and State) Tata & Howard, Inc. Marlborough, MA			
e. EDUCATION (DEGREE AND SPECIALIZATION) MS, Harvard University, Environmental Engineering, 1975 BS, Worcester Polytechnic Institute, Civil Engineering, 1974		f. PROFESSIONAL TRAINING - REGISTRATIONS Massachusetts – Sanitary Engineer Rhode Island Professional Engineer	
g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.) American Water Works Association (AWWA) New England Water Works (NEWWA) Arizona Water Water Environment Federation (WEF) New England Water Environment Association (NEWEA) Practice Leader for Treatment Processes and Director of the Wastewater Group Innovator for First Preozonation/ Ultrafiltration Facility in the Country NEWWA Technical Paper Soils Evaluator in Massachusetts LEED Accredited Professional			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION (City and State) Water and Wastewater Hydraulic Modeling Wastewater Reclamation Facility Plan Wastewater Reclamation Facility Improvements City of Goodyear, Arizona	(2) YEAR COMPLETED - 2014	
		Professional Services General Services	Construction (if applicable) Construction Admin.
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Manager. Update of existing water and sewer system models using InfoWater and InfoSewer computer programs; review of the impact of proposed developments and proposed extensions to the City’s systems. Provided design and construction services associated with improvements to the Corgett WRF including: filter system, low lift pump station, modifications to the sand filter, and instrumentation upgrades. Total Engineering Costs \$545K.	<input checked="" type="checkbox"/> Check if project performed with current firm	
2.	(1) TITLE AND LOCATION (City and State) Water System and Energy Audit Kachina Village Improvement District (KVID), Flagstaff, Arizona	(2) YEAR COMPLETED – 2013	
		Professional Services General Services	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Principal. Project included the evaluation of the KVID’s water distribution infrastructure, the development of a hydraulic model and verification, and pump efficiency testing of all the water supply pumps. Total Engineering Cost \$36K.	<input checked="" type="checkbox"/> Check if project performed with current firm	
3.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED – On-Going	



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<p>WWTF Design Review</p> <p>City of Coolidge</p>	<p>Professional Services</p> <p>General - Wastewater</p>	<p>Construction (if applicable)</p>
<p>(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE</p> <p><input checked="" type="checkbox"/> Check if project performed with current firm</p> <p>Principal. Provided engineering services for the Review of a WWTF Design. Assisted the City with Bright International Industrial Sewer Connection Permit. Total Engineering Cost \$5K.</p>		
<p>(1) TITLE AND LOCATION (<i>City and State</i>)</p> <p>Arrowhead Shores Booster Pump Station</p> <p>Town of Peoria, Arizona</p>	<p>(2) YEAR COMPLETED – 2012</p> <p>Professional Services</p> <p>Evaluation, Design</p> <p>Construction (if applicable)</p>	
<p>4. (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE</p> <p><input checked="" type="checkbox"/> Check if project performed with current firm</p> <p>Principal. Evaluated existing site configuration and design of the Arrowhead Shores Booster Pump Station. The site consists of two hydraulically connected 1 million gallon reservoirs and two sets of booster pump stations. Provided complete bid-ready design package containing the construction drawing set, specifications, and general construction notes. Total Engineering Cost \$17K.</p>		
<p>(1) TITLE AND LOCATION (<i>City and State</i>)</p> <p>Scottsdale Water Systems Hydro Power Evaluation</p> <p>Valentine Environmental Engineers, LLC, services for Scottsdale, Arizona</p>	<p>(2) YEAR COMPLETED – 2014</p> <p>General</p> <p>Evaluation, Hydraulic</p> <p>Modeling</p> <p>Construction (if applicable)</p>	
<p>5. (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE</p> <p><input checked="" type="checkbox"/> Check if project performed with current firm</p> <p>Principal. Providing engineering services to Valentine Environmental Engineering to evaluate up to 45 candidate sites within the City of Scottsdale, Arizona water distribution system for construction of micro-turbines. Services provided include the review of the City’s hydraulic model and water distribution system, evaluation of potential micro-turbine sites, and assistance with permitting at local and federal regulatory levels. Total Engineering Cost \$20K.</p>		



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

a. NAME Shira McWaters, P.E., Associate	b. ROLE IN THIS CONTRACT Project Manager	c. YEARS EXPERIENCE	
		1. TOTAL 22	2. WITH CURRENT FIRM 22
d. LOCATION <i>(City and State)</i> Tata & Howard, Inc. 528 W. Aspen Avenue, Flagstaff, AZ 86001			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> BS, Civil Engineering, Worcester Polytechnic Institute, 1993		f. PROFESSIONAL TRAINING - REGISTRATIONS Arizona – Civil Engineer Massachusetts – Civil Engineer	

a. OTHER PROFESSIONAL QUALIFICATIONS *(Organizations, Awards, etc.)*

Arizona Water Association
AZ Water Energy Subcommittee
Boston Society of Civil Engineers Section/ASCE
Completed over 30 hydraulic models, specialized expertise in water system designs and construction administration services.
NEWWA Presentation and Paper - Town of Spencer, MA Two Zone Pressure System Project, December 2012

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED – On-Going	
		Professional Services General Services Water & Wastewater Services	Construction (if applicable) Construction Admin.
1.	Blower Evaluation and Design Bar Screen Evaluation and Design Lake Mary Dam Reports Lake Mary WTP Sludge Basin Aquifer Protection Permit Rio De Flag Odor Control Carbon Change Out Fort Tuthill Generator Cheshire Tank Rehabilitation City of Flagstaff, Arizona		
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager. Multiple projects completed. Conduct evaluation to determine the aeration process basis of design, new turbo blower design criteria, design layout, ancillary system requirements, pre and proposed energy consumption, and ROI on implementation of turbo blower technology at Wildcat Hills and Rio de Flag Water Reclamation Facilities. Provided design, bid and construction administration services for two new Bar Screens at the Wildcat Hill WWTF. Conducted annual reviews of the Lake Mary Dam and prepare the required report for submission to the state. Prepared and assisting the Water Department with the completion of a Determination of Applicability for the WTPs sludge basins as part of the Aquifer Protection Permit process. The information submitted resulted in a negative determination and the exemption of the basins from the APP process. Prepared bid documents for the odor control carbon at the Rio De Flag WRF and provided construction administration services. Provided construction administration services during the installation of probes at the Wildcat Hill WWTF. Prepared bid documents for the rehabilitation of the Cheshire Tank and for the installation of a new 1,000 KW back-up generator at the City's Fort Tuthill Well site. Total Engineering Costs \$181K	<input checked="" type="checkbox"/> Check if project performed with current firm	
2.	(1) TITLE AND LOCATION <i>(City and State)</i> Water System and Energy Audit Kachina Village Improvement District (KVID), Flagstaff, Arizona	(2) YEAR COMPLETED – 2013	
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager. Project included the evaluation of the KVID's water distribution infrastructure, the development of a hydraulic model and verification, and pump efficiency testing of all the water supply pumps. Total Engineering Costs \$36K.	Professional Services General Water and Energy Construction (if applicable)	
		<input checked="" type="checkbox"/> Check if project performed with current firm	



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3.	<p>(1) TITLE AND LOCATION <i>(City and State)</i></p> <p>ADEQ Assistance and Disinfection Design Bellemont Water Company, Bellemont, Arizona</p>	<p>(2) YEAR COMPLETED – On-Going</p> <table border="1"> <tr> <td>Professional Services</td> <td>Construction (if applicable)</td> </tr> <tr> <td>General Services - Water</td> <td></td> </tr> </table>	Professional Services	Construction (if applicable)	General Services - Water	
Professional Services	Construction (if applicable)					
General Services - Water						
	<p>(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE</p> <p>Project Manager. General engineering services agreement associated with the preparation and submittal of a 4-Log Removal of Viruses and associated chemical feed design for water source. Total Engineering Cost \$19K</p>	<p><input checked="" type="checkbox"/> Check if project performed with current firm</p>				
4.	<p>(1) TITLE AND LOCATION <i>(City and State)</i></p> <p>Kiowa Booster Pump Station Evaluation WIFA Grant Assistance Asset Management Water Distribution System Study</p> <p>Ponderosa Utility Corporation, Mountanaire, Arizona</p>	<p>(2) YEAR COMPLETED – On-Going</p> <table border="1"> <tr> <td>Professional Services</td> <td>Construction (if applicable)</td> </tr> <tr> <td>General - Water</td> <td></td> </tr> </table>	Professional Services	Construction (if applicable)	General - Water	
Professional Services	Construction (if applicable)					
General - Water						
	<p>(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE</p> <p>Project Manager. Provided engineering services for the evaluation of the Mountanaire Kiowa booster pump station. Assisted the Ponderosa Utility Corp. in the preparation of a WIFA Grant Application for the completion of an asset management based water distribution system study. Completed the Asset Management Based Water Distribution Study that include an evaluation of horizontal and vertical assets and provided recommendations and associated cost estimates. Total Engineering Costs \$40K</p>	<p><input checked="" type="checkbox"/> Check if project performed with current firm</p>				
5.	<p>(1) TITLE AND LOCATION <i>(City and State)</i></p> <p>Arsenic Treatment Report – ADEQ, Phoenix, Arizona</p>	<p>(2) YEAR COMPLETED –2014</p> <table border="1"> <tr> <td>General Water Engineering Services</td> <td>Construction (if applicable)</td> </tr> </table>	General Water Engineering Services	Construction (if applicable)		
General Water Engineering Services	Construction (if applicable)					
	<p>(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE</p> <p>Project Manager. Evaluated the water quality of five wells relative to arsenic concentrations for a small resort for the ADEQ. Study included the evaluation of arsenic concentrations and proposed treatment methods for implementation by the owner of the resort. \$9,700.</p>	<p><input checked="" type="checkbox"/> Check if project performed with current firm</p>				



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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 <i>(City and State)</i>	b. YEAR COMPLETED 2008 - 2014	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If applicable)</i>
Multiple Projects – Please see below City of Goodyear, Arizona	Water, Wastewater	Construction Administration

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
Ruben Veloz Water Superintendent City of Goodyear (623)0932-3010	See Below	See Below

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

Water and Wastewater Hydraulic Modeling (March 2008 – September 2008)
Original Budget - \$194,400 Actual Budget - \$194,400

Similar to many communities in Arizona, the City of Goodyear experienced significant growth until 2009. In the future, it is expected that the City will continue to grow to approximately 10 times the current population by the estimated build-out year. In order to be prepared for the potential growth, proper planning is essential. Large developments and industry will have a considerable impact on the supply sources, treatment facilities and infrastructure. By having a verified hydraulic model, the City is able to input hypothetical conditions such as increased demands for water and available capacity for wastewater collection. The simulation of these conditions provides the opportunity to identify system deficiencies and to develop necessary improvements.

Tata & Howard provided engineering services associated with the update of existing water and sewer system models using InfoWater and InfoSewer computer programs; review of the impact of proposed developments and proposed extensions to the City's systems; verification of the hydraulic models for the City of Goodyear's water distribution and wastewater collection systems. The water model included fire flow testing, C-value tests and calibration of the InfoWater hydraulic model. The wastewater collection system model included installation of six flow monitoring stations in three sub-basins, calibration of the model, development of a cost allocation model, and preparation of a technical report. The work also included the evaluation of the effect of a major medical center on the water and wastewater systems. The hydraulic model is also used to identify shortcomings, and capital improvement projects within City's water and wastewater infrastructure.

Tata & Howard also completed an extended period simulation for the Estrella area between Site 13 and Rainbow Valley. The work includes a review of the criticality and useful life of the Site 13 tank and review of pump and tank capacities relative to turnover rates.

Facility Plan – Corgett Wastewater Reclamation Facility (July 2008 – December 2010)
Original Budget - \$205,500 Actual Budget - \$203,100

Tata & Howard prepared a facilities plan for the Corgett Water Reclamation Facility. The plan addressed the need for process redundancy and recommended improvements for increased flows and Class A+ effluent. Provided ongoing support services to address operational needs and to assess the impact of new developments on the system. The report presented the treatment capabilities of the existing facility, as well as the need for future improvements, through a design year of 2030.

Corgett Wastewater Reclamation Facility Improvements (November 2011 – September 2014)
Original Budget - \$202,000 Actual Budget - \$147,200 Construction Cost - \$1.35 Million

Provided design, bidding, construction administration, resident observation, and construction services associated with improvements to the Corgett WRF including: filter system, low lift pump station, modifications to the sand filter, and instrumentation upgrades.



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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> Multiple Projects – Please see below: City of Flagstaff, Arizona	b. YEAR COMPLETED 2008 – On-	
	PROFESSIONAL SERVICES Water, Wastewater, Energy	CONSTRUCTION <i>(If applicable)</i> Construction Administration

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Ryan Roberts 211 West Aspen Avenue Flagstaff, AZ 86001 928-213-2410	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT See Below	e. TOTAL COST OF PROJECT See Below
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g. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

**Water and Wastewater Energy Audits and Rebate Assistance (November 2011 – September 2014)
Original Budget - \$60,100 Actual Budget - \$60,100**

EPA estimates that three to four percent of national electricity consumption, equivalent to approximately 56 billion kilowatts (kW), or \$4 billion, is used in providing drinking water and wastewater services each year. Water and wastewater utilities are typically the largest consumers of energy in municipalities, often accounting for 30-40 percent of total energy consumed. In Arizona, the Arizona Public Service (APS) estimates that water systems use 1/7th of all the power used in the State. From the APS testing program, it is estimated that 60 to 70 percent of all pumps have tested below industry standards or changes in operations are needed to operate more efficient.

Energy efficiency studies were completed on the City of Flagstaff's water and wastewater systems. The studies evaluated pumps, motors and VFDs at the City's treatment plants and pump stations. The results of the studies have assisted the City in prioritizing improvements that will provide the City significant savings associated with electrical consumption and result in a high return on investments, with a focus payback of less than 10 years. For the City's water system alone, the pumps and motors were consuming over 3,300 horsepower daily on average, while the remaining electrical load represent 60 horsepower. Clearly, the pumps and motors are the greatest consumers of electricity, representing 95% of the power usage. This represented approximately \$1.8 million of the City's \$3.8 million dollar water budget. The results of the water system study included an estimated cost of approximately \$1.5 million for upgrades, \$500,000 in APS rebates, annual electrical savings of approximately \$350,000, and an average payback of approximately 2.5 years.

**Wildcat Hill WWTF and Rio De Flag WRF Turbo Blower Evaluation (April 2013 – June 2013)
Original Budget - \$18,600 Actual Budget - \$18,600**

Conducted an evaluation to determine the aeration process basis of design, a new turbo blower design criteria, design layout, ancillary system requirements, pre and proposed energy consumption, and return on investment in the implementation of turbo blower technology at the Wildcat Hills and Rio de Flag Water Reclamation Facilities.

**Wildcat Hill WWTF Bar Screens (April 2013 – Present)
Original Budget - \$57,000 Actual Budget - \$57,000 Construction Costs - \$360,000**

Completed on analysis of several bar screen manufacturers and provided recommendations to the City relative to what types of bar screens would work best to replace the existing bar screen and to provide a spare. Provided engineering services for the design of the new bar screens, bidding assistance, and construction administration and resident observation services during the installation of the bar screens.

**Wildcat Hill WWTF Aeration Blower Design (August 2013 – Present)
Original Budget - \$95,600 Actual Budget – Design Anticipated to Start in 2015**

Providing design services for the replacement of existing aeration turbo blowers at the Wildcat Hill WWTF. Design services include the layout of the new blowers in the existing aeration rooms and associated SCADA controls, electrical and air intake and exhaust piping needed for the new units.



ATTACHMENT I – General Qualifications

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ADSP016-00005912**

**STATE PROCUREMENT OFFICE
Department of Administration
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Phoenix, Arizona 85007**

**2013, 2014 Lake Mary Dam Reports (August 2013, 2014, 2015)
Original Budget - \$7,000 Actual Budget – \$12,500 (Approximately \$4,200 each)**

Assisted the City of Flagstaff in the annual evaluation and reporting to the State of the Lake Mary Dam. Evaluation includes the review of water levels in the lake and in monitoring wells located at the top and base of the dam. Conducted visual inspections for noticeable cracks, seepage and leaks and provided recommendations to the City for annual maintenance.

**Lake Mary WTP Sludge Basins Aquifer Protection Permit (January 2014 - February 2014)
Original Budget - \$3,500 Actual Budget – \$3,500**

Assisted the City of Flagstaff with the preparation and submittal of a Determination of Applicability relative to the Aquifer Protection Permit Process for the Lake Mary Water Treatment Facility Lagoons. Project included the preparation and submittal of the DOA and meeting with ADEQ to discuss project and permitting requirements. Project resulted in the determination of the lagoons as tanks so the City was exempt from the APP process.

**Rio De Flag WWRf Management, Operation and Maintenance Evaluation (May 2014)
Original Budget - \$12,300 Actual Budget – \$12,300**

Conducted an assessment of the management, operations and maintenance (MOM) for the Rio de Flag Wastewater Reclamation Plant. The purpose of the assessment was to determine the cause of an event that resulted in an increase in turbidity and microorganism depletion at the plant. The assessment completed included the collection and review of job descriptions, operational data and reports associated with the MOM of the plant. In addition, both state and federal guidelines were reviewed for operational consistency and standard testing procedures and frequency. Interviews were conducted with plant staff and field observations of the hands on operation of the plant were completed.

**Cheshire Tank Rehabilitation (October 2014 – Ongoing)
Original Design Budget - \$13,500, Actual Design Budget – \$13,500
Original Construction Budget \$29,500, Actual Construction Budget – On-going**

Provided engineering services for the preparation of bid documents for the painting and rehabilitation of the 1.3 MG welded steel Cheshire Tank. Currently providing construction administration and resident observation services for the completion of the painting and rehabilitation of the Cheshire Tank.

**Fort Tuthill Well Generator (October 2014 – Ongoing)
Original Budget - \$13,300, Actual Budget – \$13,300**

Provided engineering services for the preparation of bid documents for the installation of a 1,000 KW emergency back-up generator at the City's Fort Tuthill Pump Station.

**Water/Sewer Impact Analysis (May – September 2015)
Original Budget - \$17,800, Actual Budget – \$17,800**

Provided engineering services for evaluation of the potential impact a new development may have on the City of Flagstaff's existing water distribution and collection system. Services included the evaluation of projected water demands and wastewater production, the ability of the existing water supplies in meeting the demand and the existing capacity at the wastewater treatment plant and its ability to except the additional flow. Evaluated potential impacts the additional demand/flow may have on the existing infrastructure using WaterGEMs and SewerGEMs modeling software.

**Lake Mary Dam Emergency Action Plan
Original Budget - 9,600, Actual Budget – 9,600**

Provided engineering services associated with the update of the City's existing emergency action plan. New contact information and inundation maps were included using the Arizona Department of Water Resources template.

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 (City and State)

b. YEAR COMPLETED 2008 - 2014



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Arrowhead Shores Booster Pump Station
Peoria, Arizona

PROFESSIONAL
SERVICES
Pump Station Evaluation

CONSTRUCTION (If
applicable)

23. PROJECT OWNER'S INFORMATION

c .PROJECT OWNER
Robin Bain
Environmental Resource Manager
Peoria, AZ
(623)773-7213

d .ORIGINAL BUDGET/NTE AMOUNT OF
PROJECT
See Below

e. TOTAL COST OF PROJECT
See Below

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

**Arrowhead Shores Booster Pump Station (May 2011 – August 2011)
Original Budget - \$16,800 Actual Budget – \$16,800**

Providing engineering services for an evaluation of the existing site configuration and design of the Arrowhead Shores Booster Pump Station. The site consists of two hydraulically connected IMG reservoirs and two sets of booster pump stations. Provided complete bid-ready design package containing the construction drawing set, specifications, and general construction notes.

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 (City and State)

b. YEAR COMPLETED - 2013

Water System and Energy Audit
Kachina Village Improvement District, Flagstaff, Arizona

PROFESSIONAL
SERVICES
General - Water

CONSTRUCTION (If
applicable)

23. PROJECT OWNER'S INFORMATION

c .PROJECT OWNER
Bill Lesko
3150 Jadito Trail
Flagstaff, AZ 86001
Blesko@ccpw.az.gov

d .ORIGINAL BUDGET/NTE AMOUNT OF
PROJECT
See Below

e. TOTAL COST OF PROJECT
See Below

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

**KVID Drinking Water System Efficiency Audit (August 2013 – October 2013)
Original Budget - \$36,000 Actual Budget – \$36,000**

Tata & Howard, Inc. was retained by the Kachina Village Improvement District (KVID) to create a hydraulic model and conduct an energy study of the water production assets of the KVID and its distribution system. During the course of the study, the well pumps and booster pumps were evaluated relative to their efficiency and the operational practices of the distribution system were reviewed. The results of the study indicated that the pump efficiencies ranged from 27% to 60%. It was recommended that the KVID replace several low performing pumps with the potential to save approximately \$23,000 in annual power costs and be eligible for a rebate from APS of approximately \$20,000. The estimated savings over a ten year period is approximately \$134,000.

6. ADDITIONAL INFORMATION

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



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ADDITIONAL SHEETS AS NEEDED.)

Founded in 1992, Tata & Howard, Inc. is a specialized water, wastewater, stormwater, and environmental services consulting engineering firm. We have a reputation for consistently delivering cost-effective, innovative project solutions by working as a cohesive team with our clients, and our focus provides clients with the attentive service of a small firm, yet the experience of a large firm.

We are registered for Civil and Environmental Engineering in the State of Arizona. We have been successfully providing water and wastewater engineering services to clients in Arizona since 2008. We have eight offices including our Flagstaff office and over 70 employees. Our experience includes:

- Water Supply, Distribution, Storage and Treatment
- Treatment and Pump Station Evaluations and Designs
- Business Practice Evaluations
- CMOMs/DMOMs
- New Source Development and Permitting
- Hydraulic Modeling (Water and Wastewater)
- Infrastructure Condition Assessment (Water & Wastewater)
- Master Planning (Water & Wastewater)
- Dam Evaluations/Designs
- On-site Wastewater Treatment and Disposal
- Facilities Planning & Design
- Infiltration and Inflow Studies
- Water Reclamation Facilities
- Stormwater
- Environmental Services
- Funding Assistance, Permitting, GIS and Construction Administration

Additional information regarding our services or resumes are available upon request.

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:	88%
b.	Percentage of Total Work Attributable to Non-Government Work:	18%

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

Signature:

Date: December 21, 2015

Name: Donald J. Tata, P.E.

Title: President