



Offer and Acceptance

State of Arizona
State Procurement Office

100 N. 15th Ave. Suite 201
Phoenix, AZ 85007

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

PAGE
1

Offeror: **McKinstry Essention, LLC**

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.

McKinstry Essention, LLC

Company Name

5005 3rd Ave South

Address

Seattle

WA

98134

City

State

Zip

phillipsa@mckinstry.com

Contact Email Address

Signature of Person Authorized to Sign Offer

Phillip Saieg

Printed Name

Business Development Manager

Title

Phone: **303.215.4086**

Fax: **N/A**

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. ADSP016-00005916

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

20 16

Procurement Officer



ATTACHMENT I – General Qualifications

ANNUAL REQUEST FOR QUALIFICATIONS AND EXPERIENCE NO:
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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 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 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:	McKinstry Phoenix Office
b. FIRM (OR BRANCH OFFICE) STREET:	3420 E. Shea Blvd. Ste 200
c. FIRM (OR BRANCH OFFICE) CITY:	Phoenix
d. FIRM (OR BRANCH OFFICE) STATE:	AZ
e. FIRM (OR BRANCH OFFICE) ZIP CODE:	85028
f. YEAR ESTABLISHED:	1960
(g1). OWNERSHIP - TYPE:	Privately owned corporation
(g2) OWNERSHIP - SMALL BUSINESS STATUS:	Not a small business
h. POINT OF CONTACT NAME AND TITLE:	Phillip Saieg
i. POINT OF CONTACT TELEPHONE NUMBER:	303.215.4086
j. POINT OF CONTACT E-MAIL ADDRESS:	phillipsa@mckinstry.com
k. NAME OF FIRM (If block 1a is a branch office):	McKinstry Essention, LLC



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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)
130	Energy / Water Auditing Savings	10
5	Energy Conservation; New Energy Sources	4
25	Conservation and Resource Management	5
3	Airports, Lighting, Fueling	1
10-15	Special Env Clean Rooms	10
5	Churches, Chapels	4
25+	Commercial Building	6
250+	Educational Facilities	10
10+	Field Houses; Gyms; Stadiums	2
5+	Garages/Parking Decks	5
10+	Highrise	6
100+	Hospital & Medical Facilities	10
50+	Judicial & court Facilities	5
15+	Libraries Museums	5
35+	Office Buildings	10
45+	Recreation Facilities	7

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 Phil Saieg	b. ROLE IN THIS CONTRACT business Development Manager	c. YEARS EXPERIENCE	
		1. TOTAL 10	2. WITH CURRENT FIRM 5
d. LOCATION <i>(City and State)</i> Golden, CO			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> Colorado Christian University, Communications & Theology, 2005 Oxford University, Philosophy, 2004		f. PROFESSIONAL TRAINING - REGISTRATIONS <i>Certified Energy Manager</i> <i>LEED AP O+M, USGBC</i> <i>Energy Executive, National Renewable Energy Laboratories</i> <i>3PQ Project Management and Strategic Acquisition Certification</i> <i>NCI Certified Charrette Facilitator</i> <i>Living Future Accreditation</i>	
g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i> <i>USGBC, Committee Chair, BOMA, Energy and Environment Chair, Appointee, City of Golden Community Sustainability Advisory Board, Guest Lecturer, University of Colorado, School of Mines, DBIA member, Living Futures Institute member, National Charrette Institute</i>			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION <i>(City and State)</i> Colorado School of Mines Welcome Center, Golden, CO	(2) YEAR COMPLETED 2015
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager for new construction project targeting LEED Gold certification. The building was constructed to welcome and attract potential and incoming freshmen and to serve as a central location for administrative and booster related activities. In addition to office facilities, the four-story building houses a large meeting space, a historical gallery, catering facilities and a call center. The mechanical systems leverage the existing campus steam and chilled water.	<input checked="" type="checkbox"/> Check if project performed with current firm
2.	(1) TITLE AND LOCATION <i>(City and State)</i> City of Golden, CO	(2) YEAR COMPLETED 2012
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager and consultant for renewable energy analysis including technical and financial feasibility. The analysis evaluated city-wide photovoltaic systems, micro-hydro turbines, and geo-exchange systems. In addition this analysis evaluated the leading grant opportunities for the city, and provided a road map for how these projects could be implemented within the City's financial constraints.	<input checked="" type="checkbox"/> Check if project performed with current firm
3.	(1) TITLE AND LOCATION <i>(City and State)</i> City and County of Denver, CO	(2) YEAR COMPLETED 2010
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager for \$1 million Level I/Level II energy audit and retro-commissioning (RCx) study funded with ARRA grant monies. The first phase of the project included 49 of the City's public libraries and recreation centers, including the 500,000 square foot Central Library in downtown Denver; the second phase of the program includes the nine most energy-consuming buildings owned by the City.	<input type="checkbox"/> Check if project performed with current firm
4.	(1) TITLE AND LOCATION <i>(City and State)</i> Poudre School District, Fort Collins, CO	(2) YEAR COMPLETED 2011
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager for six school projects within Poudre School District, performing ASHRAE 90.1-based energy modeling services in conjunction with design assistance and commissioning activities. McKinstry is partnering with PSD to further lower the energy consumption of already high-performing schools by utilizing a mixture of energy modeling (eQuest) and our highly-trained commissioning resources.	<input checked="" type="checkbox"/> Check if project performed with current firm
5.	(1) TITLE AND LOCATION <i>(City and State)</i> Direct TV, Centennial, CO	(2) YEAR COMPLETED 2014
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager for data center audit and office building audits. Worked directly with Direct TV to identify energy savings measures, leverage utility rebates, and perform financial analysis for phased implementation.	<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.)*

a. NAME Kreischer Davis	b. ROLE IN THIS CONTRACT Sr. Energy Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 10	2. WITH CURRENT FIRM 1
d. LOCATION <i>(City and State)</i> Phoenix, AZ			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> B.S. – Mechanical Engineering, B.A. - Economics		f. PROFESSIONAL TRAINING - REGISTRATIONS <i>Professional Engineer (AZ)</i> <i>Certified Energy Manager</i>	
g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i> ASHRAE Associate Member			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION <i>(City and State)</i> Coolidge USD Performance Contract, Coolidge, AZ	(2) YEAR COMPLETED: 2015	
		Professional Services Energy Services	Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Served as the energy engineer developing scope of work, detailed energy analysis, whole building energy modeling simulations, and baseline analysis provided in an Engineering Study. Managed all rebate applications throughout all phases of the project and act as the customer liaison with the utility companies. Assist in strategic phases of project commissioning.	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION <i>(City and State)</i> Tucson USD Performance Contract, Tucson, AZ	(2) YEAR COMPLETED: 2014	
		Professional Services Energy Audit	Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Served as the energy engineer to develop detailed energy analysis, whole building energy modeling simulations, and baseline analysis provided in an Engineering Study. Involved in the utility rebate program process and helped develop the final performance contract agreement.	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION <i>(City and State)</i> Virginia Tech Performance Contract, Blacksburg, VA	(2) YEAR COMPLETED: 2010	
		Professional Services Energy auditing	Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Assisted with site lighting surveys including interior, exterior, and decorative fixtures for Virginia Tech University.	<input type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION <i>(City and State)</i> Rochester Housing Performance Contract, Rochester, NH	(2) YEAR COMPLETED: 2009	
		Professional Services Energy Services	Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE As energy engineer, conducted investment grade energy audit detailing existing conditions of Lighting, HVAC, Fenestration, and building envelope.	<input type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION <i>(City and State)</i> Minneapolis Housing Performance Contract, Minneapolis, MN	(2) YEAR COMPLETED: 2008	
		Professional Services Energy Services	Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Conducted site audits of all city-wide scattered sites detailing existing conditions of Lighting, HVAC, Fenestration, and building envelope as a part of a investment grade energy audit.	<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 Josh Harwood	b. ROLE IN THIS CONTRACT Commissioning Program Manager	c. YEARS EXPERIENCE	
		1. TOTAL 12	2. WITH CURRENT FIRM 7
d. LOCATION <i>(City and State)</i> Golden, CO			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> University of Colorado -Bachelor of Science Mechanical Engineering, 2003		f. PROFESSIONAL TRAINING - REGISTRATIONS • <i>Naval Nuclear Engineer Certification</i>	
g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i> • ASHRAE • Building Commissioning Association			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION <i>(City and State)</i> University of Denver; Denver, CO	(2) YEAR COMPLETED 2013
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Program Manager for study at the University of Denver's Ritchie Center, a multi-purpose, four story structure including the largest indoor pool facility in the state of Colorado, three full size basketball courts, two ice arenas, a small health clinic, offices, assembly meeting rooms, and a small commercial kitchen. McKinstry has also performed RCx services at the Daniels School of Business and is performing an ASHRAE Level II energy audit at the Schwayder art building. The overall goal of these projects is to reduce energy consumption and costs.	<input checked="" type="checkbox"/> Check if project performed with current firm
2.	(1) TITLE AND LOCATION <i>(City and State)</i> Fort Lewis College, Durango, CO	(2) YEAR COMPLETED 2010
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Senior Program Manager for campus-wide energy retrofit. The comprehensive project included the design and installation of a central boiler plant installed at one dormitory to serve four dorms in total and reducing the number of independent boilers from 10 with no redundancy down to 3 with redundancy. The project also included high efficiency lighting and lighting control retrofits, building automation system upgrades, piping insulation and the installation of new efface on several dormitories to improve the building envelope.	<input checked="" type="checkbox"/> Check if project performed with current firm
3.	(1) TITLE AND LOCATION <i>(City and State)</i> University of Colorado at Denver; Denver, CO	(2) YEAR COMPLETED 2014
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Program Manager and commissioning agent for third party commissioning of the remodel of 1475 Lawrence Court facility, a LEED certified design.	<input checked="" type="checkbox"/> Check if project performed with current firm
4.	(1) TITLE AND LOCATION <i>(City and State)</i> City of Boulder, CO	(2) YEAR COMPLETED 2009
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning Manager for city-wide energy efficiency and renewable energy projects in 66 buildings, including the Main Library. Projects include 1.1MW of solar PV installations at 12 city buildings, solar thermal pool water heating at two recreation centers, controls upgrades, water conservation and lighting retrofits, building envelope improvements, and mechanical system replacements.	<input checked="" type="checkbox"/> Check if project performed with current firm
5.	(1) TITLE AND LOCATION <i>(City and State)</i> City of Steamboat Springs, CO	(2) YEAR COMPLETED 2013
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning Manager for city-wide energy retrofit that included lighting redesign and high efficiency lighting and lighting controls retrofits, energy management system upgrades, and downtown LED holiday lighting.	<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.)*

a. NAME Steve Ruby	b. ROLE IN THIS CONTRACT Project Director, Technical Services	c. YEARS EXPERIENCE	
		1. TOTAL 13	2. WITH CURRENT FIRM 2
d. LOCATION <i>(City and State)</i> Golden, CO			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> Colorado State University, B.S. in Chemical Engineering		f. PROFESSIONAL TRAINING - REGISTRATIONS • <i>Certified Energy Manager</i>	
g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i> Association of Energy Engineers			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION <i>(City and State)</i> Colorado School of Mines, Golden, CO	(2) YEAR COMPLETED 2013
		Professional Services Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE This campus-wide energy audit and implementation project featured a phased approach to energy retrofits. The phase 1 scope totaled \$3 million and included water conservation measuresm energy recovery for laboratory air handler exhaust, and high efficiency lighting and lighting control retrofits. McKinstry assisted the college in securing Qualified Energy Conservation Bonds to finance this project at very low interest rates.	<input checked="" type="checkbox"/> Check if project performed with current firm
2.	(1) TITLE AND LOCATION <i>(City and State)</i> Drexel University Philadelphia, PA	(2) YEAR COMPLETED 2009
		Professional Services Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Energy analysis for review of ongoing savings for an energy retrofit, maintained equipment and ongoing telemetry for active energy management.*	<input type="checkbox"/> Check if project performed with current firm
3.	(1) TITLE AND LOCATION <i>(City and State)</i> City of Boulder, Boulder, CO	(2) YEAR COMPLETED 2007
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Lead Energy Engineer for a city-wide energy retrofit program totaling over \$17M in energy efficiency and renewable energy projects in 66 buildings including the Main Library. Projects include 1.1MW of solar PV installations at 12 city buildings, solar thermal pool water heating at two recreation centers, controls upgrades, water conservation and lighting retrofits, building envelope improvements, and mechanical system replacements. The project was funded through multiple sources including ARRA and Colorado Carbon Fund grant funds, Xcel Energy Solar Rewards and Xcel demand side rebates and renewable energy credit payments, Qualified Energy Conservation Bonds, and a tax-exempt lease purchase agreement.	<input checked="" type="checkbox"/> Check if project performed with current firm
4.	(1) TITLE AND LOCATION <i>(City and State)</i> Baylor University Waco, TX	(2) YEAR COMPLETED 2007
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Energy analysis for an energy savings project including the installation of a large campus electrical substation and electrical infrastructure consolidation. *	<input type="checkbox"/> Check if project performed with current firm
5.	(1) TITLE AND LOCATION <i>(City and State)</i> University of Texas Dallas Dallas, TX	(2) YEAR COMPLETED 2009
		Professional Services Commissioning Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Technical support for energy savings project including central plant upgrades and operation of a steam turbine electrical generation plant. *	<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 Greg Spalding	b. ROLE IN THIS CONTRACT Commissioning engineer	c. YEARS EXPERIENCE	
		1. TOTAL 12	2. WITH CURRENT FIRM 5
d. LOCATION <i>(City and State)</i> Golden, CO			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> University of Delaware - Bachelor of Science Mechanical Engineering 2004		f. PROFESSIONAL TRAINING - REGISTRATIONS <i>Professional Engineer</i> <i>State of Colorado</i> <i>LEED AP BD+C</i> <i>ASHRAE</i> <i>Certified Energy Manager</i>	
g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i>			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION <i>(City and State)</i> Colorado School of Mines – Phase 1; Golden, CO	(2) YEAR COMPLETED 2010
		Professional Services Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Performed commissioning work for an energy retrofit at the Colorado School of Mines. Ensured that the systems provided as part of the scope of work were installed to optimize their operation. The commissioning scope included a lighting retro-fit, water fixture retro-fit, heat recovery loop and irrigation control system.	<input checked="" type="checkbox"/> Check if project performed with current firm
2.	(1) TITLE AND LOCATION <i>(City and State)</i> Fort Lewis College; Durango, CO	(2) YEAR COMPLETED 2012
		Professional Services Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Performed retro-commissioning work for four facilities, including the Education Building, Student Life Center, Whalen Gymnasium and Concert Hall. These facilities consisted of constant volume and variable volume air handlers, terminal units with reheats, boilers, water-cooled chillers, cooling towers, flat plate heat exchangers, and primary and secondary pumps.	<input checked="" type="checkbox"/> Check if project performed with current firm
3.	(1) TITLE AND LOCATION <i>(City and State)</i> Poudre School District, Fort Collins, CO	(2) YEAR COMPLETED 2012
		Professional Services Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Greg was a commissioning agent for Poudre School Districts multiple renovations. He performed ASHRAE 90.1-based energy modeling services in conjunction with design assistance and 3rd party commissioning activities for renovations in eight schools, and retro-commissioning of one administrative building. McKinstry continues partnering with PSD to further lower the energy consumption of already high-performing schools by utilizing a mixture of energy modeling (eQuest) and our highly-trained Cx resources.	<input checked="" type="checkbox"/> Check if project performed with current firm
4.	(1) TITLE AND LOCATION <i>(City and State)</i> Carbon County School District #1, Rawlins, WY	(2) YEAR COMPLETED 2015
		Professional Services Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning agent for third party commissioning of the new Rawlins High School facility and the renovation of two other school buildings in the district. This project included multiple design reviews, and required a high-level of engagement from our Josh in reviewing new approaches for the most cost-effective design for the new high school.	<input checked="" type="checkbox"/> Check if project performed with current firm
5.	(1) TITLE AND LOCATION <i>(City and State)</i> City and County of Denver - Castro Building; Denver, CO	(2) YEAR COMPLETED 2015
		Professional Services Construction (if applicable)
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Served as a commissioning agent for the City and County of Denver when our retro-commissioning facility improvement measures (FIM) were implemented by a contractor. Assisted in the scope of work development for the approved FIMs.	<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.)*

a. NAME John Steward	b. ROLE IN THIS CONTRACT Commissioning Program Manager	c. YEARS EXPERIENCE	
		1. TOTAL 17	2. WITH CURRENT FIRM 1
d. LOCATION <i>(City and State)</i> Golden, CO			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> <ul style="list-style-type: none"> University of Nebraska, B.S., Mechanical Engineering, 1990 		f. PROFESSIONAL TRAINING - REGISTRATIONS <ul style="list-style-type: none"> Professional Engineer (CO) Certified Commissioning Provider 	
g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i>			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION <i>(City and State)</i> Colorado State University, Engineering II Building* Ft. Collins, CO	(2) YEAR COMPLETED 2014	
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning engineer providing commissioning services for fire alarm and smoke control testing and verification for the project. LEED Gold certification.	<table border="1"> <tr> <td>Professional Services Commissioning</td> <td>Construction (if applicable)</td> </tr> </table> <input type="checkbox"/> Check if project performed with current firm	Professional Services Commissioning
Professional Services Commissioning	Construction (if applicable)		
2.	(1) TITLE AND LOCATION <i>(City and State)</i> Colorado School of Mines, Marquez Hall* Golden, CO	(2) YEAR COMPLETED 2012	
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning engineer providing commissioning services for mechanical and lighting control equipment. Commissioning services began with Design Phase and ended after Acceptance Phase and occupancy. Performed TAB Validation and review of final TAB report. LEED Silver certification.	<table border="1"> <tr> <td>Professional Services Commissioning</td> <td>Construction (if applicable)</td> </tr> </table> <input type="checkbox"/> Check if project performed with current firm	Professional Services Commissioning
Professional Services Commissioning	Construction (if applicable)		
3.	(1) TITLE AND LOCATION <i>(City and State)</i> University of Denver, Ruffatto Hall* Denver, CO	(2) YEAR COMPLETED 2012	
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning engineer providing commissioning services for the mechanical and lighting control equipment. Commissioning began with Design Phase and ended after Acceptance Phase and occupancy. Performed TAB Validation and review of final TAB report; project is pursuing LEED Gold certification. \$21M	<table border="1"> <tr> <td>Professional Services Commissioning</td> <td>Construction (if applicable)</td> </tr> </table> <input type="checkbox"/> Check if project performed with current firm	Professional Services Commissioning
Professional Services Commissioning	Construction (if applicable)		
4.	(1) TITLE AND LOCATION <i>(City and State)</i> University of Colorado, Leprino Office Building* Aurora, CO	(2) YEAR COMPLETED 2014	
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning engineer providing commissioning services for the mechanical systems, lighting control system and life safety system. Commissioning began following the design phase of the project and ended following the Acceptance Phase.	<table border="1"> <tr> <td>Professional Services Commissioning</td> <td>Construction (if applicable)</td> </tr> </table> <input type="checkbox"/> Check if project performed with current firm	Professional Services Commissioning
Professional Services Commissioning	Construction (if applicable)		
5.	(1) TITLE AND LOCATION <i>(City and State)</i> University of Denver, Nagel Hall* Denver, CO	(2) YEAR COMPLETED 2009	
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE University of Denver Nagel Hall is a six story 149,729 sf building designed to provide student housing/residential and a dining area on the first floor. The garden level will be used as offices, counseling and mechanical rooms. Commissioning engineer providing commissioning services of the mechanical, plumbing, and lighting control systems. Conducted TAB validation and final TAB report review; project is LEED registered, pursuing Gold certification. \$40M	<table border="1"> <tr> <td>Professional Services Commissioning</td> <td>Construction (if applicable)</td> </tr> </table> <input type="checkbox"/> Check if project performed with current firm	Professional Services Commissioning
Professional Services Commissioning	Construction (if applicable)		



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

a. NAME Patrick Corrigan	b. ROLE IN THIS CONTRACT Commissioning Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 6	2. WITH CURRENT FIRM 1
d. LOCATION <i>(City and State)</i> Golden, CO			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> State University of New York Maritime B.E. Mechanical Engineering, 2009		f. PROFESSIONAL TRAINING - REGISTRATIONS <i>University of Wisconsin-Madison</i> <i>Qualified Commissioning Process Provider (QCxP), 2013</i>	
g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i>			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION <i>(City and State)</i> Plantations Welcome Center, Cornell University, Ithaca, NY	(2) YEAR COMPLETED 2008
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Patrick was the lead Field Engineer, performed function and performance testing of HVAC system including, solar collectors and more than 4,000 square-foot of in-floor radiation. Patrick also performed IAQ testing to satisfy LEED requirements. This project received a LEED Platinum rating which was the first facility at Cornell University to earn such a prestigious rating.	Professional Services Commissioning Construction (if applicable) <input type="checkbox"/> Check if project performed with current firm
2.	(1) TITLE AND LOCATION <i>(City and State)</i> Mansfield University, Allen Hall, Mansfield, PA	(2) YEAR COMPLETED 2010
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE As a field engineer Patrick was responsible for commissioning this new three-story communications and theatre academic building. The commissioning scope included all mechanical, electrical, and plumbing system, verification of O&M documentation, coordination of maintenance and operations training, and equipment warranty management.	Professional Services Commissioning Construction (if applicable) <input type="checkbox"/> Check if project performed with current firm
3.	(1) TITLE AND LOCATION <i>(City and State)</i> Buffalo State College, Science Building 15, Buffalo, NY	(2) YEAR COMPLETED 2012
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Patrick worked as a field engineer responsible for the renovation and 96,000 square foot expansion of Science Building 15. The project included advanced imaging suite and state-of-the-art research and teaching labs for the biology, chemistry, physics and earth sciences. The project is expected to receive a LEED gold certification and is part of the New York State Energy Research and Development Authority New Construction Program.	Professional Services Commissioning Construction (if applicable) <input type="checkbox"/> Check if project performed with current firm
4.	(1) TITLE AND LOCATION <i>(City and State)</i> Southern California Edison, Alhambra, CA	(2) YEAR COMPLETED 2012
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Patrick assisted with functional performance testing and air/water balancing verification of this 62,000 sq. ft. Tier 3 Data Center project for Southern California Edison (SCE). The data center received a LEED Gold certification. The functional performance testing included verifying the operation of multiple back-up cooling systems.	Professional Services Commissioning Construction (if applicable) <input type="checkbox"/> Check if project performed with current firm
5.	(1) TITLE AND LOCATION <i>(City and State)</i> San Diego International Airport – Terminal 2 Expansion San Diego, CA	(2) YEAR COMPLETED 2010
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Developed functional performance test procedures for mechanical systems, coordinated start-up activities and executed functional performance test of mechanical and baggage handling system.	Professional Services Commissioning Construction (if applicable) <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 Dawn Smith	b. ROLE IN THIS CONTRACT Commissioning Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 29	2. WITH CURRENT FIRM 2
d. LOCATION <i>(City and State)</i> Golden, CO			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i>		f. PROFESSIONAL TRAINING - REGISTRATIONS	
<ul style="list-style-type: none"> Arapahoe Community College College of Dupage Tidewater Community College 		<ul style="list-style-type: none"> Certified Energy Manager (CEM) Certified Measurement & Verification Professional (CMVP) Certified Test and Balance (CTAB) expired 2009 Association of Energy Engineers USGBC LEED,® Colorado NIULPE 4th Class Engineer, Ohio USAF Financial Management Certificate 1983 	
g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Organizations, Awards, etc.)</i>			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION <i>(City and State)</i> University of Denver; Denver, CO	(2) YEAR COMPLETED 2014
		Professional Services Commissioning
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning engineer for Level I/Level II energy audit and retro-commissioning (RCx) study for the University of Denver's Ritchie Center, a multi-purpose, four-story structure	<input checked="" type="checkbox"/> Check if project performed with current firm
2.	(1) TITLE AND LOCATION <i>(City and State)</i> City of Boulder, CO Boulder, CO	(2) YEAR COMPLETED 2015
		Professional Services Commissioning
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning engineer for a city-wide energy performance contracting program totaling over \$16 million in energy efficiency and renewable energy projects in 66 buildings, including the main library. Projects include 1.1MW of solar PV installations at 12 city buildings, solar thermal pool water heating at two recreation centers, controls upgrades, water conservation and lighting retrofits, building envelope improvements, and mechanical system replacements.	<input checked="" type="checkbox"/> Check if project performed with current firm
3.	(1) TITLE AND LOCATION <i>(City and State)</i> City of Steamboat Springs, CO Steamboat Springs, CO	(2) YEAR COMPLETED 2014
		Professional Services Commissioning
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning engineer for an \$850,000 city-wide energy performance contract that included lighting redesign and high efficiency lighting and lighting controls retrofits, energy management system upgrades, and downtown LED holiday lighting.	<input checked="" type="checkbox"/> Check if project performed with current firm
4.	(1) TITLE AND LOCATION <i>(City and State)</i> City of Lakewood, CO Lakewood, CO	(2) YEAR COMPLETED 2014
		Professional Services
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning engineer for \$100,000 Level I/Level II energy audit and retro-commissioning (RCx) study funded with ARRA grant monies of five high-energy-intensive buildings owned by the City.	<input checked="" type="checkbox"/> Check if project performed with current firm
5.	(1) TITLE AND LOCATION <i>(City and State)</i> Jefferson County Public Library, Lakewood, CO	(2) YEAR COMPLETED 2014
		Professional Services Commissioning
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Commissioning manager for \$3.7 million energy performance contract that included retro-commissioning (RCx) of six libraries and full commissioning of new HVAC and controls systems at the Lakewood and Golden libraries,	<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 <i>(City and State)</i>	b. YEAR COMPLETED: 2015	
City of Phoenix Retro-Commissioning, Phoenix, AZ	PROFESSIONAL SERVICES Retro-Cx	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER City of Phoenix	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT \$14,000	e. TOTAL COST OF PROJECT \$14,000
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(include scope, size, and length of project)*

The project goals for the Recommissioning (RCx) performed were developed in accordance with the City's RFP

- Identify and itemize existing plant deficiencies and non-functional components.
- Verify and optimize existing control systems operations through point to point, functional performance testing, and review of trend logs.
- Improve, verify, and document existing sequence of operations for the DDC controls system and HVAC systems.
- Identify and implement no-cost/low-cost facility improvement measures (FIMs) that will deliver improvements in energy efficiency, occupant comfort and/or building performance, and their estimated costs (if any), and paybacks.

The City's central chilled water plant is comprised of four 1,000 ton chillers, a 1,000,000 gallon thermal energy storage tank, three cooling towers and associated pumps, pipes and heat exchangers. The central plant serves seven facilities in the downtown campus.

The system is arranged in a unique variable primary configuration, with some building being arranged in a more traditional primary-secondary configuration. In the instances of the more traditional primary-secondary configuration a flat plate heat exchanger separates the primary chilled water from the secondary loads in the building.

Presently the central plants operates year round, 24/7 to provide chilled water to various buildings that it serves. The chillers are operated on a schedule (maintained manually) to charge the thermal energy storage system during off-peak periods of electrical demand. Most often, these periods occur at night. During the day the chilled water system is supported by the thermal energy storage system (discharge).

The McKinstry Commissioning team identified seven Energy Conservation Measures (ECMs). The total potential annual energy savings associated with those measures is ~\$158,000. The ECMs combined achieve a 61% reduction in the power consumed by the central plant.



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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)*

University of Arizona Energy Mgmt., Tucson, AZ

b. YEAR COMPLETED: 2015

PROFESSIONAL SERVICES
Energy Management

CONSTRUCTION *(If applicable)*

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER

University of Arizona

d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT

\$264,000

e. TOTAL COST OF PROJECT

\$264,000

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

McKinstry has provided engineering to the University of Arizona in various forms including: commissioning of central plant systems, setting up real-time, engineered data analytics for ongoing performance tracking of central cooling plants, and controls master planning on specifications for existing building renovations and new construction projects.



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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> State of Colorado Retro-Commissioning, Denver, CO	b. YEAR COMPLETED: 2016	
	PROFESSIONAL SERVICES Retro-commissioning	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER State of Colorado	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT \$116,000	e. TOTAL COST OF PROJECT \$116,000
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(include scope, size, and length of project)*
McKinstry provided retro-commissioning and LEED consulting services at the State of Colorado Capitol complex in Denver, Colorado.

LEED Dynamic Plaque will report Facility's LEED status, including energy use, water use, waste diversion, transportation and human experience in real-time.

- RCx work is performed in conjunction with Xcel Energy's RCx program.
- RCx evaluates entire operation of facility's mechanical systems to develop low-cost/no-cost facility improvement measures (three-year or less ROI).
- RCx activities improve occupant comfort while reducing energy usage by optimizing system operations for the facility's current usage.
- Facility's mechanical system includes a geo-exchange system that uses the aquifer 300+ feet below ground as a heat rejection source for some cooling requirements.



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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.)

<p>a. TITLE AND LOCATION <i>(City and State)</i> Colorado School of Mines, Golden, CO</p>	<p>b. YEAR COMPLETED: 2016</p> <table border="1"> <tr> <td data-bbox="974 485 1250 562"> <p>PROFESSIONAL SERVICES Commissioning</p> </td> <td data-bbox="1250 485 1554 562"> <p>CONSTRUCTION <i>(If applicable)</i></p> </td> </tr> </table>		<p>PROFESSIONAL SERVICES Commissioning</p>	<p>CONSTRUCTION <i>(If applicable)</i></p>
<p>PROFESSIONAL SERVICES Commissioning</p>	<p>CONSTRUCTION <i>(If applicable)</i></p>			

23. PROJECT OWNER'S INFORMATION

<p>c. PROJECT OWNER Colorado School of Mines</p>	<p>d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT \$67,000</p>	<p>e. TOTAL COST OF PROJECT \$67,000</p>
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(include scope, size, and length of project)*
 Replacing a dated 91-year old facility, McKinstry was the Commissioning Authority (CxA) throughout the design and construction, and McKinstry also provided LEED consulting support through project implementation.

The Colorado School of Mines (CSM) Clear Creek Athletics Complex is a 55,00 square foot mixed-use complex supporting football, track, and soccer located northwest of the CSM campus. The facility includes an athletics center housing multi-sport locker rooms, strength training and sports medicine facilities for men and women, office and event space, and functional areas for club sports and intramurals. The project also includes updates to the soccer pitch area, a modern press box, new lighting for the track and field complex, public restrooms, and flexibility for future expansion.

Systems commissioned comprised of air handling units and associated VAV terminal units, heat recovery ventilators, lighting control system, BAS, and chiller and boiler systems.



ATTACHMENT I – General Qualifications

**ANNUAL REQUEST FOR QUALIFICATIONS AND EXPERIENCE NO:
ADSP016-00005912**

**STATE PROCUREMENT OFFICE
Department of Administration
100 North 15th Avenue, Suite 201
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.)

a. TITLE AND LOCATION <i>(City and State)</i> Public Safety Building Commissioning, Salt Lake City, UT	b. YEAR COMPLETED: 2015	
	PROFESSIONAL SERVICES Commissioning	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Salt Lake City Corporation	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT Confidential	e. TOTAL COST OF PROJECT Confidential
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)
Salt Lake City's new Public Safety Building was designed with a goal of generating as much energy as it uses. It can also withstand an earthquake of magnitude 7.5 and houses police, fire, 911 dispatch, an emergency operations center, and provides space for public gatherings.

Design Phase

McKinstry helped identify any potential design issues that could result in rework, change orders, operations and maintenance problems, or suboptimal system/equipment performance. McKinstry also provided a commissioning plan for the new construction project.

Construction Phase

McKinstry inspected the work of installing contractors and documented the systems that were installed, energized, programmed, and balanced properly. McKinstry also verified the certified TAB report.

Closeout Phase

McKinstry staff attended O&M training provided by the installing contractors to verify it met design intent, functionality, controls, and O&M requirements. McKinstry's CX Authority performed seasonal functional testing and trend data analysis to assess building operation during and after the warranty period. The 427 deficiencies identified during the construction phase were tracked until resolution. Finally, McKinstry provided the commissioning necessary to obtain the Rocky Mountain Power utility incentive rebate program.



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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.)

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

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

Signature: Phillip Saieg Date: 12/21/15

Name: Phillip Saieg Title: Business Development Manager