

**Exhibit A**  
**2014 Scope of Work for Training, Mentoring, Quality Assurance (Post-Improvement Verification) and Energy Advisor Services for the Home Efficiency Program**

**BACKGROUND**

In response to aggressive goals in recently adopted City policies, Fort Collins Utilities (Utilities) is significantly enhancing the programs it offers to residential customers in the areas of energy and water conservation.

(*Climate Action Plan*, [http://www.fcgov.com/climateprotection/pdf/climate\\_action\\_plan.pdf](http://www.fcgov.com/climateprotection/pdf/climate_action_plan.pdf);  
*Energy Policy*, <http://www.fcgov.com/electric/pdf/energy-policy.pdf>;  
*Water Conservation Plan*, <http://www.fcgov.com/water/pdf/conservation-plan.pdf>).

The focus of these programs is installed improvements that deliver energy and water savings, while in many cases also providing other homeowner benefits. The programs are designed to meet consumer needs for credible information and guidance, skilled and trusted contractors, affordable cost to participate and services that are easy to access.

Utilities is designing these programs to build both the supply infrastructure (contractors) and demand for services (consumers). To expand the pool of quality service providers, Utilities will support opportunities for training, mentoring, certification and business development.

Utilities is making a commitment to offer the programs described below for a minimum of five years. Utilities energy efficiency programs also include a focus on quality assurance and control to ensure the responsible use of ratepayer funds. Utilities provides other programs and services targeting specific equipment, such as consumer appliances, residential lighting and sprinkler system audits.

**PROGRAM DESCRIPTION**

The Home Efficiency Program (Program) is an audit and home improvement program for Utilities electric customers. The goal of the Program is the completion of independently verified energy and water efficiency projects for existing homes.

The program encourages residents to implement energy and water savings improvements by providing:

- **Audits.** The Efficiency Audit is a standardized audit with visual inspections and performance testing. Audit costs are subsidized by Utilities.
- **Home-specific improvement recommendations.** Auditors recommend targeted efficiency measures such as insulation, air sealing, windows and mechanical system upgrades.
- **Approved contractor network.** Utilities maintains a list of Participating Contractors. Customers must have the improvements completed by a Participating Contractor in order to be eligible for rebates. Contractor lists are maintained through a formal agreement with Utilities.
- **Rebates and financing options.** Utilities provides significant rebates and financing for targeted efficiency measures.

- **Project support and coaching.** Customers are encouraged to contact Utilities Program staff to discuss audit results and improvement recommendations.
- **Quality control.** Selected improvements are independently verified.

Eligible housing types in this program include single-family detached and attached housing, and townhomes. Both owner-occupied and rental properties are eligible (in the case of rental housing, the program is directed at the owner). Best practices, quality workmanship and a high level of installed performance are expectations that underlie this program.

## **SCOPE OF SERVICES**

### **General**

This scope of work describes training, mentoring and quality assurance (QA)/Post-Improvement Verification (PIV) services to be delivered by Lightly Treading (LT) to Fort Collins Utilities during 2014 to support Fort Collins Utilities (Utilities) Home Efficiency Program (Program).

The goals of the services are:

- 1) Train interested contractors on the installation standards of Fort Collins' Home Efficiency Program.
- 2) Track quality assurance and quality control of projects within Fort Collins Home Efficiency Program.
- 3) Introduce/increase house-as-a-system building science knowledge for participating Insulation/Air sealing, HVAC, and Windows contractors.
- 4) Provide ongoing feedback to improve the quality of work being done by all Home Efficiency Program participating contractors, to optimize energy-savings and customer satisfaction.
- 5) Provide energy advisor services to all HEP customers who have completed an audit prior to February 4, 2013 but not an improvement project within the HEP.

### **Trainings for Participating Contractors**

Provide specialty trainings for Participating Contractors on an as-needed basis. Classes have been scheduled through 2014 and will be held when 4 or more students request a specialty training (descriptions of each training follow). Specialty areas include:

- Air Sealing & Insulation
- Heating Ventilation and Air-Conditioning (HVAC)
- Window Installation
- Additional training may be requested by Utilities. Scope to be determined collaboratively.

### **Mentoring for Participating Contractors**

- Observe students who have completed the required specialty trainings in the field to verify they can complete the skills listed on the mentoring checklists without assistance or guidance.
- Provide on-site instruction to the student if they are unable to complete a skill.
- Lightly Treading Administrator will track all mentoring sessions and provide monthly reports to Fort Collins.

### **Quality Assurance (QA) / Post-Improvement Verification Inspections**

- Schedule Post-Improvement Verification inspections requested by Fort Collins' Program Coordinator.
- Perform Post-Improvement Verification inspections to determine whether installation standards, technical specifications and program requirements associated with Program rebates have been met.
  - Lightly Treading will conduct comprehensive inspections for the first 5 projects from any given Participating Contractor and no less than 10% of on-going completed projects following the first 5 projects from the same Contractor (percentage to be determined based on Contractor's performance).
  - Lightly Treading will conduct commissioning verification testing on 1 in 10 HVAC projects per contractor.
- Lightly Treading Administrator will track all PIV's for both Fort Collins and Loveland programs and ensure PIV's for Loveland count towards mentoring checklist completions in Fort Collins and vice versa.
- Lightly Treading Administrator will submit PIV inspection results to Fort Collins' Program Coordinator on a weekly basis.

### **Data Ownership**

- Customer data is strictly confidential and shall not be used for any purpose other than providing services under the Home Efficiency Program.
- Provision of services under the Home Efficiency Program may create data which can be used for other purposes, such as program evaluation, development of training materials or worksite protocols. Utilities and contractor will notify each other, and receive approval, of any intended use of program information for other purposes.

### **Billing**

Submit monthly invoices with backup documentation (number and type of trainings conducted, mentoring days, Post-Improvement Verification hours, approved consulting hours, program meeting hours) to Utilities for payment.

### **CONTRACT AMOUNT**

**The total value of this contract is estimated to be \$102,772.50.** This amount is based on the contractor providing:

- **Air Sealing/Insulation Trainings**
  - Up to 4 classes
  - \$500 one time materials charge for all students
  - \$2,350/class (max of 6 students), maximum total \$9,900
- **HVAC Trainings**
  - Up to 4 classes
  - Update current presentation up to 6 hours @ \$125/hour = \$750
  - \$2,550/class = maximum total \$10,950
- **Window Installation Trainings**

- Up to 4 classes
- \$750/class = maximum total \$3,000
- **Mentoring**
  - 30 days / 240 hours
  - \$110/hour
  - \$35 or \$75 trip fee depending on instructor's starting location (Loveland or Denver)
  - Total = \$26,400
- **Post-Improvement Verification Inspections**
  - 220 hours
  - \$110/hour
  - \$35 trip or \$75 trip fee depending on inspector's starting location (Loveland or Denver)
  - Total = \$24,200
- **Program Consulting and Meetings**
  - Principal / 20 hours / \$125 per hour = Total \$2,500
  - Inspector/Trainer / 40 hours / \$110 per hour = Total \$4,400
  - Admin / 20 hours / \$75 per hour = Total \$1,500
  - \$75 trip fee
  - Total = \$8,400
- **Hourly Administrative Costs**
  - 120 hours
  - \$75/hour
  - Total = \$9,000
- **Energy Advisor Services Program**
  - 60 hours
  - \$110/hour
  - Total = \$6,600

The goals for this program are based on estimates of customer demand for efficiency and improvement projects. Utilities does not guarantee the contract amount or number of trainings completed.

Future renewals of this contract may have revised goals and associated contract amounts.

### **Energy Advisor Program**

Fort Collins Utilities and Lightly Treading have partnered together to provide up to 3 hours of energy advisor services to all HEP customers who have completed an audit but not an improvement project within the HEP. We project 20 interested customers will contact Lightly Treading for assistance.

Energy Advisor services can include:

- Suggest energy savings behavior modifications when applicable
- Review audit report with customer to identify best next steps
- Help customer identify best project scope of work based on budget and concerns
- If requested, advisor can recommend 3 contractors to contact or advisor can contact contractors on behalf of the customer
- Review scopes of work with customer for adequacy and completeness
- Review available rebates
- Connect customer to On-Bill Financing program info

### **Air Sealing and Insulation Training**

This 2 day training will include either one day in a classroom or on-line training and one day in the field. The class size will be limited to 6 students per instructor (maximum class size 10 students). This class will be offered when 4 or more contractors express a class interest.

The first day will begin with classroom training on Building Science and Combustion Appliance Zone (CAZ) meeting BPI standards. The students will learn the importance of assessing house insulation levels in attics walls and basement/crawl spaces. Students will learn how to calculate mechanical ventilation requirements based on ASHREA 62.2.

The second day will be spent in the field at a residential unit used for hands on training. The instructor will lead the class in conducting inspections of the insulation levels and installation quality in the attic/ceiling, walls and foundation walls and/or floor. Students will learn how to set-up/tear down and understand the operations of a blower door. Using a blower door is a requirement for contractors doing insulation and air sealing improvement work for the Home Efficiency Program. The class will use the blower door and the instructor will typically have an IR camera available to identify where air leakage is occurring and where insulation voids exist. The class will use the blower door to determine a baseline level of air leakage. They will also use the CFM@50 data to determine the 25%, 33%, 50% leakage levels for the house. Air sealing training will address the requirements of the Program installation standards for air sealing.

Each student must arrange to complete their mentoring field checklist. Mentoring sessions are scheduled and tracked by Lightly Treading.

After a student has satisfactorily completed the mentoring checklist, the instructor will determine if the student is ready to be signed off as a Fort Collins Air Sealing/Insulation Specialist or if they need additional training.

- Utilities: Flat rate of \$2,350 per training (includes training, food, trip charge and per diem)
- Student: \$100
- \$125.00/day per diem for lodging and food for instructor if an overnight stay is necessary

### **HVAC Training**

This 2 day training will include either one day of classroom, or equivalent on-line instruction, and one day in the field. The class size will be limited to 6 students per instructor to optimize the learning opportunity for students. This class will be offered when 4 or more contractors express a class interest.

Day 1: The all day classroom time will include modules covering Building Science, Mechanical Systems, Blower Door testing and Ductwork best-practices meeting ACCA Standard 5. Classroom modules covering the measurements required to complete the HEP commissioning form, including static pressure, temp rise and airflow. Combustion Appliance Zone testing to BPI Standards will be explained and the CAZ testing requirements for spillage will also be reviewed. Calculations will be illustrated for determining if the volume of the open space around the combustion appliance is adequate for combustion air, and if not, perform outside combustion air duct sizing calculations.

Day 2: The all day field training will take place in a house provided by FCU. The training will include the following:

- Set-up and demonstrate the operation of the blower door to look for air leakage via the ductwork and other thermal bypasses in the house. Also, conduct pressure-pan measurements of leakage coming through ducts with the blower door running.
- If the contractor will be providing duct leakage testing to our customers, demonstrate the use the Duct Blaster to determine the total amount of ductwork leakage, and the amount of leakage to the outside. Smoke will be used to identify leakage locations in the ductwork. The goal is to quantify the total duct leakage via building cavity returns and supplies, and the duct-leakage to outdoors.
- Demonstrate proper sealing of ductwork. Mesh tape and mastic will be used to seal identified gaps in the ductwork.
- Visually identified duct-sealing. Mesh tape and mastic will be used to seal identified gaps in the ductwork.
- Demonstrate a fully BPI compliant CAZ testing on the atmospherically vented water heater and forced-air furnace and how to CAZ test in the HEP.
- Demonstrate how to use the HEP Commissioning Form by performing the following tests and recording the results on the form:
  - Heat rise test of force-air system to identify if issues of inadequate airflow exists.
  - Static pressure test of supply and return trunks to identify if the ducts can effectively deliver/return air based on the flow rate of the furnace's fan.
  - True-flow grid measurement of the air-flow through the forced-air furnace as a quantifiable means of measuring the air-flow, with airflow corrected for altitude.
  - Measure gas pressure and adjust to insure proper heat rise for the airflow.
  - We will also address the need to realign a common vent when a natural draft water heater becomes orphaned.
  - Combustion efficiency testing, to quantify the operating efficiency of the furnace on the test day.
  - Quantify the oxygen, carbon monoxide and nitrogen oxide levels in the exhaust gases.

The instructor will review and make notes on each of the students as to their understanding of what was covered during the two days.

Each student must arrange to complete their mentoring field checklist. Mentoring sessions are scheduled and tracked by Lightly Treading.

Once a student has satisfactorily completed the mentoring checklist, the instructor will determine if the student is ready to be signed off as a Fort Collins HVAC Specialist or if they need additional training.

- Utilities: Flat rate of \$2,550 per training (includes training, food, trip charge and per diem)
- Student: \$150
- \$125.00/day per diem for lodging and food for instructor if an overnight stay is necessary

### **Window Installation Training**

This 1 day training will be spent in the classroom, which will include a window installation learning lab prop. The class will be limited to 10 students per instructor. Training will be scheduled when 4 or more contractors express a class interest.

The classroom session will be about 2/3 of the days' time, and will include modules on Building Science, use of the Blower Door to identify leakage around windows and retrofit window installation best-practices meeting AAMA Installation Master standards.

In the later 1/3 of the day, students who do not have an AAMA Installation Masters or equivalent program or manufacturer's installation training classes will need to participate in using a learning lab portable display of best-practice window installation, including flashing and air sealing which exceeds AAMA Installation Masters or equivalent standards.

Additionally, the portable learning lab/field portion of the day will guide the students as to proper Window installation/flashing and air-sealing training through hands-on examples. This portion of the training will include a guest presenter window installer who regularly follows the Water Management Guide (or equivalent) best-practices and the session will cover the following:

- Installation, flashing and sealing of windows/doors in a remodel project scenario which meets the installation and flashing standards in AAMA Installation Masters guidebook.
- Best-practices installation and sealing windows/doors in a replacement project scenario.

Each student must arrange to complete their mentoring field checklist. Mentoring sessions are scheduled and tracked by Lightly Treading.

Once a student has satisfactorily completed the mentoring checklist, the instructor will determine if the student is ready to be signed off as a Fort Collins Window Installer Specialist or if they need additional training.

- Utilities: Flat rate of \$750 per training (includes training, food, trip charge and per diem)
- Student: \$75