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June 3, 2016

Fairbanks Youth Advocates, Inc.
P.O. Box 10337
Fairbanks, AK 99710

Attention: Mrs. Mary Lee Bates

RE: 122 10th Ave
Fairbanks, AK 99701

I appreciate the opportunity to bid on this project. I am confident we can install a heating and domestic hot water system that is efficient, easily serviced, and will provide years of reliable service. I recommend replacing your existing boiler with a new higher efficiency low mass System 2000 boiler for the maximum fuel savings possible. In addition, the System 2000 can be converted to operate on natural gas should it become available in the future. The Energy Kinetics System 2000 boiler is the lowest cost boiler option for this application that is Energy Star rated and multi-fuel compatible.

As you may have seen from the Energy Kinetics DVD or [website](#), the System 2000 boiler/hot water system will provide the utmost in fuel efficiency for years to come. Initially they cost more upfront than an ordinary system but the fuel savings associated with these systems will more than offset the small additional cost when compared to a regular cast iron boiler. To merely replace an older cast iron boiler for a newer one will not give you the fuel savings you are looking for as there is not enough difference between the efficiencies. To truly gain the fuel savings you are looking for, you must fundamentally change the way the boiler operates. Again, the DVD and web site do a good job of outlining why the System 2000 boiler is so much more operationally efficient than an ordinary cast iron boiler.

SCOPE OF WORK:

We will:

1. Install an Energy Kinetics System 2000 boiler on a low profile stand with a new 40-gallon hot water storage tank. The install will include the Energy Kinetics 2000 boiler control.
2. Connect the new boiler into existing fuel lines, electrical service, and chimney.
3. Install all new near boiler piping to include two Caleffi zone valves and all other associated components and fittings.
4. Install new expansion tanks for the domestic hot water and heating system.
5. Re-connect the domestic hot and cold water lines to the new system.
6. Install direct connect combustion air intake piping.
7. Have Firesafe Chimney Service install a stainless steel chimney liner. (**\$1500.00 allotment**)
8. Obtain the City of Fairbanks mechanical permit.
9. Fill, purge, and test the new boiler to ensure proper operation of your entire system.
10. Remove and dispose of the existing boiler and water heater.

TOTAL PROJECT COST:

\$ 12,864.05

I understand that this is an expensive project. Please do not hesitate to contact our office with any questions or concerns about this proposal. If you would like to discuss additional options, I would also be more than happy to come back out and discuss this bid proposal in detail. Thank you for considering Rocky's Heating Service; we appreciate your business.

Sincerely,

Jeffrey Kaufman
Rocky's Heating Service
907-456-4120
jeff@rockysheatingservice.com

ASSUMPTIONS, EXCLUSIONS, SPECIFICATIONS:

1. Bid assumes the new boiler will be an Energy Kinetics EK-1.
2. Bid assumes that there is a carbon monoxide detector near each sleeping area per local code requirement.
3. Should any of these items be unserviceable at the time of the install there could be additional costs to repair or replace them. Bid assumes re-use of the following items:
 - a. Existing hot water baseboard and piping.
 - b. Existing garage unit heater.
 - c. Existing thermostats and associated wiring.
 - d. Existing fuel lines and tank.
 - e. Existing chimney.
4. Bid excludes any other work not mentioned above in the scope of work.

CHIMNEY ADDENDUM:

In certain System 2000 boiler installations and other high efficiency boilers, chimney condensation has become an issue. This is due to the fact that the System 2000 boiler runs extremely efficiently and consequently has a relatively low flue exhaust temperature compared to old cast iron boilers. The System 2000 boiler's exhaust can be as low as 350 degrees, compared to 450-500 plus degrees for the older cast iron boilers. While this means the System 2000 is utilizing more of the heat for heating the house, here in Alaska, this lower exhaust temperature can create some issues in isolated instances. If the existing chimney is too tall or too large in diameter, the exhaust gases can cool on their way out of the chimney. This is most often the case with masonry chimneys. Masonry chimneys must be tile or steel lined for a System 2000 installation. If this cooling is great enough, the moisture contained within the exhaust can condense and form water droplets inside the chimney. This moisture combined with the sulfur residue left over from burning fuel oil forms a weak sulfuric acid. This acidic solution can start to deteriorate the inner lining of the chimney. We have allotted **\$1,500.00** in this proposal for the new chimney liner. If you would like a more accurate cost for the liner, we can contact Firesafe Chimney Service so they can inspect your existing chimney and provide us with a more accurate quote for the new liner.

**ADDENDUM:
Boiler Fluid Quality and Treatment**

All heating systems need to be cleaned and flushed on a regular basis. Similar to the fluids in your automobile, the fluids within the heating system become dirty and break down, no longer providing optimum performance and protection. The ferrous metal components within a heating system along with oxygen begin to corrode immediately and start to degrade the operational efficiency of your heating system without yearly treatment. The oxygen in the boiler fluid needs to be treated with an inhibitor to protect your new system. Untreated old glycol will still provide freeze protection but does not protect your system from corrosion. New glycol has the inhibitor in it from the factory and requires yearly testing and additional inhibitor added as necessary to remain effective. We recommend all new boiler installs get a thorough cleaning with Fernox F5 system cleaner/restorer. We then clean and flush the entire system before adding the new glycol. We recommend that you treat the fluid in your system with Fernox F1 inhibitor annually when you have your boiler serviced. When we install a new boiler there are several choices that need to be made in regard to the fluid in your heating system:

1. Drain and dispose of the existing fluid in your system and re-fill the new boiler with water. Treat with Fernox F1 & F5. Est. \$160.00
 - a. When no glycol (or no significant trace) is present in the system there is no additional cost.
 - b. When glycol is present in the system it will need to be eliminated. The additional cost of the bid depends on the amount of old glycol in the system.

2. Drain and re-use the existing glycol in your system. This is **not** recommended unless the glycol is relatively new. If you are having a high efficiency boiler or flat plate heat exchanger installed, this could void your warranty. The newer high efficiency appliances are more sensitive to the byproducts of corrosion and can fail prematurely. Several manufacturers already require yearly fluid maintenance or the warranty will be voided. Using old glycol is not recommended because we cannot properly clean, flush, and treat the new system. There is no additional cost.

3. **Recommended:** All new boiler installs get a thorough cleaning with Fernox F5 system cleaner/restorer, flush, drain, and then treat the new boiler fluid with F1 inhibitor (water or glycol). For water only, see 1a above.

Total system clean and flush with Fernox F5 and

100% new glycol for adequate burst protection:

\$660.00