

Natural gas comes to Gorham

The PineCrest Inn converts from oil heat to a high-efficiency gas-fired system and reaps huge savings

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- Nine-room, 5,500-sq.ft. inn gets a high-efficiency, gas-fired boiler upgrade
- The wall-hung Baxi Luna boiler is an EnergyStar-rated appliance that can achieve 98% thermal efficiency
- Taco 571 zone valves and relays with Honeywell thermostats were used to make 11 zones of heating
- The boiler has already saved enough to cover the initial installation costs



The mechanical room, with wall-hung boiler at right, thermal storage tank at left, and zone valve relays in the center.

GORHAM, MAINE — The PineCrest Inn was built in Gorham in 1825, so it has seen a lot of changes. It was purchased and turned into a B&B in the early 90s, and as part of the renovation the owners put in an oil-heat boiler.

When the company doing the installation went out of business before the job was finished, Jim Robinson, the co-owner of Mainely Plumbing and Heating, was called in to finish the job.

That was Robinson's first visit to the PineCrest, but it wouldn't be his last.

Mainely Plumbing and Heating has been in business for 28 years, first in Portland, Maine, but in Gorham for the last five. "We've split up into two divisions," Robinson explained. "We have a service division that services gas boilers, oil boilers, air conditioning systems, mini-splits and so forth, and then we have an install division that does new houses, new installations, heating, cooling, gas, oil, solar, geothermal, you name it." Mainely currently has 14 employees including Robinson and the back office.

Flash forward to 2008. The PineCrest is under new management, innkeeper Matt Mattingly. Mattingly had set up a bar/restaurant in the nine-room, 5,500-sq.ft. inn, and although business was good, the utility bills were killing him.



Robinson and Mattingly in front of the PineCrest Inn.

“My annual utility bills totaled almost \$9,000 in 2008,” Mattingly said. “Oil heat was my biggest previous cost, and there was a smaller propane bill for our kitchen range.” To make matters worse, Mattingly needed space heaters in most of his rooms to keep guest comfortable on chilly Maine Winter evenings, which made his electricity bills shoot through the roof.

That’s when Robinson comes back into the story. “My wife and I would venture over [to the PineCrest] for dinner,” Robinson said, “because it was really nice food. Friday, Saturday night we’d have dinner and get to know [Mattingly], and he’d want me to go downstairs and look at his antique heating system — because that’s what I do.

“And then one day natural gas came to Gorham, so I said this is what you should do: swap this out. Get something new and efficient in here that runs on natural gas.”

But first the old system would have to come out. “This was a complete gut of the basement,” Robinson said. “All the heating system and the circulators and everything.” The old boiler, a Peerless GOT (six sections, 200,000 btuh) was sitting in the middle of the floor taking up most of the space.

After Mainely Plumbing and Heating had disconnected the old system and the demo crew had cut it up and pulled it out it was time to figure out the distribution system.

“This building was old,” Robinson said. “There were a lot of pipes everywhere-which-way. I was wondering how it all worked. And finally it did all come together, we were able to trace everything out and get it completed. We did take out a lot of the old steel pipe that was in there and replace it with copper and PEX.” Distribution was to copper fin-tube baseboard.

Mainely Heating and Plumbing installed a wall-hung Baxi Luna boiler, an EnergyStar-rated appliance that can achieve 98% thermal efficiency while producing 90% less greenhouse gas emissions.

Hanging the boiler off to one side on the wall instantly opened up space in the basement. Mainely set up a Wilo variable-speed circulator, which not only helped the efficiency of the overall hydronic system, but consumed

much less electricity than the circulators used in the old system. The new system re-used the old system's 60-gal. Superstore hot water storage tank.

Using Taco 571 zone valves with Taco's zone valve relays and Honeywell thermostats, Mainely set up 11 zones of heating. Each zone is programmable with locking high and low temperature settings.

To get the most out of the system, Robinson custom-built a low-loss header. "So that becomes your flow separator, your air eliminator, your sediment trap," Robinson said. "All your good things happen in this low-loss header."

Mainely Plumbing and Heating finished up the job in little more than a week in March of 2009. They charged \$20,000 for the work. The results have been remarkable.

Mattingly said the boiler has saved enough to cover the initial installation costs, put significant after-tax dollars back in his pocket and enhanced his commitment to Maine's green lodging certification program.

"I know the first year he saved about 60% of what his oil costs had been the year before," Robinson said. "His electric bill went down by almost \$2,000."

The arrival of natural gas in Maine has been a boost to Mainely Plumbing and heating. The company has already installed half a dozen of Baxi's new Duo-Tec boilers. "Now with natural gas moving into the surrounding towns of Cumberland, Falmouth and Yarmouth I've been doing boiler install estimates for most of the homes we've looked at," Robinson said.

Individual towns have been offering rebates up to \$2,500 for oil-to-natural gas conversion, with the State of Maine offering a \$500 rebate. Plenty of low-interest money is also available either through the state or through various manufacturers. Looks like a win-win for everyone involved.