



HISTORIC GRATIOT COURTHOUSE RENOVATES WITH TRIAD BOILERS

High Efficiency TRE Package to Provide a Quick Payback

The Gratiot County Courthouse in Ithaca, Michigan is an historic 2-1/2-story Neoclassical sandstone structure built 114 years ago, in 1900. It was designed by well-known architect Claire Allen.

In 1957 it was designated a Michigan State Historic Site and in 1976 was listed on the National Register of Historic Places. Gratiot County, settled in the mid-1800's, is in the center of Michigan's Lower Peninsula, surrounded by mid-Michigan farm country.



The ornate design of the Gratiot courthouse was a revival of the Classical style, based on architectural structures and elements from Greek and Roman antiquity and popularized by the stunning White City at the Chicago World's Fair in 1893. The courthouse features an exposed half basement, a rotunda with a clock tower and belfry, and exterior details like ornate columns at the front entrance and hand carved agriculture-themed details acknowledging the county's farming industry.



This installation occurred because Triad's Michigan Rep, Kyle Gradowski at The Joseph M. Day Company, understood the exact solution that was needed. The courthouse was in definite need of a new boiler, so the existing 1992 Bryan hot water heating boiler had to be replaced. A building this old requires special care when the mechanicals are replaced, yet it is also important to take the opportunity to improve the equipment efficiency. The new boiler would be required to supply the primary air handler heating coils, a few reheat coils, and the baseboard perimeter heat on each floor.

TRIAD Boiler Systems, Inc.
West Chicago, IL
888-526-5245
www.triadboiler.com



GRATIOT COURTHOUSE (Continued)

However, because efficiency was very important The Joseph M. Day Company understood the best solution was a TRE Package from Triad, firing at 1000MBH. The TRE (Triad Rugged Efficiency) matches one of Triad's exceptionally rugged mid-efficiency boilers with a highly-engineered stainless steel economizer (heat exchanger) **to obtain the same results as a high-efficiency condensing boiler.**

The package was installed with a Heat Timer Elite Series MC Controller replaced the existing three-way valve for system water reset. The low end was initially set up for 140°F, and operate at a 1:1 reset ratio. A Johnson Controls Metasys system controlled the system pumps for the different zones, but the boiler itself was kept under control of the Heat Timer.



Combustion readings were very good, even in high fire. With 160°F supply water, efficiency was at 87.3% with flue temp of 181.5°F, which is very close to the highest thermodynamically achievable efficiency (at those conditions). During the warmer shoulder seasons it is expected that the water temperature will operate even deeper into the condensing zone. Previously the old boiler operated at 180°F all season - so the courthouse is anticipating substantial fuel savings.

This package was exactly what the engineer was looking for but did not know existed - condensing boiler efficiencies with the benefits of a traditional boiler. The Triad is a very long-lived vessel that uses conventional controls such as Honeywell and Bell and Gossett, with a well-known JR-50 modulating burner from PowerFlame.



GRATIOT COURTHOUSE (Continued)

This purchase, renovation, and upgrade is expected to generate a nice return for the owners, and Triad was pleased to be a part of this.

Please go to www.commercial.com for other successful applications as well as detailed information on TRIAD and its product line!



TRIAD Boiler Systems, Inc.
West Chicago, IL
888-526-5245
www.commercial.com