



**Service and Product Provider Partner**

***GSH Group, Inc.***

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**Customer**

***Stellar Management***

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**GSH Assists Stellar Management in Reducing CO<sub>2</sub> Emissions and Earning the ENERGY STAR**

**Project Scope**

In January 2009, GSH Group signed a five-year energy management contract with Stellar Management for Wall Street Plaza West, a 400,000 square foot office building constructed in the early 1900s. Since then, GSH's in-house mechanical team has implemented several energy projects. Through these projects, regular monitoring, and operational adjustments, GSH helped the building save energy, reduce CO<sub>2</sub> emissions, and earn the 2010 ENERGY STAR certification for Wall Street Plaza West.

**Project Summary**

GSH carried out several projects to enhance energy efficiency including the installation of a building management system (BMS), retro-commissioning projects, lighting upgrades, and steam pipe insulation. GSH custom-designed and installed a BMS to replace mechanical time clocks, thermostats, and steam heat controls. The BMS uses sensors to maximize indoor air quality, and incorporates demand-controlled ventilation, optimal start/stop times, and supply air resets. Also, GSH's energy mechanics retro-commissioned the HVAC system by repairing dampers and linkages, refurbishing economizer controls, and patching leaks. Lighting fixtures were upgraded to T8 fixtures, and occupancy sensors were installed in stairwells, restrooms, and storage areas. Additionally, GSH mechanics repaired and replaced the insulation around steam pipes in the steam station, reducing cooling load of the building's lower floors in the summer.

- **Energy Savings**

16% of total energy savings was achieved through the energy conservation measures implemented. This translates into 400 tons of offset annual CO<sub>2</sub> emissions and an annual utility cost savings of \$270,000.

- **Investment**

A total of \$834,000 dollars was invested for the BMS, retro-commissioning, lighting upgrade, and steam pipe insulation projects, plus \$75,000 per year for energy monitoring and maintenance.

- **Financial Return**

The simple payback on the \$834,000 investment plus annual ongoing monitoring and maintenance, is just over three and a half years.

- **Other Benefits**

Wall Street Plaza West earned the ENERGY STAR label in 2010 as a result of the improvements.

**Monitoring & Verifying Energy Savings**

Ongoing energy savings are tracked per Method C of the IPMVP, whole building comparison, since there is an interactive relationship between the measures implemented.

**Distinguishing Value**

GSH's energy management program reduced energy consumption through investments in mechanical and lighting projects and ongoing monitoring and adjustments that continue to ensure optimal energy efficiency of the facility.

