

CASE STUDY: The Whitney Restaurant

1890s Detroit Mansion Becomes 'Energy Efficiency' Icon



By **Douglas Elbinger**

Energy Systems Analyst, Newman Consulting Group LLC



The Woodward Avenue Elevation is a Textbook Example of Romanesque Revival

The Whitney, a National Historic Landmark and favorite restaurant of Detroiters for more than three decades, is a historical and architectural treasure in the cultural center of Detroit. The house was built by lumber baron David Whitney, Jr., one of Michigan's wealthiest citizens and the wealthiest man in Detroit at the time.

Work began on the home in 1890 and finished in 1894. It was estimated to have cost \$400,000 (about \$9.5 million in today's dollars) and was featured in several newspapers of the time. The house was constructed using rose-colored South Dakota jasper, a type of granite. The Whitney mansion is 22,000 square feet and has 52 rooms (including 10 bathrooms), 218 windows, 20 fireplaces and numerous stained-glass windows crafted by Tiffany of New York. It was the first residential home in Detroit to have a hydraulic elevator for personal use. The Whitney family spent an additional \$250,000 (\$6.2 million today) on decorating and furnishing the home, and another \$300,000 (\$7.5 million today) on artwork from around the world.

Today the exterior of the mansion looks much like it did in 1890, thanks to the use of solid granite as the primary building material, although for a time, news articles referred to the mansion as gray instead of pink or rose because of Detroit's early 20th Century pollution. The mansion has since been cleaned, restoring its vibrant original color. Throughout the home there are stone carvings of intertwining leaf motifs, grotesques, and David Whitney's initials. The roof is covered in slate tiles laid in a fish scale pattern. The

Woodward Avenue elevation is a textbook example of Romanesque Revival.

Following David Whitney's death in 1900 - having lived in the mansion for only six years - his widow, Sara, continued to live there until her death in 1917. Over the years, the house passed through the hands of several organizations including the Wayne County Medical Society and the Visiting Nurse Association, until 1979 when it was sold to entrepreneur Richard Kughn. Kughn learned that the mansion would likely be torn down after the Visiting Nurse Association left. "It should be preserved; not for personal use, but so that the public can see and enjoy it," he said. In 1986, after a lengthy and costly restoration, Kughn opened The Whitney restaurant, "an American restaurant in an American palace."

The Whitney mansion changed hands again in 2007, when Kughn sold the mansion to Bud Liebler, a former Chrysler executive. Liebler shut the restaurant down for a few weeks to do renovations, including toning down the 1980s paint choices, restoring the wood finishes and updating the menu. The third-floor bar was renamed the *Ghost Bar* after tales of Whitney's ghost haunting the building. Liebler and his son, Patrick, run their public relations firm, the Liebler Group, and manage the restaurant from the third floor of the mansion.

The Next Challenge

Managing a restaurant, especially in a 124-year-old mansion, is no easy task. After getting past the great recession of 2009 and enduring disruptions of the M-1 construction on Woodward Avenue, the management now faced ever-increasing energy and maintenance bills. Pat Liebler inquired about financing energy upgrades with PACE after learning about PACE (Property Assessed Clean Energy) in the November 2014 issue of *CAM Magazine*. When the Lieblers made the decision to move toward energy efficiency and enhancing the guest experience, they looked to Newman Consulting Group (NCG) and PACE to help with the design and financing of the energy efficiency upgrades, turning this 19th Century Detroit gem into a future green leader.

Jim Newman, managing partner of Newman Consulting Group explains, "The beauty of the PACE program is that it



Bud Liebler

enables commercial property owners to retrofit their buildings with renewable energy and energy efficient systems at very favorable rates from private lenders."

By repaying the loan via a special assessment on their local property tax, the PACE program was designed to make it easy for property owners to invest in energy efficiency by spreading the cost out over many years - 20 years in this case - and guaranteeing that the investment is cash flow positive, meaning that the energy savings are greater than the payments.

"The PACE program gives building owners and businesses like ours an incredible opportunity to update old systems without dipping into operating funds," says owner Bud Liebler. "You end up with an up-to-date and totally energy efficient property, and have the energy savings benefits while you're paying back the loan. It's a win-win for everyone."

Currently available in 32 states and Washington D.C., PACE financing makes comprehensive clean energy projects possible on a broader scale for the first time:

- Provides up to 100 percent financing to commercial property owners for energy efficient projects that deliver deep energy cost savings through the life of the loan.
- Turns a private loan into a property tax

IT'S THE LAW!



MIOSHA REQUIRES OPERATOR CERTIFICATION FOR THE FOLLOWING:

- Truck Cranes
- Crawler Cranes
- Boom Trucks
- Knuckleboom Cranes

Professional, Customized Training in
**CRANE CERTIFICATION
SIGNAL PERSON AND RIGGING**



**OPTARE
SERVICES**
Training & Consulting

989-245-3963
optareservices.com

Fire Protection Specialists Since 1979



**DESIGN
INSTALL
INSPECT
MAINTAIN
SERVICE**

**1111 W. Oakley Park Rd.
Commerce Twp., MI 48390
248-669-5155**

**Jackson
Associates**
Inc.

JacksonAssociatesInc.com

obligation and enables lenders to grant longer terms - up to 30 years or the useful life of the upgrades.

- Allows commercial property owners to increase the value of their existing buildings by reducing total energy costs and increasing net operating income.

Energy Analysis & Strategy

After a careful analysis of The Whitney, including the utility bills and the costs associated with many years of deferred and or reactive maintenance, NCG identified four primary areas where significant energy and operational savings could be achieved: HVAC, control systems, windows and lighting. The O&M and cost avoidance are factored into the overall savings.

HVAC system: Installed by the previous owner in 1984, it was well beyond its useful life and costing the owners dearly to keep running. NCG proposed installing 24 new, energy efficient heat pumps and installing gas-fired makeup heating and

cooling units to warm outside air in the winter to reduce the load on the heat pumps. This will balance the heating and cooling loads for increased patron comfort. This also allowed a reduction in heat pump capacity from 83.5 tons to 66.5 tons.

LED lighting and new electrical service: Replacing 1,600 chandelier lights with long-lasting, energy efficient LED bulbs will maintain the ambience while reducing energy and maintenance costs. Overhead fluorescent lights in work areas are also being replaced with LED tubes.

Networked building controls: Building energy management information systems provide a clear picture of the building's performance at any time so the system controls can be adjusted as needed for better efficiency.

New windows: Installing 214 new storm windows and doors will replace existing ones that are corroded or broken. To maintain the look and character, Kelly Windows will custom-make each window in their Detroit facility.



The Whitney's Grand Staircase

Newman crunched the numbers and coordinated with Lean & Green Michigan, the PACE administrator in Michigan. "The savings," he said, "looked great! The Whitney spends an average of \$95,000 in electricity and \$25,000 in natural gas each year for a total of \$120,000." Over 20 years, Newman projected, The Whitney would save more than \$2 million in energy costs and operations and maintenance. "I told Bud that, and he just smiled."

Going forward, the management intends to index energy cost as a function of revenue. This will tie the energy use to the volume of business and provide an index to measure energy efficiency.

About Newman Consulting Group

Newman Consulting Group LLC (NCG) is a globally recognized authority in energy efficiency for buildings. The NCG reputation rests on a team of highly skilled engineers, analysts, program managers and professionals certified in efficiency implementation and verification to guarantee a positive ROI. The team helps commercial, industrial and multi-family property owners all over the U.S. implement energy efficiency projects (including renewable energy such as solar, wind, geothermal), eliminate waste, and save money through innovative financing solutions.

For more information about NCG or PACE please visit <http://www.newmanconsultinggroup.us/> For information about The Whitney Visit <http://www.thewhitney.com/>



Washington Twp. Water Storage Tank

"When you drink the water, remember the spring."

~ Chinese Proverb



CONSULTING GROUP

Troy, MI 248.680.0400
Ann Arbor, MI 734.390.9330
Chicagoland, IL 847.353.8740

Constructing a new 100-foot diameter, 1.5 million gallon water storage tank can get complicated - especially when dealing with unsuitable fill soils, unstable granular soils, and shallow perched groundwater.

Smart.Results.Fast.

G2 provided dewatering recommendations and geotechnical solutions which minimized costly subgrade undercuts and kept the project on schedule.

LEARN MORE about this project @
<http://www.g2consultinggroup.com/water-storage-tank/>

Fast Facts:

A historic home turned fine-dining establishment, this three-story Detroit landmark is Wayne County's first PACE project.

- Year Built: 1890
- Size: 22,000 SF
- 52 rooms
- Over 200 windows and doors
- Use: Restaurant and some office space
- Open daily
- The Q-Line stops on the corner of Canfield and Woodward, providing easy access to The Whitney from downtown and Midtown Detroit

Strategies:

- Energy efficient heating and cooling systems
- Energy efficient LED lighting
- Networked building controls
- Upgraded windows
- Energy efficient kitchen ranges

Amount Financed = \$850,000

Estimated 20-Year Savings = \$2,097,327

Stakeholders:

PACE District: Wayne County

Property Owner: Bud Liebler, Liebler Group

PACE Provider: Newman Consulting Group LLC

PACE Administrator: Lean & Green Michigan

PACE Lender: PetrosPartners PACE Finance

Mechanical: Carter Mechanical

Electrical: Dustmen Electric

Windows: Kelly Windows

Lighting: Midwest Illumination

Controls: W.J. O'Neil

Heat Pumps: Daikin

Engineering: Sustainable Engineering Solutions



Andy Levin, PACE Administrator; Jim Newman, managing partner Newman Consulting Group; and Bud Liebler, owner of The Whitney, review renovation plans.

The Art of Demolition



Power Plant Demolition by NADC - Conversion & Retrofit

Complete Heavy Industrial & Commercial Demolition Services



LICENSED • BONDED • INSURED

800-664-3697

Email: info@nadc1.com

www.nadc1.com



North American Dismantling Corp.

In Pursuit of Progress