

# MH Professional Engineering, PLLC



## GREEN BUILDING PROJECT EXPERIENCE

### **DEPARTMENT OF ENVIRONMENTAL CONSERVATION** **REGION 3 HEADQUARTERS BUILDING**

New Paltz, NY

- Lead Mechanical and Electrical Engineering firm for 20,000 ft<sup>2</sup> two-story complete renovation and 22,000 ft<sup>2</sup> addition.
- The project included a 24-well water-to-water geothermal heat pump system for heating hot water and chilled water generation, a 4-pipe distribution system, a lighting control system, and use of water saving plumbing fixtures throughout the building.
- The project achieved a Silver rating under LEED 2.1 with the United States Green Building Council.



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### **DEPARTMENT OF ENVIRONMENTAL CONSERVATION REGION 5** **SUB-OFFICE BUILDING**

Warrensburg, NY

- Project managed the entire engineering scope and designed the HVAC, plumbing, and fire protection systems for 16,000 ft<sup>2</sup> two-story complete renovation and 12,000 ft<sup>2</sup> addition.
- The project included a variable air volume air handling system, heating hot water generation and distribution system, DX cooling, a lighting control system, and use of water saving plumbing fixtures throughout the building.
- The project was awarded a Gold Rating under LEED 2.1 with the United States Green Building Council.



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## GREEN BUILDING PROJECT EXPERIENCE

### **NYS DEPARTMENT OF TRANSPORTATION REGION 1 HEADQUARTERS**

Schenectady, NY

- The Department of Transportation (DOT) Region One Headquarters located in downtown Schenectady earned a LEED 2.0 “Silver” rating from the United States Green Building Council in October of 2003 due to its environmentally-friendly design and construction.
- The project involved redevelopment of a vacant urban site into a four-story, 125,000-square-foot design/build office building.
- Firm principal was responsible for the mechanical engineering design and commissioning services of the HVAC and fire protection systems on this project.
- The mechanical building systems were designed to meet LEED 2.0 standards and included five boilers, four air handlers, two water-cooled chillers, and two cooling towers. Energy efficiency was achieved so that the building's energy cost is 35 percent below its modeled baseline and water consumption is 32% below that of a standard building.
- The building project tied into the municipal water, sewer, natural gas and electrical services, and at the same time allowed for needed upgrades to this vital infrastructure.
- All HVAC equipment – chillers and package equipment – was selected based on criteria of non-ozone depleting refrigerants.
- A Carbon Dioxide (CO<sub>2</sub>) monitoring and control system was installed to respond to occupancy and maintain acceptable.
- CO<sub>2</sub> concentrations, while at the same time reducing energy use for conditioning of ventilation air. Diffuser selection and layout were designed to achieve effective air mixing.
- The commissioning began during the design phase, and continued through construction, training, and into the warranty period to ensure that the functional and energy efficiency objectives for the project were achieved. As part of the commissioning services performed, a recommissioning manual was written for use by the building owner to maintain the building's LEED rating. This project was one of the first New York State office buildings to achieve a LEED rating.





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### **YOO D4 By STARCK CONDOMINIUMS**

Boston, MA

- Lead Mechanical Engineers.
- Completed design for the preservation and adaptive reuse of the four-story former South End Police Station into luxury condominium units. The design was a collaborative effort with London-based design and development firm Yoo Ltd and French designer Phillipe Starck. The total square footage is approximately 57,600 ft<sup>2</sup>.
- Designed twenty-six residential units ranging in size from approximately 750-2,000 ft<sup>2</sup> with a relatively even distribution of one, two, and three bedrooms. The residential units are metered separately for electricity and natural gas.
- The building was designed to be environmentally friendly or “green.” The employment of LEED concepts such as a “green” roof, water conserving fixtures, and maximum energy efficiency were included in the base design.
- The incorporation of a four-story glass covered atrium created unique challenges for the HVAC system, the smoke evacuation system, and the fire protection systems.



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## GREEN BUILDING PROJECT EXPERIENCE

### **FORENSIC INVESTIGATION UNITS AND COMMAND CENTERS**

Raybrook, Oneida and Middletown, NY

- The engineers at MH Professional Engineering were retained by The Office of General Services (OGS) to provide consulting and design engineering services for the Forensic Investigation Unit (FIU) and Command Center addition and renovation projects in Raybrook, Oneida, and Middletown, NY.
- The designs in all three buildings incorporated LEED standards and Executive Order 111 for “green” buildings and are LEED certified with the United States Green Building Council.
- The result of the engineering services was a coordinated prototypical set of building engineering documents allowing for consistent design and construction between the three sites.
- New FIU buildings were planned to alleviate some of the overcrowding within the existing Headquarters buildings. With the rapidly expanding role of the forensic sciences in police investigations, and new regulations requiring long term storage of DNA evidence, the existing Headquarters buildings can no longer support the needs of the forensic investigations unit. Specifically, the FIU buildings will provide much needed evidence storage, laboratory and office space for the rapidly expanding departments of Forensic Investigations and Computer Crimes.
- The command center will support all the Troop radio dispatch and communications functions, the Park Police dispatch function and non-business hour Troop desk operations. All of the facility sites, with the exception of the Raybrook facility, will have command center upgrades, which includes the design and construction of a small data center.

