

MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

MT. VAN HOEVENBERG SITE TRANSFORMATION – OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

Lake Placid, NY

- Served as the lead Mechanical, Electrical, and Plumbing Engineers, working directly for Design/Builder, for a full design of the snow making system building, the water system treatment building, and the cross country skiing venue at Mt. Van Hoevenberg in Lake Placid.
- Conducted detailed photometric analysis to ensure optimal lighting in parking areas, plaza pedestrian areas, Bobsled Road, and the cross country skiing course.
- Specified lighting fixtures and power requirements for the entire site, including specialty signage, and collaborated closely with the Lodge Design/Build Team to address all site power and lighting control needs.
- Provided power design support to the civil engineer, ensuring proper functioning of well pumps, sanitary pumps, vaults, motorized valves, and metering.
- Worked directly with the communications engineer to establish site pathways for fiberoptic distribution and meet IT room requirements.
- Coordinated with Lake Placid Electric Co. to determine the appropriate placement and sizing of transformers, vaults, and sectionalizers.
- Designed efficient and reliable underground pathways (conduit and handholes/manholes) to accommodate power, communication, lighting, and audio/visual systems along the cross country skiing course and throughout the entire site.
- Developed a comprehensive temporary power distribution plan to support existing site equipment throughout the reconstruction of the complete venue.
- Designed a standby power system to ensure uninterrupted operation of critical systems, such as water and sanitary waste.
- Collaborated closely with the civil engineer to establish precise water flow control for the fire pump at the Lodge, Snow Making Pump House, and Water Treatment Pump House.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

HILTON TRU HOTEL

Middletown, NY

- Lead Mechanical and Electrical Engineers for the design of a new, four-story, 47,000 ft² hotel containing 104 guest rooms.
- Mechanical design included PTAC units, rooftop and ductless air conditioners, fan coil units, power roof ventilators, electric wall and ceiling heaters.
- Electrical design included lighting, exit lights and emergency lights throughout the building and power connections for HVAC equipment, elevators, exterior signage, and a new breakfast bar.
- Provided the electrical design for the installation of an emergency generator.
- Designed raceway systems for both telephone and cable TV.
- Designed addressable fire detection and alarm system.
- Designed occupancy sensors including the following: ceiling mounted, wall switch, vacancy, long-range hallway, dual technology wall switches and dimmable wall switch occupancy/vacancy sensors.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

HILARY HOUSE, HORIZON HEALTH SERVICES

Sanborn, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for a roughly 4,000 ft² event space comprising a lounge area, dining and living room, group room, kitchenette and patio spaces.
- Provided lighting design for space by working closely with architect to fulfill their vision.
- Designed exterior walkway lighting to connect several of Owner's adjoining properties.
- Provided data, cable TV, access controls, and handicap operators per Owner direction.
- Space is heated, cooled, and ventilated using a ground-mounted rooftop air handling unit that is concealed by a custom louvered wood structure.
- Tightly coordinated ducting mimics roof pitch to allow ductwork to disappear from view behind roof rafters.
- Plumbing fixtures designed to provide high-end residential feel.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

DEPARTMENT OF ENVIRONMENTAL CONSERVATION REGION 3 HEADQUARTERS BUILDING

New Paltz, NY

- Lead Mechanical and Electrical Engineers for a 20,000 ft², two-story complete renovation and 22,000 ft² 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.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

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 a 16,000 ft², two-story complete renovation and 12,000 ft² 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.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

FORENSIC INVESTIGATION UNITS AND COMMAND CENTERS

Ray Brook, Oneida and Middletown, NY

- MH Professional Engineering was 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 Ray Brook, 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 no longer support the needs of the forensic investigations unit. Specifically, the FIU buildings provide much needed evidence storage, laboratory and office space for the rapidly expanding departments of Forensic Investigations and Computer Crimes.
- The command center supports all the troop radio dispatch and communications functions, the park police dispatch functions and non-business hour troop desk operations. All of the facility sites, with the exception of the Ray Brook facility, have command center upgrades, which include the design and construction of a small data center.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL 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 due to its environmentally-friendly design and construction.
- The project involved redevelopment of a vacant urban site into a four-story, 125,000 ft² 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 dropped to 35 percent below its modeled baseline and water consumption dropped to 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 (CO₂) monitoring and control system was installed to respond to occupancy and maintain acceptable CO₂ concentrations, while at the same time reduce 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.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

RITE AID PHARMACY

Various locations throughout NY, CT, MA, VT and NJ

- MH Professional Engineering possesses extensive experience with regard to engineering state-of-the-art pharmacy/drug store facilities.
- Our firm has completed Rite Aid Pharmacies in Greece, Canastota, Binghamton, Troy, Sidney, Auburn, Geneva, Syracuse, Horseheads, West Sand Lake, Clifton Park, Canton, Chestertown, Baldwinsville, and Saratoga Springs, NY; Ledyard, East Hartford, New Haven, and Monroe, CT; Lee and Southwick, MA; Fair Haven, VT, and Lake Hiawatha, NJ.
- The average Rite Aid building is 14,000 ft².
- MH Professional Engineering implemented the standard Rite Aid design criteria for all buildings. Incorporation of criteria design changes during the design and construction phases were also addressed with the projects.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

GOLUB CORPORATION

Schenectady, NY

- Lead Mechanical Engineer for system upgrades to various specialty areas in Price Chopper stores, including pharmacy, bakery, seafood, sushi bar, coffee kiosk and loading docks.
- Project locations include Glenmont, Colonie, Queensbury, Albany and Cooperstown, NY, and Shrewsbury, MA.

CONSUMERS COOPERATIVE

Niskayuna, NY

- Lead Mechanical and Electrical Engineers for renovations to the facility.
- Upgrades included the replacement of faulty HVAC equipment and distribution ductwork, as well as the addition of accent lighting at various product areas.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

NEDLOH BREWERY

Rochester, NY

- Served as the Lead HVAC and Electrical Engineers.
- Facility is a microbrewery and tasting room. Spaces included a two-story brewery area, grain storage area, large general storage area, product cooler, offices, and a tasting and merchandising area for customers.
- Design included refrigeration for product cooler, VRV heat pump system for all office areas, rooftop unit for general heating/cooling/ventilation of tasting room, and a steam boiler for brew process.
- Electrical design included new service, emergency power, generator, VESDA fire detection system, and power coordination with brew equipment.
- Lighting design included several unique features:
 - Brew House needed bright lighting for working, but dimmable with areas highlighted for viewing effect for customers.
 - Tasting Room included several custom fixtures to blend in with local flavor and ambience of space.
 - Merchandising Area required tight coordination of display lighting with display casework.
 - Several areas received cove uplighting to highlight 35-foot open truss roof height.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

RENSSELAER TRAIN STATION PARKING LOT EXPANSION

Rensselaer, NY

- Lead Electrical Engineer.
- Designed relocation of 5KV power line.
- Designed site lighting and power for the new parking lot area.
- Coordinated powered gate equipment for relocation.
- Coordinated with Amtrak and National Grid.
- Completed a code/standards review.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

SHOPS 4U, PRICE CHOPPER

Queensbury, NY

- Existing coffee kiosk was removed and space was reconfigured to provide Shops 4U area.
- Scope of work included modifications to sanitary waste, domestic water, electrical, and HVAC system.

LYONS DENTAL CARE

Rochester, NY

- Lead Mechanical and Electrical Engineers for rehabilitation and reconfiguration of general office space to a dental office.
- Spaces included operatories, lab space and Panorex X-ray.
- Design of systems included upgrades to meet Article 28 requirements (FGI 2010).

ST. VINCENT DE PAUL CHURCH RENOVATIONS

Albany, NY

- Lead HVAC, Electrical, and Plumbing Engineers.
- Plumbing design included a new bathroom and connections to a new baptismal font.
- A small sewage ejector was provided to service the new bathroom along with a dedicated instantaneous water heater.
- Provided power distribution to the baptismal font bubbler and heater, new lighting Lutron dimming system, and relocated altar and choir area equipment.
- An air conditioning system was provided for sanctuary area using high efficiency, quiet console units.

MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

22 CORPORATE WOODS, NEW FIRE ALARM SYSTEM

Albany, NY

- Lead Electrical Engineer.
- Provided electrical engineering design services for the replacement of the existing fire alarm system within this sprinklered 5-story, 250,000 ft² building.
- The existing fire alarm system was completely removed upon completion of the new fire alarm system.

REPLACE BOILERS, ADMINISTRATION BUILDING AND LINCOLN BATHS, SARATOGA SPA STATE PARK

Saratoga Springs, NY

- Lead Mechanical and Electrical Engineers.
- Replaced 2 - 2800 MBH boilers serving the administration building utilizing existing utilities and control systems.
- Replaced 2 - 2700 MBH boilers serving the Lincoln Baths utilizing existing utilities.
- Provided new direct digital control system to control the boilers, primary and secondary pumps.
- Replaced primary and secondary pumps and valves for both buildings.
- Provided new direct digital control system to control the boilers, primary and secondary pumps in the Lincoln Baths.
- Provided modifications to electric power distribution for the new boilers and pumps.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

SOUTHERN ADIRONDACK ARTS AND FAMILY RETREAT CENTER Mayfield, NY

- Lead Mechanical, Electrical, and Plumbing Engineers.
- Design of kiln exhaust and makeup air system for pottery room.
- Modifications to existing HVAC systems for modified floor plan.
- Design of makeup air system and hood exhaust for new teaching kitchen.
- Renovation included the design of a new elevator, expansion of existing fire alarm system, reuse of some light fixtures, replacement of some light fixtures to provide higher light output to accommodate new room use, and power to new kitchen equipment.
- Design of two new work sinks with plaster traps for pottery room and art studio. The installation included the provision of individual waste pumps to allow the sinks to discharge into the building's existing sanitary system.
- The building's hot water recirculation system was modified to accommodate the installation of the sinks.
- Design of plumbing systems for new teaching kitchen including domestic water heater and grease trap.

251 STATE STREET, BUILDING EVALUATION, FIRST NIAGARA Schenectady NY

- Lead Mechanical and Electrical Engineers for a feasibility study and upgrade of an existing office building.
- Existing mechanical system (1965) was a dual duct air handling system. Over time, major portions of the distribution system were removed from this system as renovations took place due to a lack of understanding regarding how the system worked.
- MH Professional Engineering provided a planned approach to the new building owner regarding how to complete HVAC and electrical system upgrades to keep the building operational during renovations and make it desirable for future tenants.

MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

BATH HOUSE, CAMP IS-SHO-DA, GIRL SCOUTS OF NORTHEASTERN NEW YORK

East Greenbush, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for a new bath house at a Girl Scout camp.
- Designed new exhaust system to accommodate the restroom and bathing areas.
- Designed new plumbing systems with the ability to fully drain the system in winter.
- Provided electrical design sketches showing power distribution from existing pump house to proposed bath house.
- Investigated the existing campus power distribution system.
- Provided electric power distribution to lighting, receptacles, exhaust fan, water heater and circulation pump.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

CURTAIN WALL AND FAÇADE REPLACEMENT STUDY, 44 HOLLAND AVENUE Albany, NY

- Provided the mechanical portions of a program report for replacing the façade of an 8-story building with perimeter console fan coil units including a cost estimate for the replacement of these units.
- Worked with a local testing and balancing contractor to conduct an existing airflow survey to verify the existing air handling units supplied adequate ventilation flowrates to meet the governing mechanical code if the existing operable windows were eliminated.



MH Professional Engineering, PLLC



COMMERCIAL & RETAIL PROJECT EXPERIENCE

LODGE PLAZA & WHITNEY LAWN REDEVELOPMENT, GENERAL ELECTRIC GLOBAL RESEARCH CENTER

Niskayuna, NY

- Lead Electrical and Mechanical Engineers for the renovation of 1.75 acres of outdoor space at the General Electric Research Center site.
- Upgrades included 1,900 ft² of sidewalk with an electric resistance snowmelt system.
- Provided natural gas pipe layout and sizing to gas-fired cooking appliances and fireplaces.
- Electrical design included:
 - Site lighting: LED built-in handrailing lights, walkway post top mounted fixtures, in-grade spot lights for trees, in-grade wall washers, in-grade spotlights for cluster seating, bollard walkway lights, recessed downlights for pavilions and roadway lights.
 - Power: Provided 208V exterior power panelboard, 480V exterior lighting panelboard and 480V lighting control panel. Provided power to the sidewalk snow melting system. Provided an interior 480V panel with 75kVA stepdown transformer for the exterior 208V panel.
 - Data: Provided conduit with 50 micron, single-mode fiber from existing interior fiber rack to exterior fiber rack. Provided outdoor rated CAT6A cables for exterior wireless access points.
 - Audio: Provided PVC conduit with pullrope for future sound system speakers.
 - Site Infrastructure: Provided handholes and conduit pathways for wireless access points, speakers, lighting controls, TV controls, ceiling fan controls, etc.

