

MH Professional Engineering, PLLC



MUNICIPAL PROJECT EXPERIENCE

LINCOLN PARK BASKETBALL COURTS

Albany, NY

- Lead Electrical Engineer for the design of two new basketball courts and pedestrian walkway lighting in the city's downtown area.
- Electrical design included the required removals for existing site lighting located within the park.
- Designed new site electrical service, NEMA 3R enclosure, meter socket, panel and lighting controls.
- Designed site lighting with motion sensors for each court.
- Designed walkway lighting.



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MUNICIPAL PROJECT EXPERIENCE

LINCOLN LIBRARY

Rochester, NY

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers for the design of a 12,750 ft² public library renovation.
- Reconfigured HVAC ductwork to fit new layout. Provided additional zone level control capability in key spaces.
- Existing space was only partially-sprinklered. Added sprinklers in the remainder of the building and reconfigured existing heads as needed for new floor plan.
- Designed new restroom fixtures within area of scope. Coordinated required slab cutting for under slab waste with existing conditions.
- Replaced the existing domestic water heater and added a hot water recirculation system.
- Reconfigured the majority of existing specialty light fixtures to match the new floor plan.
- Upgraded interior lighting controls.
- Designed power and data to new exterior monument sign.
- Designed exterior building and signage lighting.
- Replaced FACP head end. Maintained existing FACP for unrenovated spaces and incorporated into new addressable head end.
- Designed power and data for specialty equipment.
- Designed power and data in floor boxes throughout the space. Coordinated required slab cutting for under slab conduit.
- Designed access control conduit pathways.



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MUNICIPAL PROJECT EXPERIENCE

REHABILITATE 5th FLOOR, TEN EYCK STATE OFFICE BUILDING

Albany, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for the design of a 19,000 ft² office renovation.
- Provided full MEP design for central toilet room reconfiguration.
- Walkerduct power and data distribution system was totally redesigned to match proposed open office plan furniture concept.
- Due to existing electric room code compliance issues, new distribution panels were designed and located in areas where code compliance could be achieved.
- Designed additional smoke detection for new office spaces. Relocated notification and detection devices where required. Provided plotter, copier and fax data where required. Provided data to the proposed offices. Provided new cabling in the existing walkerduct system.
- Plumbing renovation included the addition of a breakroom sink and a hot water recirculation system.
- Designed new bathroom exhaust, main air handler conditioning and ventilating the space was existing to remain.
- Relocated additional sprinkler heads where required for new office space layout.



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MUNICIPAL PROJECT EXPERIENCE

HIGHWAY GARAGE UPGRADES, TOWN OF MOREAU

Moreau, NY

- Lead Mechanical and Electrical Engineers for upgrades to an existing 14,500 ft² highway garage.
- Provided recommendations to resolve moisture and condensation issues in the building.
- HVAC upgrades included additional gas-fired unit heaters and outside air intake louvers.
- Provided new panelboard dedicated to HVAC equipment, and provided electrical branch circuits to all new mechanical systems.
- Relocated existing condenser disconnect to make installation code compliant.
- Assisted the town with bidding and construction administration activities.
- Closely coordinated a roof replacement project at the building on a similar design and construction schedule.



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MUNICIPAL PROJECT EXPERIENCE

STATE PREPAREDNESS TRAINING CENTER

Oriskany, NY

- The State Preparedness Training Center serves as a hub for emergency response training for natural, technological, and terrorism-related disasters for first responders at all levels of government.
- The building's function is to serve as a training center for emergency vehicular operation and includes driving simulators and classrooms, and is adjacent to a repurposed airport runway system for actual driver training.
- The building design includes a VAV system for heating and cooling, a vehicle exhaust system, radon evacuation system, wet, dry and chemical sprinkler systems, emergency power system, fire alarm system and security system.



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MUNICIPAL PROJECT EXPERIENCE

NEW FIRE STATION, CITY OF BINGHAMTON

Binghamton, NY

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers for the construction of a new a 18,043 ft² full-time firehouse and 1,309 ft² accessory building.
- HVAC systems consisted of rooftop units with VAV boxes and hot water reheat coils. Condensing natural gas-fired boiler serves VAV hot water coils, unit heaters, and radiant floor system in apparatus bay. Full direct digital control system provided for all HVAC components.
- Designed carbon monoxide and nitrous oxide gas detection system with emergency exhaust and makeup air system in apparatus bay.
- Designed domestic water, compressed air, sanitary, and oil-laden waste systems to serve all firefighting equipment.
- Sprinklered throughout with NFPA 13 wet and dry systems and standpipe system for training purposes.
- Designed standby generator power for both the main building and the accessory building. Raceway system was also designed from the main building IT room to the exterior card reader for the accessory building. Access conduits and handhole system were designed for future site signage.
- Designed lighting system that included LED pendant, surface, recessed lighting and exit signs. Life safety lighting was provided via emergency lighting units. An inverter system was designed for exterior egress lighting. Designed automatic lighting controls as well as red light alert system for each bunk bedroom.
- Designed public address system in all corridors and common areas.
- Designed access control system for public exterior doors.
- Designed carbon monoxide detection throughout the entire building.
- Designed fire alarm detection system where required.
- Notification devices were provided throughout the entire building.
- Data and TV raceway system was designed per the Owner's direction.
- Designed general power throughout the entire building, including the laundry area and specialty fire gear cleaning equipment area. In the apparatus bay, ceiling fans, cord reels and overhead doors were provided with power. Two large air compressors as well as an assortment of specialty equipment were also powered as were rooftop units, air-cooled condensing units and heat recovery units.



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MUNICIPAL PROJECT EXPERIENCE

NISKAYUNA FIRE STATION # 1

Niskayuna, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for the expansion and renovation of the Niskayuna Fire Station #1.
- Project included 10,000 ft² apparatus bay addition with radiant floors, elevator, vehicle exhaust system, generator and sprinkler system.
- Existing portion of building was completely reconfigured into department offices, training room and bunk area.



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MUNICIPAL PROJECT EXPERIENCE

MONROE TOWNSHIP FIRE STATION

Monroe Township, NJ

- Lead Mechanical, Electrical, and Plumbing Engineers for the design of a state-of-the-art fire station for the Monroe Township Fire Department in New Jersey.
- This comprehensive project encompassed various elements including lighting design for interior spaces, power and receptacle layout with specialized connections for essential equipment, fire alarm and speaker systems, audio/visual setups for meeting and training rooms, and specialty electrical designs for specific areas such as the compressor room, decontamination room, and EMS area.
- The scope of work also involved the design of a municipal water service entrance to comply with local regulations, sanitary waste piping, domestic water system, and water heating system to ensure seamless operation within the facility.
- Our responsibilities extended to the design of a natural gas distribution system for HVAC and kitchen equipment, as well as an outdoor grille. The project also encompassed a fire service entrance, sprinkler system layout, ventilation system adhering to ASHRAE and building code standards, heating hot water boiler system, general exhaust systems for various areas of the building, and an air-to-air heat recovery system for apparatus bay ventilation.



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MUNICIPAL PROJECT EXPERIENCE

LISBON FIRE DEPARTMENT HEADQUARTERS BUILDING

Lisbon, CT

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers for the design of a new headquarters building for the Lisbon Fire Department.
- The new headquarters building contains five double-deep apparatus bays sized to accommodate current and anticipated fire and EMS apparatus.
- To minimize the need for backing apparatus, the apparatus bays have the capability to drive-through and are equipped with vehicle exhaust recovery systems designed to improve interior air quality.
- Firefighter health is protected by providing facilities that allow for fire equipment and personnel to be decontaminated. Mechanical systems minimize the spread of toxins from fire apparatus to living quarters and public areas of the station with the use of separate pressurized mechanical zones.
- Project included LED lighting design for interior & exterior, circuiting, and control; power and receptacle layout with specialty power connections as required for powered equipment, EV charging stations, and HVAC equipment; telephone, data and cable television raceway; fire alarm system design; antenna and building grounding; generator design (400kW natural gas); electrical design of specialty spaces (i.e. compressor room, Decon Room, EMS area), speaker system for paging; and audio/visual systems for meeting/training room (dimming, ceiling projector, motorized screen, etc.).
- Municipal water was not available. Designed a full sprinkler system with the vertical fire pump and submersible jockey pump located in a separate pump house. Designed domestic water filtration, softening, and pressure tank within main building.
- Other designed systems included a natural gas distribution system for HVAC equipment and kitchen equipment; gas-fired rooftop units to provide conditioning and ventilation system to meet ASHRAE and building code standards; heating hot water boiler system for radiant floor; general exhaust systems for all areas of the building. (i.e. toilets, kitchens, truck bays, etc.); and air-to-air heat recovery system for apparatus bay ventilation.
- Tightly coordinated electrical, plumbing, and HVAC connections to all Firematic equipment to be concealed within block construction.



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MUNICIPAL PROJECT EXPERIENCE

KEENE FIRE DEPARTMENT

Keene, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for the construction of a new 7,500 ft², single-story facility.
- Existing fire station was destroyed by Hurricane Irene.
- New facility is in a new location and includes radiant floors, vehicle exhaust system, truck fill system, compressed air drops, emergency generator and fit-out for future kitchen/meeting room area.



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MUNICIPAL PROJECT EXPERIENCE

WILLIAM P. FAIST VOLUNTEER AMBULANCE CORPS

Chestnut Ridge, NY

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers.
- Project included 2,860 ft² apparatus bay, approximately 6,585 ft² of office, training and meeting spaces.
- HVAC system consisted of boilers, pumping and heating hot water distribution, energy recovery ventilation systems, exhaust systems, radiant floors; and variable refrigerant volume heat pump system.
- Electrical systems included incoming service and service gear, electrical distribution system, generator back-up, fire alarm, security, A/V telephone/data systems, public address and tone alert systems.
- Plumbing systems included oil/water separator; water heater; water and sanitary systems, and natural gas distribution.
- A fire sprinkler system was provided for the building.



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MUNICIPAL PROJECT EXPERIENCE

SCHODACK ISLAND STATE PARK CAMPGROUND EXPANSION

Schodack, NY

- Lead Electrical Engineer for the campground expansion at Schodack Island State Park located in Rensselaer County.
- Design of two new electrical services, each originating from a new National Grid pad mounted transformer.
- Electrical service #1 served a new comfort station as well as 26 new campsites.
- Electrical service #2 served a new comfort station as well as 17 new campsites.
- Each campsite was designed to receive a pedestal containing a 50-amp 120/240-volt receptacle, a 30-amp 120-volt receptacle and a 20-amp 120-volt receptacle.
- Design of power to new backup well and pump station.
- A new manual transfer switch was provided to back up the pump station in the event of a power failure.



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MUNICIPAL PROJECT EXPERIENCE

SPLASH PAD, TOWN OF COLONIE

Colonie, NY

- Lead Electrical Engineer for design of a 14,064 ft² splash pad for the town of Colonie.
- Provided site electrical design for site power to the two bollard activators and one foot activator. Disconnection and re-connection of existing light pole. Conduit and low voltage wiring for solenoid valves.
- Provided electrical grounding design for all the grounding for the features, light poles, hand railing, fencing, benches, trash receptacles, trench drains, manholes, manifolds and valves, shade structures and full splash pad ground loop.
- Provided building electrical design for power to a new power panel, power to the filter pump and feature pump, UV control panel, chemical feed pumps, air compressor and control equipment.
- Provided electrical grounding design for the filtration building for the pumps, air compressor, backboard extension, and control panels. All connections were to the existing ground loop within the building.
- The building's systems were laid out in compliance with 2015 NYS Building Codes, NFPA 72, ADA, the 2014 National Electrical Code.



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MUNICIPAL PROJECT EXPERIENCE

SARATOGA SPA LITTLE THEATER CODE REVIEW

Saratoga Springs, NY

- Lead Electrical Engineer for a comprehensive code review for theater.
- Evaluated the existing theatrical lighting system.
- Evaluated the existing lighting control methods and existing wiring methods.
- Provided a report with findings and recommendations for remediation.
- building.



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MUNICIPAL PROJECT EXPERIENCE

TOWN OF MOREAU NEW TOWN HALL/TOWN COURT BUILDING

Moreau, NY

- New 13,000 ft² building for town offices and town court for the purpose of consolidating locations, upgrading spaces, and vacating leased space.
- Building design included generator, energy recovery ventilators and several different types of fire protection systems.
- Utility services for project were planned anticipating future town buildings would be located at the same site.



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MUNICIPAL PROJECT EXPERIENCE

DEPARTMENT OF TRANSPORTATION MAINTENANCE GARAGES

Java, NY	Potsdam, NY
Varysburg, NY	Highland, NY
Wellsville, NY	Massena, NY
Malone, NY	Millwood, NY
East Aurora, NY	East Fishkill, NY
Farmersville, NY	

- These construction projects included vehicle storage bays, maintenance areas, and general office space for the employees.
- The HVAC systems design included boilers, air handling systems, radiant floor systems, carbon monoxide and nitrogen dioxide monitoring system, carbon monoxide exhaust system, and temperature control system.
- Design of the electrical systems included new incoming power service, power distribution systems, lighting systems, fire alarm systems, emergency generators, and telephone/data raceway systems.
- Construction phasing was incorporated to address the electrical distribution redesign to feed existing site lighting, well water and septic pumps, and fuel islands.



MUNICIPAL PROJECT EXPERIENCE

WATER TREATMENT FACILITY, VILLAGE OF PAWLING

Pawling, NY

- Lead Mechanical and Electrical Engineers for the design of a 1,484 ft² water treatment facility.
- Provided site electrical design for site power and telephone service, generator, wet well, Reservoir Road well, and vault with lighting and power.
- Provided electrical grounding design for the building grounding connections, generator grounding tie-ins and full building ground loop.
- Provided electrical design for power distribution system, panels, and branch circuits for HVAC equipment, plumbing equipment, and receptacles.
- Designed power, switching and circuiting to indoor lighting, associated controls, egress lighting, and exit signs. Provided exterior wall packs with photocell controls.
- Designed fire alarm, horn/strobe, pull station and initiating device layout with the appropriate interlocks to mechanical HVAC equipment.
- Designed and located empty raceway/cable tray/conduit system to accommodate data wiring.
- HVAC design included a gas-fired furnace with the required minimum outdoor air for use in the winter. For cooling in the summer, an in-line exhaust fan and outdoor air louvers were provided for economizing, no mechanical cooling was included. Local exhaust was provided for process applications.
- The building's systems were laid out in compliance with 2015 NYS Building Codes, NFPA 72, ADA, the 2014 National Electrical Code.

WATER TREATMENT PLANT, TOWN OF SAUGERTIES

Saugerties, NY

- Lead Electrical Engineer providing power for a clarifier transfer pump, sludge recirculation pump, and a master control panel for the water treatment plant.
- The building's systems were laid out in compliance with 2015 NYS Building Codes, NFPA 72, ADA, the 2014 National Electrical Code.

WATER TREATMENT PLANT, SARATOGA WATER AUTHORITY

Gansevoort, NY

- Lead Mechanical Engineer for a chemical storage addition to a municipal water treatment facility.
- HVAC system included electrical resistance heat and economizer cooling.

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MUNICIPAL PROJECT EXPERIENCE

TOWN OF DEERFIELD MUNICIPAL OFFICES

Deerfield, NY

- Provided engineering investigation and report related to roof leakage problems for the municipal offices in the town of Deerfield.

TOWN OF DEERFIELD DEPARTMENT OF PUBLIC WORKS

Deerfield, NY

- Provided engineering investigation report related to poor heating and excessive humidity problems for Department of Public Works facilities in the town of Deerfield.



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MUNICIPAL PROJECT EXPERIENCE

MAALWYCK PARK

Glenville, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for a 3,000 ft² pavilion, including 900 ft² of restrooms and concession space.
- Designed ventilation and exhaust for all indoor spaces.
- Designed domestic water service and sanitary sewer service for the areas.
- Designed and coordinated primary service to the pavilion, which includes conduit, pull rope, transformer, backboard with meter and CT/PT cabinet.
- Designed incoming 480V service, grounding, step-down transformer and 208V panelboard, and provided conduits and handholes for future parking lot distribution lighting.
- Designed LED lighting with occupancy sensor and switches, LED wallpacks with integral photocell. Design included provisions for power hand dryers, general receptacles, water heaters, grinder pumps, and lighting for future camera head-end and camera locations.
- Provided an alternate for future MUSCO field lighting.

MEMORIAL PLAZA

Halfmoon, NY

- Lead Electrical Engineer for the proposed renovations of an existing plaza/park.
- Entry Sign – In-grade LED lighting fixtures;
- Walkways – Post top mount LED fixtures.
- Bell – In-grade and flood LED lighting fixtures.
- Benches – In-grade LED lighting fixtures.
- Flag Pole – In-grade LED lighting fixtures.
- Memorial Rock – In-grade LED light fixture.
- Existing service, panel and photocell. Provided circuit breakers as required.
- Coordinated with existing utilities underground for the proposed electrical conduit routings.

CREEKSIDE PARK

Tannersville, NY

- Lead Electrical Engineer for the proposed addition of a park.
- Pavilion with receptacles and LED strip lighting.
- Coordination with utility service provider for new underground electrical service, 100A, 240/120V, 1-phase, 3-wire, 60 Hz.
- Shark meter for sub-metering of heat trace on town water pipe.
- Park lighting, low voltage 12-18V. Sconces; in-ground stake lighting; in-grade flood lighting; illumination of pavilion back wall bullet lighting for select trees.

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MUNICIPAL PROJECT EXPERIENCE

CITY OF ALBANY FIREHOUSE EVALUATIONS

Albany, NY

- **Engine 1 (320 Washington Avenue):** This firehouse is on the Historical Society List and was constructed in 1892.
- **Engine 7 (670 Clinton Avenue):** While not listed specifically with the Historical Society, it was constructed in 1874 and the generator location was designed as if this facility was on the Historical List.
- **Engine 9 (356 Delaware Avenue):** This firehouse is on the Historical Society List and was originally constructed in 1912.
- **Engine 11 (439 New Scotland Avenue):** While not listed specifically with the Historical Society, the firehouse was constructed in 1926 and the generator location was designed as if this facility was on the Historical List.

Scope of Services

Provided field investigations, construction costs and recommendations for the following work at all firehouse locations:

- Sizing of new natural gas generator at each firehouse.
- Recommended size/location for new generator at each firehouse.
- Recommended size/location for new automatic transfer switch at each firehouse.
- Provided opinion of probable construction costs for each firehouse.
- Provided report describing generator size, generator location, automatic transfer switch size, and automatic transformer switch location for each firehouse.



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MUNICIPAL PROJECT EXPERIENCE

DEERFIELD MUNICIPAL OFFICE BUILDING

Deerfield, NY

- Served as the Lead HVAC and Electrical Engineers for existing municipal office building.
- Existing HVAC system consisted of baseboard heat and through wall air conditioners. Some spaces, such as the court room, had no air conditioning.
- HVAC upgrades included three separate small air handling systems for tempering of ventilation air, heating and air conditioning. New zone hot water pumps were included.
- Electrical design included new lighting, exit lights and emergency lights throughout building and power connections for new HVAC equipment.

ROOSEVELT FIRE DEPARTMENT

Hyde Park, NY

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers for the design of a new station for the Roosevelt Fire Department.
- Project included 10,000 ft² apparatus bay, approximately 9,000 ft² of office, training and meeting spaces.
- HVAC system consisted of new boilers, pumping and heating hot water distribution; new ventilation systems; kitchen hood exhaust system; radiant floors; general and vehicle exhaust systems.
- Electrical systems included incoming service and service gear; electrical distribution system; generator back-up; fire alarm, security, A/V and telephone/data systems; and diesel fueling station.
- Plumbing systems included grease trap; oil/water separator; water heater; water and sanitary systems, and LP gas distribution.
- A fire sprinkler system was provided for the building.

GRAFTON LAKES WASTEWATER TREATMENT PLANT

Grafton, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for the upgrade of the waste water treatment system.
- HVAC system consisted of a roof-mounted power ventilator and exhaust ductwork to replace the existing gravity ventilator and ductwork.
- Plumbing systems included new sanitary, vent and water piping systems for the water sample testing station and emergency eyewash station.
- Complete electrical design included new service, distribution and lighting.

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MUNICIPAL PROJECT EXPERIENCE

TRIBUTE PARK

Schenectady, NY

- Lead Electrical Engineer for the development of Tribute Park, an effort by the Capital Region Land Bank and the city of Schenectady to create a neighborhood park.
- Provided design of electric service and metering.
- Designed power, switching and wiring to outdoor lighting and associated controls.
- Provided design for future spray park.



MUNICIPAL PROJECT EXPERIENCE

DISINFECTION UPGRADE, WATER RESOURCE RECOVERY FACILITY **CITY OF SCHENECTADY**

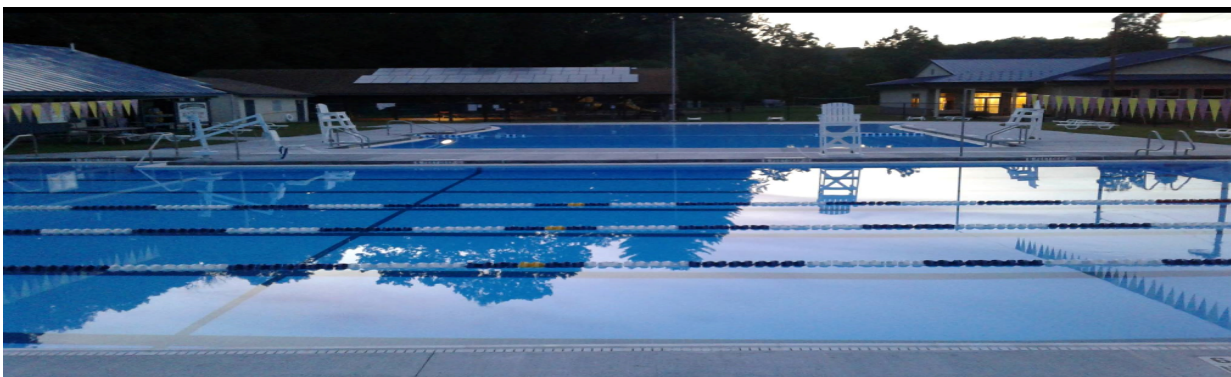
Schenectady, NY

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers for a water resource recovery facility upgrade that utilizes sodium hypochlorite and sodium bisulfite for disinfection.
- Mechanical systems included ventilation quantities to maintain residual chemicals below Class 1 Division 1 requirements.
- All system components were designed to be of non-corrosive materials.
- Plumbing systems included an upgrade of the facility natural gas service to support new heating equipment.
- Electrical system upgrades included:
 - Provided new 480V panelboard from existing switchgear.
 - Provided 480V subpanel and two new 120/208V subpanels for new building and rehabilitation of existing building.
 - Provided additional electrical connection for equipment in the pump gallery.
 - Provided fire protection system for sodium hypochlorite building.

POOL BATHHOUSE UPGRADES, TOWN OF ROSENDALE

Cottkill, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for bathhouse renovation.
- Provided new mechanical heating and ventilation equipment, new plumbing to connect new double bowl vanities in men's and ladies' rooms and lifeguard office, water closets, ADA shower, and electric hot water heater.
- Provided electrical site distribution for future generator and concession building, and provided electrical design, including new distribution system with manual transfer switch for generator.
- Provided new interior and exterior lighting.



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MUNICIPAL PROJECT EXPERIENCE

TOWN OF MARCY PAVILION

Marcy, NY

- Lead Electrical and Plumbing Engineers for alterations to town pavilion.
- Designed new electrical service, lighting and power within pavilion.
- Designed lighting and power to new warming kitchen and restrooms.
- Provided plumbing design for new kitchen equipment and restrooms.
- Exhaust design provided to serve new restrooms.

UNION HILL FIRE DEPARTMENT

Union Hill, NY

- Lead Mechanical Engineer for the expansion and renovation of the Union Hill Fire Department.
- Project included apparatus bay vehicle exhaust, radio room addition, reconfiguration of bunk areas, and addition of air conditioning throughout building.

STEINMETZ PARK BATH HOUSE

Schenectady, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for the gut rehabilitation of an abandoned bath house.
- Project included new concession stand, new toilet rooms and game/meeting/community room.
- Facility is used by community groups and summer recreation programs.
- Project also included a public picnic pavilion.



Union Hill Fire Department

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MUNICIPAL PROJECT EXPERIENCE

BETHEL PARK FIRE DEPARTMENT

Bethel Park, PA

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers for the design of a new 21,000 ft² station for the Bethel Park Fire Department.
- HVAC system consisted of new boilers, pumping and heating hot water distribution, new ventilation systems, kitchen hood exhaust system, radiant floors, and general and vehicle exhaust systems.
- Electrical systems included incoming service and service gear, electrical distribution system, interior generator back-up, fire alarm, security, A/V and telephone/data systems.
- Plumbing systems included grease trap; oil/water separator, water heater, water and sanitary systems, and natural gas distribution.
- A fire sprinkler system was provided for the building.
- Building lighting system was designed as all LED fixtures.



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MUNICIPAL PROJECT EXPERIENCE

NORTHUMBERLAND TOWN HALL

Gansevoort, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for a new town hall building.
- Designed building heating and air conditioning ventilation systems, including ductwork and refrigeration piping.
- Designed the building's potable water piping to all plumbing fixtures and hot water heaters.
- Electric power distribution was designed to mechanical equipment, general receptacle power, and specialty equipment power feeds.
- Designed power, switching and wiring to indoor/outdoor lighting, associated controls, egress lighting, and exit signs.
- Provided fire alarm horn strobe, pull station and initiating device layout with the appropriate interlocks to mechanical HVAC equipment and security system for building egress code compliance.
- Designed wiring and outlet locations with provisions for properly located raceway/conduit to accommodate security, telephone and data wiring.



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MUNICIPAL PROJECT EXPERIENCE

WATER TREATMENT PLANT, JAMES BAIRD STATE PARK

LaGrange, NY

- Lead Electrical Engineer for the design of a water system improvement project consisting of a pump station, water tank and well at James Baird State Park, located in the Town of LaGrange in Dutchess County, NY.
- Designed power to replace an existing 75,000-gallon wood water storage tank with new glass-lined metal tank. A new 700-foot branch circuit was provided to the new water tank. A lightning protection system and grounding of chain link fence was also included.
- Designed power to new well pump, well pump controller, signal wiring, and power to arsenic removal system.
- Replaced existing load center.

REGIONAL MAINTENANCE CENTER, JAMES BAIRD STATE PARK

LaGrange, NY

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers.
- Provided schematic design and cost estimate for a new 12,000 ft² maintenance center, two 8,750 ft² heavy equipment storage facilities and a 1,060 ft² chemical storage facility.
- The maintenance center included shops, maintenance bay, and an office area containing toilet rooms, offices, kitchen, locker rooms and conference room.
- The two heavy equipment storage buildings were pre-engineered metal buildings that included electrical, plumbing, mason, scaffold, tire, tool, golf equipment and heavy equipment storage.
- The chemical storage area contained areas to store fertilizers, sand and salt.
- Also included was site lighting for new parking areas, general site lighting, power to fueling station, well, mechanical systems, energy efficient lighting, manual fire alarm system, emergency lighting, exit lighting, and electrical service to buildings.
- Mechanical systems consisted of radiant floor slabs in maintenance areas and air handling system in office areas. Welding exhaust and dust collection systems were also included. Heating hot water was proposed to be generated using a waste oil system.
- A dry chemical fire suppression system was included for the fueling station.
- Class I Division areas were designed in accordance with NEC Article 501.

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MUNICIPAL PROJECT EXPERIENCE

NEW YORK DEPARTMENT OF TRANSPORTATION, CROWN POINT

Crown Point, NY

- Lead Electrical and Plumbing Engineers.
- Provided engineering services for the replacement of electric incinerating toilets with conventional water flush toilets.
- The design included locating and extending an existing below slab sanitary main to the new toilets. Additionally, existing potable water and vent piping was extended from existing systems to the new toilets.
- Designed electric power distribution to new sewage ejector system.

WATER POLLUTION CONTROL PLANT LABORATORY UPGRADES, CITY OF SCHENECTADY

Schenectady, NY

- Lead HVAC and Plumbing Engineers.
- Provided plumbing design services for the renovation and relocation of an existing water treatment lab facility.
- The design included new sanitary, vent and potable water connections to new and relocated lab equipment. Sanitary waste systems included acid neutralization.
- A new water heater and water recirculation system was provided. Additionally, a new emergency shower and eyewash station was provided.
- The HVAC system was completely replaced. New rooftop units were provided for general comfort heating/cooling. A specialty unit was provided for the lab area to work in conjunction with fume hoods.

SANITARY SEWER REHABILITATION, NYS DEPARTMENT OF TRANSPORTATION

Waterford, NY

- Lead Electrical Engineer.
- Designed electric feeders and power distribution for new pump station served from emergency power source.
- Indicated demolition and removal of electrical distribution/wiring for existing pump station.
- Designed wiring (power and control) for pump control panel to accommodate alarms and auto dialer.
- Provided one-line power diagram including schedules and details.

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MUNICIPAL PROJECT EXPERIENCE

STREETSCAPE IMPROVEMENTS, VILLAGE OF PRATTSVILLE

Prattsville, NY

- Lead Electrical Engineer.
- Researched existing site conditions for possible locations to obtain power to serve 26 new LED town-owned light poles to be installed along the sidewalks. Photometry was included in the design.
- Provided construction documents, which included installation details indicating two designs for powering new site lights.
- Design #1 indicated obtaining power from an existing outdoor electrical service, owned by the town. Design #2 indicated obtaining power from a new outdoor electrical service, centrally located.
- The town paid a fee for the use of existing NYSEG pole-mounted “cobra head” light fixtures. MH Professional Engineering coordinated with the utility company to have

CATSKILL FIRE DEPARTMENT ADDITION

Catskill, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for the design of a fire station addition for the Catskill Fire Department.
- New apparatus bay was added on to existing fire station. Overhead door openers and associated controls were relocated for the three relocated overhead doors. Lighting and circuiting design was completed for the new addition. General receptacles and cord reels for power were provided as well as power for new unit heaters. A new power panel was added to serve the new addition.
- Designed a gas-fired heating system and storm drain system for the fire station addition.

POOL EQUIPMENT UPGRADES, TOWN OF COLONIE

Colonie, NY

- Lead Electrical Engineer for the design of an existing filter house grounding system and replacement filters.
- Provided new service rated panel, branch circuits for pumps and specialty equipment, including VFDs, pumps pool control panels, chemical controllers, and carbon dioxide makeup water solenoid valves.
- Provided existing panel conditions and proposed panel conditions.

BUILDING CONDITIONS ASSESSMENT, WATER PUMPING STATION, VILLAGE OF MENANDS

Menands, NY

- Conducted due diligence review of existing mechanical, electrical, and plumbing systems for pump station building.

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MUNICIPAL PROJECT EXPERIENCE

CICERO FIRE DEPARTMENT

Cicero, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for the design of a new fire station for the Cicero Fire Department.
- Project included lighting design for interior lighting and circuiting as well as power and receptacle layouts. Power for special equipment, such as kitchen equipment and HVAC equipment, was provided as well as power to air compressors and a siren. An emergency generator and automatic transfer switch sizes were designed as part of the project. An empty raceway system was provided for television and closed circuit television. Outdoor lighting controls, including a time clock and photocell, were provided.
- Designed a municipal water service entrance to meet requirements of municipality, sanitary waste piping to five feet outside building footprint, domestic water system throughout building, domestic water heating system, and natural gas distribution.
- Designed wet sprinkler system layout; ventilation system to meet ASHRAE and building code standards.
- Designed heating hot water boiler system; general exhaust systems for all areas of the building. (i.e. toilets, truck bays, etc.), radiant floor heating system, and commercial kitchen hood exhaust and make-up air system.



MUNICIPAL PROJECT EXPERIENCE

ARBOR HILL SOFTBALL FIELD UPGRADES

Albany, NY

- Lead Electrical Engineer for softball field upgrades located at Arbor Hill Park.
- Designed required removals for the existing concessions building and primary feed from existing transformer, including the control panel for the Musco lighting system.
- Designed electrical power circuitry for the new concessions building, including reconnection of the Musco lighting systems control panel and site lighting.



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MUNICIPAL PROJECT EXPERIENCE

STREETSCAPE IMPROVEMENTS, VILLAGE OF SIDNEY

Sidney, NY

- Lead Electrical Engineer for site lighting, receptacle power, audio power and conduit routing and future fiber routing located on Main Street in the Village of Sidney, NY.
- Designed new single-phase service to town-owned municipal parking lot, including coordination with the utility service provider (NYSEG).
- Designed base bid: Street photometrics, site lighting with integral receptacle, conduit and pullrope for future speakers, and conduit, pullrope, and junction boxes for future receptacles in the rain gardens.
- Designed 3 alternates:
 - Installation of building mounted speakers.
 - Installation of rain garden receptacles.
 - Installation of hand holes and conduit for future fiber (cameras).

ALCOVE DAM UPGRADES

Coeymans, NY

- Lead Electrical Engineer for gate house power and pump upgrades to the Alcove Dam.
- Designed required removals for the proposed incoming three-phase service.
- Designed new three-phase service to existing gate house, including coordination with the utility service provider, Central Hudson Gas & Electric.
- Designed feeds for proposed electric gates 1, 3, 5 & 7.

SOUTH FALLSBURG WASTEWATER TREATMENT PLANT IMPROVEMENTS

South Fallsburg, NY

- Lead Mechanical and Plumbing Engineers to support the upgrade of process equipment of the wastewater treatment facility including renovation and new building work.
- Conducted a survey of existing airflows to evaluate the existing ventilation and exhaust flow path due to complaints of process odors migrating throughout the facility.
- Designed a new ventilation system for the existing main facility building and new building to meet NFPA 820, including exhaust fans, heating and ventilating units, and controls.
- Designed plumbing systems for the new building, including combination emergency eyewash/shower stations and an explosion-proof water heater.

MH Professional Engineering, PLLC



MUNICIPAL PROJECT EXPERIENCE

UV DISINFECTION, CITY OF ROME, WASTEWATER TREATMENT PLANT

Rome, NY

- Lead Mechanical and Plumbing Engineers for a new building at the city's wastewater treatment facility.
- Designed the HVAC system for the facility to meet the requirements of NFPA 820.
- Designed the plumbing systems for the new building including a service entrance and instantaneous water heater.

SOLIDS HANDLING BUILDING IMPROVEMENTS, CITY OF ROME

Rome, NY

- Lead Mechanical and Plumbing Engineers for the renovation of an existing building at the city's wastewater treatment facility.
- Designed the HVAC system for the facility to meet the requirements of NFPA 820. Included a dual-fuel boiler that operates on either natural gas or bio-gas. Provided a carbon monoxide monitoring and exhaust system for a truck loading bay.
- Designed the plumbing systems to accommodate the upgrades to the process equipment and included natural gas and bio-gas distribution systems and emergency eye wash/shower equipment.

WATER DEPARTMENT NEW OFFICE, CITY OF GLOVERSVILLE

Gloversville, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for the renovation of an existing masonry and wood-framed, former automobile dealership into offices and support spaces for the Gloversville Water Department.
- The project included complete renovation of approximately 3,000 ft² of former display and office spaces into service counters and office space for public payment of bills, common and private office spaces for department personnel, break rooms, code-compliant accessible toilet, meeting and conference rooms, including Gloversville Water Board meeting space, a fire-resistant storage room, and miscellaneous storage and utility spaces, as required.
- Project included new plumbing, new HVAC systems, and new electrical distribution systems.

IVES PARK LIGHTING

Potsdam, NY

- Lead Electrical Engineer.
- Sized conduit and wire for a site lighting plan showing the desired LED light fixture locations and conduit routing preference provided by the town. Performed voltage drop calculations.

MUNICIPAL PROJECT EXPERIENCE

PFAS COMPLIANCE FOR GROUNDWATER WELLS PROJECT B

Veolia, Tappan, and New Hempstead Locations

- Lead HVAC and Plumbing Engineer for three municipal well water treatment buildings totaling 24,000 ft².
- Provided design documents including calculations for compliance with 10 State Standards for ventilation and electric heating in the treatment and chemical storage areas. Specified corrosion-resistant materials on all surfaces exposed to the airstream in chemical storage areas.
- Provided design documents for all plumbing systems including domestic water, emergency eyewash systems, and sanitary drainage. Designed cross contamination prevention on all connections between potable sources and non-potable outlets.



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MUNICIPAL PROJECT EXPERIENCE

MAIN STREET STREETScape IMPROVEMENTS, VILLAGE OF LAKE PLACID

Lake Placid, NY

- Lead Electrical Engineer for expansive improvements to lighting along the village's Main Street.
- Provided photometric calculations for walkway/roadway lighting.
- Provided lighting routing with handholes, conduit and pullrope.
- Provided data routing with handholes, conduit and pullrope.
- Provided power and data to parking meter locations, conduit and pullrope.
- Provided power and data to parking lot lift gate, conduit and pullrope.



MUNICIPAL PROJECT EXPERIENCE

SPLASH PAD AND WATERSLIDE, CITY OF UTICA

Utica, NY

Lead Electrical Engineer for the design of a splash pad at Thomas R. Proctor Park and a waterslide at the Buckley Pool Complex in downtown Utica, New York.

Splash Pad:

- Designed a power system to efficiently operate the splash pad valve(s) controller, bollard activator post controls, and rain diverter controls.
- Provided a comprehensive grounding grid and bonding jumpers to ensure the safety and reliability of all equipment and fencing.

Waterslide:

- Developed a reliable power system for the slide e-stop controls, water level controllers, and rain diverter controls, ensuring smooth and safe operation of the waterslide.
- Utilized a comprehensive grounding grid and bonding jumpers to ensure the safety and integrity of all equipment and fencing, extending from the slide power.
- Installed an equipment ground bar to provide a solid grounding connection for all slide pumping and chemical equipment.
- Provided power supply to the slide pumps, variable frequency drives, chemical dispensing equipment, and control conduits, ensuring seamless communication from the chemical controller to all necessary equipment.

