

MH Professional Engineering, PLLC



BATH VETERANS ADMINISTRATION MEDICAL CENTER

Bath, NY

Provided commissioning authority services for the design, construction, and warranty phases of the execution and implementation of energy conservation measures.

This project included the implementation of energy conservation measures including upgrades to building HVAC control systems, lighting, steam traps, and motors within 13 buildings located on the Bath VAMC Facility.

The upgrades to existing building control systems included upgrading the existing pneumatic controls to electronic controls, connecting existing buildings to the new main operator's workstation, and installing a new main operator's workstation in building 75.

The steam trap upgrade included repair or replacement of all nonfunctioning or leaking steam traps throughout the facility.

Lighting upgrades included replacing fixtures, replacing nonfunctioning or inefficient lamps, and replacing malfunctioning ballast.

Motor upgrades included replacing old motors with new, high-efficiency motors and adding variable speed drives to motors as applicable.



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CDTA OFFICE BUILDING

Albany, NY

MH Professional Engineering served as the Commissioning Authority for the Capital District Transportation Authority HVAC Direct Digital Control System Project.

This project included fundamental building commissioning activities and encompassed the replacement of the existing HVAC control system with a new, state-of-the-art Automated Logic HVAC control system in the existing office building located at 110 Watervliet Avenue in Albany, NY.

The building includes offices, conference rooms, a lunch room, locker room, IT room, dispatch room, and support rooms.

The new HVAC Building Management System (BMS) was installed within the building to control equipment and zone temperatures.

Other equipment and systems commissioned included boilers, pumps, hot water system, piping, exhaust systems, ductwork, air testing and balancing, and the HVAC control system.



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CLIFTON SHOP, STATEN ISLAND RAILROAD SYSTEM, METROPOLITAN TRANSIT AUTHORITY

Staten Island, NY

Under a contract with Prismatic Development Corporation (PDC) and in cooperation with the New York City Transit (NYCT) commissioning team, MH Professional Engineering (MHPE) commissioned the new Clifton Maintenance Shop located at 845 Bay Street, Staten Island, New York.

The commissioning of the building systems and equipment went well throughout the engagement. NYCT provided the Detailed Description of Work (DDoW), which was used as the basis for all design and construction work. Based upon the DDoW, MHPE and the PDC design team developed the Basis of Design (BOD) which was used as the basis for the development of the construction details and requirements. MHPE provided pre-functional inspection forms, functional testing summaries, and functional testing procedures to the project team before on-site commissioning activities began. These documents served as the foundation for the commissioning efforts.

MHPE coordinated the commissioning efforts with NYCT Commissioning Authority, the Owner; Prismatic Development Corporation, the Project Design Build team; Hill International, the Project Owners' Project Manager; and various subcontractors' representatives. MHPE established a protocol for notification when equipment and systems were ready for the pre-functional inspections and functional testing of equipment. Once testing was performed and completed, MHPE issued deficiency reports with contractor corrections forms to document the progress of deficiency corrections. Commissioning progressed until all systems were successfully tested.

The commissioning activities included:

- Basis of Design preparation
- Commissioning plan preparation
- Preparation of detailed prefunctional inspection forms
- Preparation of functional testing forms
- Pre-functional inspections
- Witnessing equipment startup and system tests
- TAB verification
- Functional performance testing
- Deficiency reporting
- Status Reporting
- Commissioning Report preparation
- Training syllabi preparation
- Witnessing and coordinating training
- Operations and Maintenance Manual assessment
- As-Built Drawing assessment
- System Energy Management Manual Preparation
- Warranty report preparation



We believe Staten Island Railroad (SIR), NYCT and the participants benefited from incorporating commissioning into the construction, acceptance, and turnover activities. Many items that were addressed would have negatively impacted the safe and efficient operations of the equipment and systems if ignored.

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COMMUNITY CENTER FOR COHOES FALLS APARTMENTS

Cohoes, NY

This project included the construction of a 3,000 ft² new community building that includes offices, conference room, community room, and support rooms.

The commissioned systems include boilers, heat recovery units, exhaust fans, Dx cooling coils and fan coil units. The HVAC system is controlled using a Building Management System that controls zone temperatures.

Commissioning tasks include commissioning plan development, review of project submittals, pre-functional check list and functional testing documents, O&M Manual review, TAB review, and commissioning report preparation.

The facility achieved LEED Gold Certification by the United States Green Building Council.



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DMNA CAMP SMITH READINESS CENTER

Cortlandt Manor, NY

This project included the commissioning of a 92,000 ft² new Readiness Center for the New York Division of Military and Naval Affairs that includes 75,700 ft² of offices and training space, a 4,700 ft² assembly hall and 11,600 ft² of S-1 storage in Cortlandt Manor, NY. The building is conditioned by centralized heating and cooling systems. The HVAC system includes a chiller, variable flow air handling units, constant flow air handling unit, make-up air handling unit, variable air volume terminal units, hot and chilled water pumps, cabinet unit heaters, unit heaters, finned tube radiation, exhaust fans, split a/c system, dehumidifiers, and a Building Management System (BMS). The constant flow air handling unit includes a supply fan, hot water coil, pre-filter and final filter. The variable flow air handling units include a supply fan, return fan, hot water coil, chilled water coil, pre-filter and final filter. Heating hot water is generated by two boilers located in the mechanical equipment room and distributed throughout the building to zone terminal units. Glycol is heated with hot water using two heat exchangers and distributed to the air handling units and make-up air unit. Chilled water is generated from a chiller installed in the mechanical equipment room. Conditioned air is distributed throughout the building by ductwork and piping installed as part of the project. The Building Management System (BMS) was installed within the building to control equipment and zone temperatures. An Operator's Work Station was installed in the facility maintenance office. Building space temperature is controlled primarily by circulating tempered air through the air handlers and variable air volume terminal units within the building. The air handlers generate either warm or cold air using internal coils served by the boilers and chillers. The variable air volume terminal units generate warm or cool air using internal coils served by the boilers. Remote areas are conditioned by finned tube radiation, convectors, cabinet heaters, and unit heaters.



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HILL & MARKES NEW DISTRIBUTION CENTER

Florida, NY

MH Professional Engineering served as the Commissioning Authority for Hill & Markes New Distribution Center in Florida, NY.

The services provided included Fundamental Commissioning, as defined by the USGBC. The project involved Commissioning of the 130,000 ft² facility.

The commissioned systems included roof top air handling units and systems, exhaust systems, split air conditioning systems, ductwork, cabinet and unit heaters, domestic hot water and recirculation system, air testing and balancing, and HVAC controls.

Commissioning tasks included preparation of the commissioning plan, review of project documentation and submittals, pre-functional checklist creation and review, functional testing preparation and execution, O&M manual review, air system test and balance verification, commissioning report preparation, and training verification.



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MARVIN WINDOWS OF NEW YORK

Cortland, NY

John Yost served as the Commissioning Authority for Marvin Windows for the construction of a new office and warehouse building located in Cortland, New York. The building was constructed based upon USGBC LEED Guidelines. The project included Fundamental Commissioning and Enhanced Commissioning of a 28,000 ft² building which consists of 13,000 ft² of warehouse space and 15,000 ft² of general offices, classroom spaces, storage spaces, training rooms, and a general meeting space. The commissioned systems included air handling systems, a chilled water cooling system, high efficiency condensing boilers, several pumping and piping systems, exhaust systems, and building control system throughout the building. Commissioning tasks included the commissioning plan, review of project documentation and submittals, pre-functional checklist creation and review, functional testing preparation and execution, O&M manual review, air and water system test and balance verification, commissioning report preparation, and Systems and Energy Management Manual preparation.



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NORTHEAST CLINTON CENTRAL SCHOOL DISTRICT

Champlain, NY

John Yost was retained by the Northeast Clinton Central School District to provide commissioning services for the HVAC education buildings in its school district. Some of the structures dated back to the 1960s. MH Professional Engineering provided commissioning services for the following equipment and systems as detailed in the specifications: unit ventilators, ventilation fans, air handling units, Ptacs, hot water system, boiler/burners, hot water pumps, heat recovery unit ventilators, cabinet unit heaters, convectors, oil pump sets, ductwork, piping, water and air testing and balancing, and the building management system as it related to the new installed heating system.

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SALMON RIVER CENTRAL SCHOOL DISTRICT

Fort Covington, NY

MH Professional Engineering was retained by the Salmon River Central School District to provide commissioning services for the HVAC renovations and additions to the existing education complex in its school district. MH Professional Engineering provided commissioning services for the following equipment and systems as detailed in the specifications: ground source water pumping system, heat pump fan coils, ventilation fans, rooftop heat pump air handling units, rooftop makeup air handling units, air handling units, hot water system, pumps, heat recovery air handling units, cabinet unit heaters, ductwork, piping, water and air testing and balancing, and the building management system extension as it related to the new installed heat pump system.



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SKIDMORE COLLEGE NORTHWOODS STUDENT HOUSING

Saratoga Springs, NY

MH Professional Engineering provided commissioning services for the three Skidmore Northwoods Student Housing Apartments.

Equipment and systems commissioned included boilers, pumps, ground water source heat pump fan coils, hot water system, piping, exhaust systems, ductwork, air testing and balancing, and HVAC local controls.



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SKIDMORE COLLEGE SCIBNER VILLAGE - 34 BED FACILITY

Saratoga Springs, NY

MH Professional Engineering provided commissioning services for the seven Scribner Village 34-Bed Facility Student Housing Apartments.

Equipment and systems commissioned included boilers, pumps, ground water source heat pump fan coils, hot water system, piping, exhaust systems, ductwork, air testing and balancing, and HVAC local controls.



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SKIDMORE COLLEGE SCRIBNER VILLAGE - 57 BED FACILITY

Saratoga Springs, NY

MH Professional Engineering provided commissioning services for the two Scribner Village 57-Bed Facility Student Housing Apartments.

Equipment and systems commissioned included boilers, pumps, ground water source heat pump fan coils, hot water system, piping, exhaust systems, ductwork, air testing and balancing, and HVAC local controls.



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UNITED HEALTH SERVICES VESTAL EXTENSION CLINIC

Vestal, NY

MH Professional Engineering provided commissioning services for the United Health Services Vestal Extension Clinic.

Equipment and systems commissioned included the hot water system, including boilers and pumps, air delivery system, air handling units, variable air volume terminal units (VAV) with reheat coils, exhaust systems, ductwork local to each piece of commissioned equipment, piping local to each piece of commissioned equipment, cabinet and unit heaters, and HVAC Controls.



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WESTON FIELD ATHLETIC IMPROVEMENT PROJECT, WILLIAMS COLLEGE

Williamstown, MA

Provided Commissioning Authority Services for Williams College Weston Field Athletic Improvements on the Williamstown Campus.

The project included reconstruction of two major athletic fields and the construction of a 12,000 ft² team support building and a grandstand structure.

Services included commissioning of the team support building and grandstand HVAC, plumbing and lighting systems in their entirety. Commissioning activities included multiple design reviews, commissioning specification preparation, commissioning plan preparation, submittal review, prefunctional inspections, functional testing, training coordination, systems manual preparation, and submission of all LEED paperwork related to commissioning.

Commissioned equipment included air handling units, VAVs, boilers, pumps, terminal units and a complete automated building management system. MH Professional Engineering managed the air and water testing and balancing as part of the commissioning process.

As part of the project, the team support building envelope was commissioned by Camroden Associates as a subcontractor to MH Professional Engineering. Activities included design review, sight inspections, and an air tightness test.



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WILLIAMS COLLEGE NORTH CAMPUS UTILITY SYSTEMS **CHILLER PLANT UPGRADE**

Williamstown, MA

Provided Commissioning Authority Services for the North Campus Utility Systems Chiller Plant Upgrade construction project located on the Williamstown, MA campus.

Equipment and systems commissioned include a new chiller, new cooling towers, new pumps, new variable speed drives, new heat exchanger, new filter, condenser and chilled water piping, chiller plant control system in its entirety, and all other equipment associated with the operation of the chilled water plant equipment.

