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Selected Projects

Kensington Public Library, Brooklyn, New York

My responsibilities as a lead mechanical engineer of the new \$8 million, 15,000 sq. ft. library, included the preparation of design documents as well as coordination with architect, design and construction team members, and the New York City Department of Design and Construction (NYCDDC).

The library is located in a residential area, and it is organized around the concept of daylight, with a central top-lit atrium, north-facing high-performance curtain wall, south-facing garden wall, and sidewall set-back for east exposure. Furthermore, the skylight and main North side glazing provide the entire library with natural light throughout the daylight hours. Also, a digital controlled louver system installed below the skylights tracks the sun and adjusts its blades to eliminate glare that may disturb the readers.

Moreover, the high-performance lighting system with the integrated dimmers and occupancy sensors will significantly reduce the building's use of artificial lighting, and therefore, save energy.

Additionally, the ground-source heat pump (GSHP) system was designed to provide heating and cooling for the library. The test well indicated that there is sufficient water flow in a layer of sand/gravel 240 feet below-grade to support an open loop system. This system will use approximately 50% less electricity than conventional heating or cooling system, hence, reduces the cost of the library utility bill.

The Schomburg Centre for Research in Black Culture, Harlem, New York

As a senior project manager of the \$11 million renovation of the Schomburg Center for Research in Black Culture, my duties included the preparation of construction documents, coordination with all design and construction team members, attended site coordination meetings, responded to Request for Information, and reviewed change orders, and shop and as-built drawings.

This 81 years old center went through a major alteration that included complete remodeling of the cellar and first floor levels. In addition, all the mechanical equipment (boilers, hot water heaters, exhaust fans, etc...) on the penthouse have been replaced with high efficiency equipment, and the entire systems optimized to reduce energy use.

Public School 100, Queens, New York

Senior mechanical engineer of the 3-story addition (23,500 sq. ft.) which was constructed during the school normal schedule, and where all new services including HVAC equipment had to be tied into the existing facility systems without disruption. My responsibilities included the preparation of construction documents for all HVAC systems, coordination with all design and construction team members as well as with the New York City School Construction Authority (NYCSCA) project manager. In addition, attended site coordination meetings, responded to Request for Information, reviewed change orders, and shop and as-built drawings.

Public School 124, Queens, New York

As a senior mechanical engineer of the 3-story addition to the existing 91,300 sq. ft. school, my duties included the preparation of mechanical drawings and specifications, coordination with NYCSCA project manager, architect, general contractor, sub-contractors, and with other design team members.

Public School 268, Queens, New York

Senior project manager of the new \$45 million, 7-story school where I was supervising a team of MEP engineers in the preparation of the construction documents. Also, my duties included coordination with NYCSCA project manager, architect, general contractor, sub-contractors and with other engineering disciplines. Furthermore, I have participated in value engineering workshops, site construction meetings, responded to Request for Information, reviewed change orders, and shop and as-built drawings. Also I worked very closely with all design and construction team members during construction administration phase to meet the construction schedule and all of NYCSCA documentation requirement.

Atlantic Terminal Community Center, Brooklyn, New York

My responsibilities as a senior project manager of this community center included the preparation of construction documents for all mechanical systems, coordination with architect, other engineering disciplines, as well as with the New York City Housing Authority (NYCHA). Also, attended site coordination meetings, responded to Request for Information, reviewed change orders, and shop and as-built drawings.

This project involved renovation of the public assembly areas which included a recreation room, gymnasium, office spaces, private offices, computer room, kitchen and toilet facilities.

[The Thurgood Marshall Courthouse, Manhattan, New York](#)

As part of the design team of this \$169 million (estimated by GSA) renovation project that included bulk demolition package and new design, the challenges we had were to modernize the facility with no/least disturbance to historical components such as ornamentally carved ceiling of the Judge's chambers, libraries, public assembly areas and more.

The Thurgood Marshall Courthouse is listed on the National Register of Historic places. This 33-story, 718,180 sq. ft. building is the largest courthouse in the United States, containing twenty-three courtrooms, forty-four judges' chambers and court-related office spaces.

My duties included the preparation of the demolition and construction documents for all mechanical systems that were designed following LEED (Leadership & Energy & Environmental Design). In addition, I was involved with coordination with architects, other MEP engineers, as well as with the General Services Administration (GSA).

[LIRR/MTA Arch Street Yard & Shop, Queens, New York](#)

My responsibilities as a senior project manager of the award winning, \$76 million, 90,000 sq. ft. facility, included the preparation of construction documents for all HVAC systems, coordination with architect, MEP engineers, attended site coordination meetings, responded to Request for Information, review change orders, and shop and as-built drawings.

The project won the "Award of Merit" for the "Best of 2005 projects" in the tri-state area. Furthermore, I contributed to the HVAC design of the new major train storage yard in which up to 25 trains could be stored. This train storage yard allows trains to be cycled to and from the shop for inspection and repairs.

Another component of the Arch Street Yard complex was a 900-foot-long high level center-island platform with full-length canopy that intended for the scheduled periodic Extraordinary Interior Cleaning (EIC) of train cars.

[Bleecker Street Historical Station Rehabilitation, Manhattan, New York](#)

Senior project manager of the \$43 million rehabilitation project that included the Bleecker Street (IRT) and Broadway-Lafayette Street (IND) Stations, Transfer Connection, and ADA Key Stations.

The highlight of the project included: the extension of the platform by 300 feet with the associated services, expansion of the Upper East Mezzanine, rehabilitation of the East Mezzanine, installation of four ADA elevators and installation of one escalator.

My duties included the preparation of construction documents for all HVAC systems, coordination with architect, MEP engineers, attended site coordination meetings, responded to Request for Information, review change orders, and shop and as-built drawings.

[MTA Fulton Street Transit Center \(FSTC\), Manhattan, New York](#)

As a member of a multi-discipline consultant team, I was responsible in preparing and developing HVAC engineering design documents for the Fulton Street Transit Center (FSTC) and the Corbin Building. In addition, I provided load calculations for both buildings as well as a feasibility study to air-condition certain subway stations platforms.

The FSTC complex will link NYC Transit facilities with PATH service and provide for a new underground corridor that will be extended in the future into the redeveloped World Trade Center site and points west. The project will provide a streamlined transit center to serve twelve subway lines in Lower Manhattan. As per MTA estimate, the project will cost when it is completed approximately \$1.4 billion.

[Dryden Regional Airport, Ontario, Canada](#)

As a member of a consulting team, I conducted an exhaustive study to explore the feasibility of a hybrid PV/Battery/Genset system installation at the Dryden regional airport in Ontario Canada. This analysis was requested by the Dryden regional airport to determine the viability of an off-grid hybrid system that would take advantage of the Northern Ontario Heritage Fund which would provide an incentive up to \$1,350,000.

The solar power system considered would be able to produce 431.777 MWh/year of electrical energy that would translate to displacing 100% of the airport yearly energy consumption. A 4986 kWh backup battery system would be provided for a two days continuous operation during extended overcast days and/or genset failure.

The report was prepared which described in details the feasibility of the project by examining equipment, geographic conditions, and energy production models using RETScreen analysis tool. Uncertainty and risks associated with the implementation of a project of this magnitude were analyzed and findings been given to the airport officials with the tools needed to make the decision on whether to proceed with the final design and implementation of the solar hybrid system or not.

[St. Paul University, Ontario, Canada](#)

As a member of a consulting team, I prepared the entire feasibility study report which examined solar water heating with seasonal storage for space heating application. The project

was planned to be financed and owned by GPEKS who would sell the produced energy to St Paul University in Ottawa, Ontario.

St Paul's University is located in downtown Ottawa that consists of three building complexes heated by district heating. The buildings range in age from over one hundred years with a library addition built in 1965 and newly erected residential building.

The analysis was based on the assumption that the University would first take on two large renovations: improving the building insulation and retrofitting low-temperature radiators.

This study indicated that the solar system could deliver 532 MWh of energy per year, which would represent 41% of the annual energy demand assuming the energy efficiency renovations took place. This would reduce the annual green house gas emissions by 125 tCO₂ per year which is equivalent to removing 25 cars and light trucks from the road.

A sensitivity and risk analysis has been conducted. Recommendations were made to proceed with further studies to address the risks identified.

[Haeundae Udong, Busan, South Korea](#)

As a member of a multi-disciplinary design team, I contributed to the design of the building services including heating, air-conditioning, and ventilation systems for the 580,000 m² gross areas of multiple residential towers, low-rise, and mixed-use construction. Also, I attended coordination meetings with local engineers in New York City as well as with local consultants in Korea.

[Abu Dhabi International Airport, Abu Dhabi, United Arab Emirates](#)

As a senior project manager, I provided technical quality assurance review of MEP drawings, calculations, and specifications, and hence, recommended improvements to design team members.

This new 5 million square foot international airport was required to manage the influx of tourism expected in this part of the world. The building were designed to include sustainable design features such as total energy (sensible and latent) recovery wheels, solar water heating system, displacement ventilation, and demand controlled ventilation. All specified equipments were of high efficiency ratings that will further decrease the energy consumption of the building.

[HQ & RE Buildings, San Antonio, Texas](#)

As a lead senior mechanical engineer of the new 183,000 sq. ft. corporate headquarters (HQ Building) and campus (Recreational Building), I was involved during the design development

phase of the project which included sustainable strategies in order to achieve the ambitious energy goals. These strategies were, lake heating and cooling heat pump system, rock storage for outside air pre-cooling, solar domestic hot water, solar photovoltaic, radiant cooling system, under-floor air distribution, and displacement ventilation system.

[Lincoln Center for the Performing Arts - Central Mechanical Plant \(CMP\), New York, NY](#)

As a senior mechanical engineer, I was part of a multi-disciplinary design team responsible in preparing and developing HVAC engineering design documents for the new central mechanical plant that provides chilled water for 7 separate facilities within Lincoln Center Campus. Also, my duties were to coordinate with building engineers, owner project manager, general contractor and sub-contractors, attending site meetings, documenting and generating a monthly non-compliance report, responding to Request for Information, reviewing shop and as-built drawings, and taking site measurements from existing equipment/systems for further analysis and development of action plans.

The CMP was designed and installed which included new centrifugal chillers (2x1400 ton and 1x800 ton), chilled and condenser water pumps, variable frequency drives, cooling towers, piping (steam, condensate, chilled and condenser water), pipe insulation, control valves, heat exchangers, condensate pumps, building management system, energy meters, temperature and pressure sensors, refrigerant monitoring system, steam pressure reducing stations, air-handling units, exhaust fans, and many other equipments.

[Lincoln Center for the Performing Arts - Avery Fisher Hall \(AFH\), New York, NY](#)

As a senior project manager, I was responsible in preparing and developing construction documents, managing a group of engineers, managing project budget and targeted profit, coordinating with building engineers, owner project manager, general contractor, and sub-contractors, attending site meetings, documenting and generating a monthly non-compliance report, responding to Request for Information, reviewing change orders, developing and submitting Request for Additional Services, reviewing contractor payment request, and reviewing shop and as-built drawings.

The AFH project included the design and installation of a large centrifugal exhaust fan (192,000 cfm) at the cellar level, network of ductwork, suspended discharge plenum, weatherproof exhaust louvers with control dampers, flow stations and pressure sensors, hot air door curtain, variable air volume boxes and heating and cooling thermostats, fire damper and fire-smoke dampers, building management system, and walk-in-cooler.

Lincoln Center for the Performing Arts – West Fan Room (WFR), New York, NY

As a senior project manager, I was responsible in preparing and developing construction documents, managing a group of engineers, managing project budget and targeted profit, coordinating with building engineers, owner project manager, general contractor, and sub-contractors, attending site meetings, documenting and generating a monthly non-compliance report, responding to Request for Information, reviewing change orders, developing and submitting Request for Additional Services, reviewing contractor payment request, and reviewing shop and as-built drawings.

The WFR project included the refurbishment of two existing large duty centrifugal fans (282,000 cfm and 320,000 cfm), construction work associated with the addition of emergency generator, replacement of existing steam boiler, and concrete supply tunnels rehabilitation, new condensate pump, ductwork, fire-smoke dampers, industrial supply and exhaust registers and grilles, variable frequency drives, load bank for generator, air-handling units, steam radiator control valves, makeup air units, exhaust and supply fans, and large intake and exhaust louvers with control dampers.

Other Relevant Projects:

1. Link & CO., 1212 Avenue of the Americas, New York, NY
2. Alliance of Resident Theatres, 520 8th Avenue, New York, NY
3. Amalgamated Bank, 15 Union Square, New York, NY
4. ATINYILDIZ, 745 5th Avenue, New York, NY
5. Auda Advisor Associates, 745 5th Avenue, New York, NY
6. Austin Nichols, 733 3rd Avenue, New York, NY
7. Baldwin Public Library, 2385 Grand Avenue, Baldwin, NY
8. Bank of America, New York, NY
9. Barnes & Noble, 111 8th Avenue, New York, NY
10. Barnes & Noble, 122 5th Avenue, New York, NY
11. Barnes & Noble, 76 9th Avenue, New York, NY
12. Bloomberg L.P., 110 East 59th Street, New York, NY
13. Bloomberg L.P., 330 West Street, New York, NY
14. Bloomberg L.P., 499 Park Avenue, New York, NY
15. Bowlmor Lanes, 110 University Place, New York, NY
16. Brasserie, 60 West 57th Street, New York, NY
17. Click Radio, 251 Park Avenue South, New York, NY
18. Columbia Grammar and Preparatory School, 4 West 93rd Street, New York, NY
19. Common Wealth, 655 3rd Avenue, New York, NY
20. Community Access, 2 Washington Street, New York, NY
21. Cummins Metropower, 890 Zerega Avenue, Bronx, NY
22. DATA HDW, 30 Broad Street, New York, NY
23. Deutsche Bank, 31 West 52nd Street, New York, NY
24. Doctors Office, 42 East 74th Street, New York, NY
25. DRA Advisors, 220 East 42nd Street, New York, NY
26. Emmes Asset Management Company, 420 Lexington Avenue, New York, NY
27. Endico Potatoes, 160 N Macquesten Pkwy, Mount Vernon, NY
28. Ermenegildo Zegna, 10 East 60th Street, New York, NY

29. Ermenegildo Zegna, 663 5th Avenue, New York, NY
30. FedEx, 1 Pennsylvania Plaza, New York, NY
31. FedEx, 1120 6th Avenue, New York, NY
32. FedEx, 125 West 33rd Street, New York, NY
33. FedEx, 148 Leroy Street, New York, NY
34. FedEx, 437 Madison Avenue, New York, NY
35. FedEx, 525 7th Avenue, New York, NY
36. FedEx, 560 West 42nd Street, New York, NY
37. FedEx, 70 Spring Street, New York, NY
38. FedEx, 880 3rd Avenue, New York, NY
39. Finnish Mission to UN, 866 United Nation Plaza, New York, NY
40. Forum Gallery, 730 5th Avenue, New York, NY
41. Gates-Mills, 417 5th Avenue, New York, NY
42. George Washington Bridge-Bus Terminal, New York, NY
43. Guy & Gallard, 333 7th Avenue, New York, NY
44. Guy & Gallard, 339 7th Avenue, New York, NY
45. HELP, 105-06 Sutphin Boulevard, Jamaica, NY
46. Henri Polak Diamond Corporation, 22 W 48th Street, New York, NY
47. ICA TU Securities, 245 Park Avenue, New York, NY
48. J&R Music World, 15 Park Row, New York, NY
49. Jewish Board of Family and Children's Services, 521 West 239th Street, Bronx, NY
50. K&F Industries, 600 3rd Avenue, New York, NY
51. KEYSPAN, 1650 Islip Avenue, Brentwood, NY
52. Kim Lepine Salon, 667 Madison Avenue, New York, NY
53. KPE, 860 Broadway, New York, NY
54. 1199 Labor Center, 310 West 43rd Street, New York, NY
55. 1199 Labor Center, 330 West 42nd Street, New York, NY
56. Laird Squard, 162 5th Avenue, New York, NY
57. Landover Associates, 654 Madison Avenue, New York, NY

58. Laundry Space, 60 West 57th Street, New York, NY
59. Lombard Odier, 12 East 49th Street, New York, NY
60. Lucent Technologies, 333 West 52nd Street, New York, NY
61. Lucent Technologies, 666 5th Avenue, New York, NY
62. Morgan Stanley, Jersey City, NY
63. National Benefit Fund Executive Offices, 330 West 42nd Street, New York, NY
64. NYC Council, 250 Broadway, New York, NY
65. NYC Department of Finance (Manhattan Bus Center), New York, NY
66. NYC Housing Authority, 250 Broadway, New York, NY
67. NYC Housing Authority, 45 Allen Street, New York, NY
68. NYC Housing Authority, 478 Fordham Plaza, Bronx, NY
69. NYC Housing Authority, 787 Atlantic Avenue, Brooklyn, NY
70. NYC Youth, 161 William Street, New York, NY
71. Onassis Culture Center, 641 5th Avenue, New York, NY
72. Ossa Properties, 315 Spring Street, New York, NY
73. Pearson TV Financial Times, 1330 6th Avenue, New York, NY
74. Roslyn Savings Bank, 1400 Old Northern Blvd, Roslyn, NY
75. Roslyn Savings Bank, 1764 Grand Avenue, Baldwin, NY
76. Roslyn Savings Bank, 1900 Hempstead Turnpike, East Meadow, NY
77. Samaritan Health Service, 1401 University Ave, Bronx, NY
78. Siegel Auction Galleries, 60 East 56th Street, New York, NY
79. Tailor Business Institute, 620 8th Avenue, New York, NY
80. TECH PACK, 750 Lexington Avenue, New York, NY
81. Television Bureau, 3 East 54th Street, New York, NY
82. The Economist, 111 West 57th Street, New York, NY
83. The Street, 2 Rector Street, New York, NY
84. Toy Center, 1107 Broadway, New York, NY
85. TutorNet, 80 Broad Street, New York, NY
86. Yummy Suchi, 30 Rockefeller Plaza, New York, NY