Brevard County Facilities Engineering & Construction – Harry T. & Harriette V. Moore Justice Center, Chiller Plant Backup

Viera, Florida

Mechanical engineering services to provide emergency backup for the existing chiller plant in the original portion of the building. The existing plant consists of two 300-ton water-cooled chillers with matching condenser and chilled water pumps and two cooling towers. Preliminary site surveys and analyses resulted in providing an emergency chiller connection for a portable chiller to be rented during times of a one-chiller failure as backup to the existing chiller plant. Resulting approach saved $300,000 over the original approach of adding a third water-cooled chiller with an expansion of the existing chiller room.

Brevard County Facilities Engineering & Construction – Harry T. & Harriette V. Moore Justice Center, Courthouse Expansion

Viera, Florida

Mechanical engineering and fire protection services for a four-story 88,000 s.f.. expansion of the existing Courthouse with new office spaces on the first three floors and two large courtrooms, jury deliberation rooms, judge chambers, and small civil courtroom on fourth floor. Mechanical HVAC system of chilled water with dedicated outdoor air units for dehumidification control, modular indoor air handling units, variable air volume terminal units, air-cooled chillers, primary/secondary pumping arrangement, and Direct Digital Control system. Mechanical systems include a chiller yard in the south parking area with two air-cooled chillers provided with an N+1 arrangement for system backup. Standby chiller was sized at a larger capacity of 300-tons for backup of the existing central chiller plant for the original building. Chilled water piping was routed to the original chiller room for connection to the existing chilled water loop. Direct Digital Controls provided as an extension of the existing building management system.

Brevard County Housing and Human Services Department – Country Acres Children's Home Renovation

Titusville, Florida

Mechanical engineering services for a total renovation of a 10,000 s.f. juvenile detention facility converted to an emergency shelter for homeless and disadvantaged youths and families. Project included the complete demolition of existing air conditioning units, ductwork, plumbing fixtures, and domestic hot water systems. Outside air ventilation was improved to current code requirements and high efficiency split-system heat pumps were provided for conditioning of the spaces. New shower facilities were provided and the existing kitchen equipment was upgraded. Project was designed for a three-phase construction schedule to match the funding cycles.

City of DeBary – City Hall

DeBary, Florida

Mechanical engineering and fire protection services for a two-story 14,000 s.f.. new City Hall in Central Florida. The City Hall includes a 2,000 s.f. Council Chamber, over twenty offices of various sizes including Planning & Construction, reception areas, break room, and work rooms. Mechanical systems include split-system heat pumps divided by floor and building sections with variable volume/temperature control system of direct digital controls and ducted return air systems. Dedicated split-system outdoor air units were provided for the Council Chamber and the remainder of the building. All equipment was selected with single-phase electrical power.

City of Renton Parking Garage

Renton, Washington

Mechanical engineering services for a seven-story, 563 stall municipal parking garage located in the center of Renton. Approximately 2,400 s.f. of retail space was provided on the ground floor including a police way station. Short-term parking is allowed on the first three floors with long-term and overnight parking provided on the upper four floors as card-accessed, fee-based parking. Mechanical design included air conditioning for retail spaces and elevator machine room, ventilation for electrical rooms, drainage piping to oil/water separator located under the first floor, fire sprinkler piping on all covered floors and standpipes for stairwells and top floor.

PROJECT EXPERIENCE

Government

City of Long Beach Emergency Communications and Operations Center

Long Beach, California

Mechanical engineering for peer review of the construction documents for an Emergency Communications and Operations Center (911 Call Center). The facility is a two-story, 42,500 s.f. total area of command center and office space for the Long Beach emergency response teams. The mechanical systems are provided with a fully-redundant N+1 system for the critical equipment loads and a 60 percent redundant N+1 system for the support spaces. The critical equipment room is provided cooling with two (primary/standby) computer room air conditioning units. Remainder of building is provided cooling from packaged rooftop variable-air volume HVAC system with electric resistance heating in air terminal units.

Lane County Animal Regulation Authority – HVAC System Renovation

Lane County, Oregon

Project Engineer for complete renovation of the hydronic heating/cooling system and controls including a ground source heat rejection coil and floor slab heating network for the kennels.

City of Seattle – Sixth and Cherry Parking Garage and Retail Space

Seattle, Washington

Mechanical engineerging services for a 240,000 s.f. 800-car, eight story parking garage in downtown Seattle. Fire sprinkler system was provided for life-safety protection of structure. Two 1,500 s.f. retail space were provided on the ground floor. Mechanical design included air conditioning for retail spaces and elevator machine room, ventilation for electrical rooms, drainage piping to oil/water separator located under the first floor, fire sprinkler piping on all covered floors and standpipes for stairwells and top floor.