Featured Project

HVAC Renovation of Medford City Hall

Medford, Oregon

The Medford City Hall is a 3-story, 48,000 square-foot building built in 1966. Designed by the famous architectural firm of Skidmore, Owings and Merrill, the City Hall was a showpiece for its time. The mechanical system consisted of a 2-pipe perimeter induction system with constant volume interior zones and pneumatic controls.

Over the years, the building has been remodeled and structurally upgraded, but the original mechanical systems were kept intact. Computer systems have been introduced, creating air conditioning loads that could not have been anticipated when the building was built. The original air conditioning system could not keep up with the increased cooling demand. In 2007, with 40-year old mechanical systems and increasing energy bills, the City decided to upgrade the building with new HVAC and lighting systems.

Mechanical
Plumbing
Construction Services

The new design called for a new roof mounted air handler to serve the top two floors, replacement of the basement air handler to serve the first floor, a new high efficiency boiler, a new modular chiller, a new cooling tower, a new high efficiency water heater, and new variable speed hot water and chilled water pumps. The air distribution system was removed and replaced with a variable air volume system with hot water reheat throughout the building. New heating hot water and chilled water piping was installed from the basement to the new air handler on the roof. The galvanized plumbing piping was also removed and replaced. A direct digital control (DDC) system was installed to monitor and control all the new mechanical systems.

The new mechanical systems were designed with long term energy efficiency in mind and the City received rebates from the natural gas utility (Avista), the Oregon Energy Trust, and the Oregon Business Energy Tax Credit program (pass thru option for government buildings).

Because the mechanical work would drive the project, the mechanical engineer was chosen to lead the work, subcontracting out the electrical, structural, and architectural work as required. The original construction plan was for the work to proceed on a floor-by-floor basis and the renovation was designed to accomplish this. However, the logistics of moving people in and out three different times turned out to be very expensive and time consuming, and in the end, the whole building was vacated. ArcSine engineers were fully involved in construction management from beginning to end, including bidding services, specification review, issuing addendums and construction bulletings, weekly site meetings, etc.