

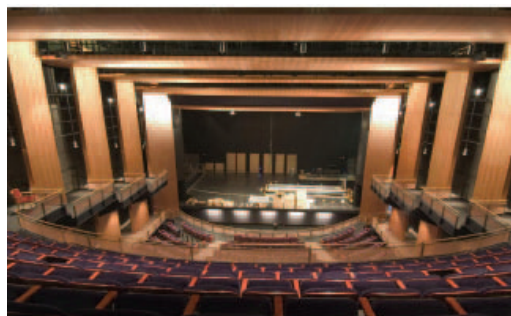
Skagit Valley
Performing Arts
Center – McIntyre Hall
Mt. Vernon, Washington

Mechanical engineering services for a 42,000 s.f. performing arts and conference center. Facility provides a 700-seat auditorium, 500-seat conference room, large exhibition lobby, performance stage, backstage storage and workshop, dressing rooms, and support spaces. Mechanical design included packaged rooftop

air-conditioning units with refrigeration coils, condensers, and indirect gas-fired heaters. Rooftop units are provided with sound attenuation at the supply air discharge

and return air inlets to mitigate equipment and airborne noise generation to meet the required Noise Criteria level of NC 25 in the auditorium and conference room. Low velocity ductwork provided additional noise level reductions. Auditorium provided with a displacement ventilation system supplying 64°F air at the floor level. Remainder of building is provided with variable-air volume terminal units with heating water reheat systems. Building was zoned with dedicated

rooftop units for each critical space. Plumbing provided for large facility restrooms and fire protection systems were provided throughout the facility.



PROJECT EXPERIENCE

Cultural

University of Alaska Museum of the North Fairbanks, Alaska

Mechanical engineering services for a 43,000 s.f. building addition and an equal area of renovation at the University of Alaska Museum in Fairbanks. Major challenges included optimizing temperature, air quality and humidity environments for new galleries, museum collections storage, and laboratories; and elimination of mechanical and electrical systems deficiencies in the existing building. Mechanical design constraints included engineering a building envelope and mechanical systems capable of providing humidity controlled interior environment in an arctic climate where outside air temperatures can swing up to 150 degrees F over a one-year period. Mechanical engineers worked very closely

with the architectural team to predict dewpoint locations within the various wall types. Window performances were evaluated, and special mechanical systems and control schemes were engineered to accommodate the extremes associated with this building's location. An elaborate, adjustable lighting scheme allows display areas to dim or brighten with exhibit changes; and special indirect lighting is used to emphasize the high curved ceiling. Project doubled the size of the existing museum; creating the Rose Berry Alaskan Art Gallery with more space to hold priceless natural and cultural history collections.

