

BENAROYA HALL

Seattle, WA

SQUARE FEET

187,000

COST

\$118,000,000 total

\$8,900,000 mechanical

COMPLETED

1998

OWNER

Seattle Symphony

ARCHITECT

LMN Architects

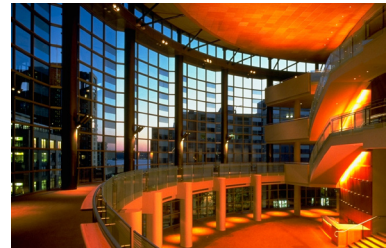
AWARD

1998 Honor Award

American Council of
Engineering Companies
of Washington

COST SAVINGS

To monitor and control construction costs, Notkin worked with contractors early in the process to review prices and alternative designs, and recommend suppliers capable of handling the high performance system requirements. Notkin helped obtain a \$50,000 grant from Seattle City Light to be used towards the purchase of a high efficiency chiller and carbon monoxide sensors in the parking garage.



SCOPE

Mechanical engineering services for a new 187,000 sq. ft. performing arts facility. Design features included a 2,500-seat concert performance hall with built-in pipe organ and world-class acoustics, a 540-seat recital hall, 5,000 sq. ft. retail space, and an underground parking garage.

To avoid whistling noises, mechanical systems were designed to automatically balance the amount of outside air and exhaust air between the inner auditoriums and the outer sound lock corridors. Notkin designed any mechanical systems penetrating the isolation locks with flexible connections or sound traps. In addition, the building's air distribution system was designed to move the air at the lowest speed possible, thereby reducing additional noise.

ADDED VALUE

Notkin's intensive coordination with the acoustical consultant resulted in a noiseless mechanical system. A 60-foot-long ductwork model was created to test air distribution and sound levels against varying air velocities. The model was saved and later reassembled as permanent ductwork within the building.