

MICHIGAN LIBRARY & HISTORICAL MUSEUM LANSING, MICHIGAN

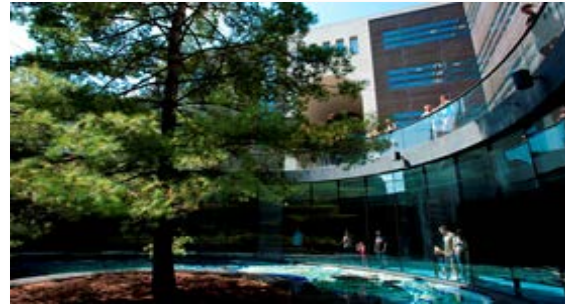
KEY PARAMETERS

- Type of Facility – Existing Building (EB)
- Function – Museum/Library
- Area – 5 stories, 312,000sf
- Project Completion – 2015

A recent renovation at the Michigan Library and Historical Museum, included an upgrade to the HVAC system. One wing houses the Library of Michigan which is responsible for collecting and preserving publications within the state, conducting reference and research, and supporting other libraries in the state. The other wing houses the Michigan Historical Museum. In addition to extensive historical collections of artifacts, major exhibits in the museum include a three-story relief map of Michigan, walk-through copper mine, schoolhouse, street scene, and a diorama complete with a lighthouse.



Challenges: IAQ. The primary objective for owners was to achieve precise environmental control for the facility's irreplaceable collections of books, documents and artifacts – in addition



to occupants. Secondly, owners wanted to upgrade systems that would then give them the ability to reduce ongoing operating costs.

Solution: Dynamic V8 Air Cleaning Systems were installed in ten air handling units and two make-up air units. Designers chose the Dynamic V8 over conventional MERV 13 filters for their improved

MERV 15 performance and ability of the Dynamic V8s to remove odors and VOCs in addition to ultrafine particles.

Results: Air quality was delivered as promised. As an added bonus, owners are expected to see lower operating costs in the form of labor savings from significantly longer filter maintenance intervals --- years instead of months --- and energy cost savings from lower system static pressures and the subsequent reductions in fan energy. It is also predicted that these energy cost savings could as much as double by reducing outside air requirements using the IAQ Procedure in ASHRAE Standard 62.



TEAM

- Owner – State of Michigan, Michigan Department of Management & Budget
- Engineers – Matrix Consulting Engineers, Inc.
- Prime Contractor – Nelson Trane
- Mechanical Contractor – Myers Plumbing & Heating, Inc.

MECHANICAL SYSTEMS

- HVAC – Trane
- Controls – Trane Tracer Summit

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