

Madison Public Library Facilities Report April 9, 2026

Central Library Chiller Upgrade

Two years ago discussion began about ways to address the periodically unstable performance of the chiller which began to add excessive wear to the equipment and threatened cooling outages. After review by engineers the best option presented was to install a primary/secondary flow system versus a variable flow system. Basically, in a primary/secondary system load levels on the chiller are more stable than the erratic (high spikes/deep valleys) levels in the variable flow system.

This upgrade required the installation of a buffer tank. This 500 gallon water tank helps maintain even water temperature which reduces sporadic chiller operation (the chiller has shut down in the past when incompatible water temperatures were introduced to it). This also increases chiller plant efficiency by reducing the amount of electricity required to run the chiller. This facility project is a win/win situation where operation is more reliable and also reduces cost.

This past March 17 the drywall in the ground floor hallway was removed to allow installation of the buffer tank. This installation represented the first use of a feature conceived during design in 2010 when architects realized that certain mechanical equipment would be required in the future which would not fit through existing corridors. On March 19 the heavy equipment division of Reynolds installed the buffer tank in the lower level mechanical room.

The wall has been replastered and the chiller is undergoing its final phases of programming, insulation, and testing prior to its first use during the cooling season. This project represents the successful intersection of reporting by mechanics, exploration of possibilities by engineers, support from City and Library leadership, and communication to Central Library staff.