

Chicago Water Pumping Stations

Condition Assessment

Chicago, Illinois



CLIENT

Chicago Department of Water Management

CHALLENGE

The City of Chicago needed an assessment of condition and probable repair costs for the structural systems and building envelopes of ten potable water pumping stations located throughout the city. The wide range of ages, types of construction, architectural features, and materials used in these buildings necessitated an assessment approach and scope tailored to each facility. Identification of repair needs and costs required knowledge of a variety of structure types and materials as well as experience in condition assessment, repairs, and rehabilitation.

STRUCTURES

The Chicago Department of Water Management operates one of the largest municipal water supply systems in the United States, serving the city of Chicago and many of its suburbs. The pumping stations included in this assessment were constructed at various times, starting in the mid-1800s. Many of the station buildings are over seventy years old, and one, the Sixty-eighth Street Pumping Station, was the first in the city to draw water from a crib in Lake Michigan. Each station has a distinct architectural design. Construction types include load-bearing masonry, steel frames clad with masonry, and cast-in-place concrete frames clad with precast concrete panels. Many of the stations have been expanded over the years, and the additions often have used structural systems and materials different from those of the original buildings.

SOLUTION

WJE performed visual inspections of the Sixty-eighth Street, Central Park, Cermak, Lakeview, Lexington, Mayfair, Southwest, Springfield Avenue, Thomas Jefferson, and Western Avenue pumping stations. Existing conditions of the structural systems and building envelopes were thoroughly documented. The assessment for some stations also included specialized building elements, such as masonry chimneys that serve on-site power generation facilities. After evaluating the assessment information, we identified immediate and long-term maintenance and repair needs and developed estimates of probable repair costs.