



PROJECT PROFILE

Courthouse Plaza One and Two

Exterior Wall Water Leakage Investigation and Repair Design | Arlington, VA



CLIENT

Vornado/Charles E. Smith

BACKGROUND

Originally constructed between 1988 and 1990, the buildings that comprise the Courthouse Plaza One and Two properties consist of two adjoining, fourteen-story mid-rise office buildings located at 2100/2200 and 2300 Clarendon Boulevard in downtown Arlington, Virginia. Architecturally, the buildings are distinguishable primarily for their use of vertically oriented, glazed aluminum curtain walls set between alternating sections of architectural precast concrete panels and a series of projecting, precast concrete cornices. Courthouse Plaza had been experiencing rainwater penetration through the exterior wall assemblies on all elevations for several years.

WJE was retained to investigate and develop repair drawings and technical specifications to address uncontrolled rainwater penetration through the glazed aluminum curtain walls and precast concrete wall panels. The client had previously received another consultant's repair recommendations that were not feasible given budget constraints. As such, the client sought WJE's recommendations for a repair approach that did not require an invasive repair and could remain within the project budget.



SOLUTION

WJE conducted a close-range, exterior visual condition assessment of representative samples of the glazed aluminum curtain wall and adjacent precast concrete wall panels. The investigation included field testing for water penetration resistance at numerous locations throughout the property. As a result of this investigation, WJE determined that water leakage was attributed to widespread failure of the exterior weather seals at the precast concrete panels and curtain wall perimeters as well as the inability of the curtain wall assembly to properly manage water internally. To solve both problems, WJE developed repair documents to competitively bid building-wide sealant replacement as well as a conversion of the drained curtain wall assembly to a barrier system. WJE's repair design and implementation addressed the uncontrolled rainwater penetration while remaining within the client's project budget.