PROJECT PROFILE

National Geospatial-Intelligence Agency

Exterior Enclosure Commissioning (EECx) for New Campus East | Springfield, VA

CLIENT

U.S. Army Corps of Engineers (USACE), Baltimore District though an existing contract with the MEP Cx Agent (EMC Engineers)

BACKGROUND

The $1.7 billion National Geospatial-Intelligence Agency (NGA) campus is comprised of five primary structures. The Main Building—the focus of WJE's work—consists of two curved eight-story buildings, 120-feet-wide by 900-feet-long, connected by an eye-shaped atrium. The atrium roof is comprised of three high-strength layers of UV-stable ethylene tetrafluoroethylene (ETFE) "foils" welded around their perimeter into air pressurized "cushions." The facade includes glazed aluminum windows, curtain wall and storefront, architectural precast concrete wall panels, architectural metal wall panels, and architectural metal louvers.

To mitigate the risk of uncontrolled rainwater penetration and moisture ingress, condensation, and moisture-laden air flow across the new above-grade building envelope, WJE was hired to perform EECx services, ranging from work product comments, design charettes, and a detailed review of the contract drawings and exterior enclosure specifications (including recommendations with respect to testing protocols) to field visits, observation of functional performance testing, and open and closed item logs.

SOLUTION

WJE, working closely with the design team (RTKL/KlingStubbins Joint Venture), the construction team (Clark/Balfour Beatty joint venture), and USACE, provided design phase consulting services to identify exterior enclosure performance requirements and to address concerns associated with condensation potential, air barrier continuity, and rainwater penetration. After successfully completing a preconstruction laboratory mock-up, which included development of a new testing protocol for the ETFE roofing, field testing for air and water penetration resistance, and on-site construction observation for quality assurance, the project currently serves as the home for the National Geospatial-Intelligence Agency.

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