

Rachel Michelin, AIA, LEED AP BD+C

Vice President



Summary

Rachel Michelin joined Thornton Tomasetti in 2005. She plays an essential role in building envelope improvement and renovation projects. She investigates building material and building envelope problems and designs repairs for masonry, concrete, stone, curtain walls, roofing and waterproofing. Rachel is a certified Building Enclosure Commissioning Agent and has extensive experience in the forensic evaluation of building envelopes.

Education

- M. Arch. (Structures Option), 2005, University of Illinois at Urbana-Champaign
- B.S. Architectural Studies, 2003, University of Illinois at Urbana-Champaign

Continuing Education

- University of Wisconsin, Commissioning Building Enclosure Assemblies and Systems

Registrations

- Registered Architect in Illinois
- NCARB Certificate Holder
- LEED Accredited Professional, Building Design+Construction

Training Certificates

- Scaffold Safety Training, 1926 Certificate of Completion
- Building Enclosure Commissioning Process Provider (BECxP)
- Commissioning Authority + Building Enclosure Knowledge Requirements (CxA+BE)

Professional Activities

- American Institute of Architects (AIA)
- Member, U.S. Green Building Council – Illinois Chapter
- Member, Building Enclosure Technology & Environment Council, National Institute of Building Sciences

Papers, Lectures and Publications

- "Forensic Evaluation and Repair of Failures in 41-Story Granite Façade," paper for ASCE 8th Congress on Forensic Engineering, November 2018
- "The Envelope, Please! How Everyone Wins with Building Envelope Commissioning," Online Course, U.S. Green Building Council, July 2017, Co-presenter
- "Mid-Century Modern Building Performance and Improvement Strategies," National Institute of Building Sciences, 5th Annual Building Enclosure Science & Technology Conference, April 2018

Select Project Experience

Litigation Support

Individual Members/Unit Owners of the Hemingway House Condominium Assn. vs. Hemingway House Condominium Association, regarding the necessity of proposed facade repairs.

Facade Investigations and Restorations

350 E. Cermak Road, Façade Repairs and Window

Replacement, Chicago, IL. Professional services for façade repairs and window replacement at the historic R.R. Donnelly Building located at 350 East Cermak, which is a fully occupied data center and Landmarked building. The construction scope included brick masonry, limestone, and terra cotta façade repairs and window replacement throughout the building. The proposed work required approval by the associated preservation agencies, including the review of a custom aluminum window profile designed to match the original steel windows. Our professional services included the performance of a feasibility study to determine the parameters involved in the window replacement and the extent of the façade repairs, development of the approximate project cost, approval from the landmarks office, development of construction documents, and construction administration services.

Joffrey Tower, 8 E. Randolph Street, Chicago, IL. Emergency investigation and critical examination of exterior curtain wall façade of 33 story high-rise to comply with City of Chicago requirements.

Edgewater Beach Apartments, Chicago, IL. Investigation to determine the cause of distress to a 20-story lakefront landmark followed by an exterior façade renovation, which included installation of shelf angles, replacement of deteriorated structural clay tiles and terracotta repairs.

Henry Horner Annex, Façade Investigation and Repairs, 1815 W. Monroe Street, Chicago, IL. Façade investigation of a seven-story structure with exposed reinforced concrete slab edge with brick infill panels.

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Metra Headquarters, 547 W. Jackson Boulevard, Chicago, IL. Critical examination of a 15-story, terracotta-clad building constructed circa 1923, followed by a comprehensive three-year restoration project, including replacement of all damaged terracotta, brick and tuckpointing.

Printers Square, Façade Repairs, 780 S. Federal Street, Chicago, IL. Façade repairs to interconnected buildings that are composed of brick masonry with terracotta and stone ornamental accents, window heads and sills.

James A. Rhodes State Office Tower Renovation, 30 East Broad Street, Columbus, OH. Building envelope consulting and structural analysis of the existing conditions of the 41-story, 629-foot-tall Rhodes Tower, clad with granite panels and horizontal ribbon windows and constructed in 1974. The building enclosure scope includes hygrothermal analysis and design services to evaluate the addition of new insulation behind the existing granite, along with replacement of the tower's windows and original curtain walls. The structural scope includes modeling of the building's steel superstructure and granite anchorages, evaluating building sway and interstory drift, and the design of a custom repair anchor for the granite panels. The repair project allows for the building to remain occupied during construction.

Hemingway House Condominiums, Façade Repairs, 1850 N. Clark Street, Chicago, IL. Construction administration services for the reclad of a 30-story condominium building constructed in 1968. Construction work included complete window replacement, the removal and replacement of exterior brick at the cavity walls, and extensive concrete repairs.

The Columbian, Phases 2 and 3, Chicago, IL. Architectural façade repair design and professional consulting services for the restoration of a 48-story masonry residential high rise. Scope included an investigation phase to determine recommended repairs, and included water testing and the evaluation of water damage at the building interior. Our services also included the preparation of Construction Documents, bidding services, and construction administration.

Leo Burnett Building, Façade Repairs, 35 W. Wacker Drive, Chicago, IL. Architectural services for the exterior restoration of the Leo Burnett Building. Work included an investigation phase to determine recommended repairs, the preparation of bidding documents and construction administration services.

Van Buren Lofts, Façade Restoration, Chicago, IL. Architectural services for the exterior restoration of a vintage eight-story condominium building with hung metal balconies. The building's façades are constructed with various building materials including brick masonry, concrete, metal panels, curtain wall and concrete masonry units. Scope included an investigation phase to determine recommended repairs, the preparation of bidding documents and construction administration services.

Homan Tower, Façade Investigation and Restoration, Chicago, IL. Façade investigation and repair services for a Landmarked brick masonry building with terracotta accents and a limestone base. The construction scope included brick masonry, terracotta and limestone replacement and mortar joint repairs.

900 S. Clark Street, Façade Repairs, Chicago, IL. Façade investigation and architectural services to provide drawings and specifications for the façade repair at a concrete high-rise residential building. The scope also included bidding and construction administration services.

Asbury Plaza, 750 N. Dearborn Street, Chicago, IL. Façade investigation and architectural services to provide drawings and specifications for the façade repair at a post-tensioned concrete high-rise residential building. The scope also included bidding and construction administration services.

111 W. Monroe Street, Façade Investigation and Repairs, Chicago, IL. Façade investigation and architectural services to provide drawings and specifications for repairs to a 19-story brick masonry building constructed in 1910. The building has terracotta accents at the window sills and window heads, and the north elevation of the building has a granite base at the lower floors. The work also included bidding and construction administration services.

Water Tower Place, Marble Panel Façade Repairs, 180 E. Pearson Street, Chicago, IL. Performed analysis and design of a custom remedial veneer anchor system for the repair of a marble panel clad façade. The work included independent analysis and recommendations for the façade of the condominium portion, floors 33-72, of a 74-story building constructed in 1976. Thornton Tomasetti also performed construction administration services for calendar years 2008, 2009 and 2013, associated with the installation of 15,200 repair anchors and marble materials testing.

20 N. State Street, Façade Repairs, Chicago, IL. Preparation of construction documents for façade repairs to a limestone and brick masonry building. The scope included bidding and construction administration services.

200 W. Monroe Street, Sealant and Glazing, Chicago, IL. Preparation of technical specifications and repair drawings for sealant replacement for a 23-story building constructed in 1973. The exterior façades of the building consist of precast concrete framing and metal-framed windows. The scope also included bidding and construction administration services.

Kiener East Garage, Investigation and Repairs, St. Louis, MO. Investigation and repairs for a multilevel concrete parking structure with more than 1,000 parking spaces. The garage is clad with precast concrete panels.

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One Prudential Plaza, Phases 4 and 5 Façade Repairs, Chicago, IL. Specialized architectural / structural engineering services for Phases 4 and 5 of a comprehensive façade repair program to address damaged limestone. Work included shelf angle repair and the installation of limestone “dutchmen.”

People’s Gas Building, Façade Repairs and Restoration, 122 S. Michigan Avenue, Chicago, IL. Façade investigation and repair services for a historic 20-story landmark building constructed of terracotta with glazed brick at the alley elevations. The building was designed in 1910 by the office of Daniel Burnham.

Riverwalk Condominiums, Façade Investigation and Repairs, Des Plaines, IL. Architectural and engineering services to prepare drawings and specifications for exterior load bearing masonry repairs for two seven-story buildings. Repairs were performed for balcony, sidewalk, roof and driveway components.

The Art Institute of Chicago, Gunsaulus Hall, Cornice Investigation and Repairs, Chicago, IL. Field investigation of an existing cornice located on a limestone building that bridges train tracks. Services included preparation of drawings and specifications to identify the scope of the replacement work and construction administration services.

Two Prudential Plaza, Sealant Replacement, Chicago, IL. Construction administration services for a comprehensive sealant replacement project at the west and north elevations of a 64-story, granite-clad office building.

Winston Towers IV, Façade Repairs, 7033 N. Kedzie Avenue, Chicago, IL. Façade repairs to a 17-story residential building with brick masonry and reinforced concrete balconies, including soft joint installation, masonry repair and relieving angle retrofits.

VB 1224 Lofts, Facade Investigation and Repairs, 1224 W. Van Buren Street, Chicago, IL. Investigation and repairs to the facades of an eight-story 1920s building. The facade is constructed of brick masonry, split-face concrete masonry units, exposed structural concrete and a window curtain wall system. Scope included an investigation phase, the preparation of construction documents, bidding services, and construction administration.

Park Evanston, Parking Deck Investigation and Repair, Evanston, IL. Investigation of water infiltration within the Whole Foods store beneath the rooftop parking deck, and professional services associated with removal of the existing asphalt wearing surface and replacement with a new traffic-bearing membrane system. Our scope included the preparation of construction documents, bidding services, and construction administration.

191 N. Wacker Drive, Paver and Sidewalk Repair, Chicago, IL. Analysis of exterior stone pavers and drainage issues. The scope included the development of drawings and specifications for corrective measures, as well as bidding and construction administration services.

OSF HealthCare Ministry Headquarters Renovation, Peoria, IL. Building envelope consulting and structural analysis for the adaptive reuse of a seven-story historic department store to a healthcare administration building. The scope includes an investigation phase, design services, and construction administration for alterations to the façade and structural system, including repairs to the terracotta construction and design of new windows and façade components to match the original construction circa 1904.

University of Illinois at Chicago, Human Resources Building 907, Investigation and Repairs, Chicago, IL. Building envelope investigation of a four-story building, built before 1926, and a large four-story addition, added in 1926. Construction scope included façade and roof repairs.

Structural Investigations, Evaluations and Condition Assessments

Hurricane Katrina, Damage Assessment, New Orleans, LA. Damage assessment of several buildings of diverse construction, which suffered damage from Hurricane Katrina. Scope of services included full existing condition observation, documentation, evaluation and quantification of wind, wind-driven rain and vandalism related to the damage.

Chicago Marriott Downtown, Grand Ballroom, Chicago, IL. Investigation of the deflection and vibration characteristics of the floor system supporting the grand ballroom at the seventh floor and the junior ballroom at the fifth floor.

Wrigley Field, Chicago, IL. Structural engineering for renovations to a historic MLB park built circa 1910 and an adjacent property. Scope included the evaluation of existing concrete elements and the recommendation for repairs.

Two Prudential Plaza, Parking Garage, 180 N. Stetson Avenue, Chicago, IL. Investigation of a cast-in-place concrete structural column located within a parking garage, which was exhibiting cracking.

411 E. Wisconsin Center, East Plaza Investigation and Repair, Milwaukee, WI. Investigation and remedial repair design of a plaza at a 30-story building constructed in 1983. The scope included replacement of the waterproofing system, drains, and curtain wall repairs at the base of the building.

McCormick Building, Loading Dock Repairs, 332 S. Michigan Avenue, Chicago, IL. Architectural and engineering services to provide drawings and technical specifications for structural and waterproofing repairs for a loading dock. The work also included construction administration services.

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Water Infiltration Evaluations

The Sterling Private Residences, Water Infiltration, 345 N.

LaSalle Drive, Chicago, IL. Façade investigation and repair services for a 50-story, exposed-concrete condominium building experiencing extensive water infiltration. Scope included an investigation to determine the cause of the infiltration, the preparation of Construction Documents, Bidding Services, and Construction Administration.

Giordano's Pizzeria, Water Infiltration at Roof, One

Prudential Plaza, Chicago, IL. Specialized architectural services, including water testing, to address reported water infiltration for a 10-year-old build-out of a restaurant and to develop details for the roofing contractor to modify the existing condition for repairs.

Building Enclosure Commissioning

University of Wisconsin-Madison, University Research

Park One, Madison, WI. Building Enclosure Commissioning for a new five-story, 100,000-square-foot office building. The building envelope systems includes, aluminum curtain wall and storefront systems, wood soffit panels, metal panels, brick masonry, natural stone tile, roofing membrane, and foundation waterproofing. Evaluation of the building's thermal envelope as it relates to energy, water, indoor environmental quality, and durability will be included in the commissioning process.

Contact

Rachel Michelin
330 N Wabash Ave, Chicago, IL, 60611
312.596.2000
RMichelin@ThorntonTomasetti.com
www.ThorntonTomasetti.com

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