PERSONNEL QUALIFICATIONS

Sarah V. Rush | Senior Associate

EDUCATION

- Michigan Technological University
  - Bachelor of Science, Civil Engineering, 2010
  - Master of Science, Civil Engineering, 2012

PRACTICE AREAS

- Structural Analysis
- Facade Assessment
- Historic Preservation
- Repair and Rehabilitation
- Failure/Damage Investigation
- Nondestructive Evaluation
- Fire Damage
- Water/Air Leakage Assessment
- Roofing and Waterproofing

REGISTRATIONS

- Professional Engineer in MI

PROFESSIONAL AFFILIATIONS

- American Concrete Institute
- American Concrete Institute - Greater Michigan Chapter, board member

CONTACT

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EXPERIENCE

Sarah Rush has been involved in numerous projects related to both structural and architectural systems. Her responsibilities have included field investigation and analysis of existing and damaged structures, development of technical repair and rehabilitation documents, and construction period quality control. She has performed structural analysis on steel, concrete, masonry, and wood structures. Ms. Rush has assisted with several nondestructive investigations and completed multiple condition assessments. Additionally, she has experience in litigation assistance, code review, and water infiltration investigations.

As a graduate student at Michigan Technological University, Ms. Rush performed finite element modeling and shrinkage testing of polymer and steel fiber reinforced ultra-high performance concrete as a bonded overlay on concrete bridge decks. The result of this work was a comparative method to standard overlay technologies based on economic, performance, constructability, and service life characteristics.

REPRESENTATIVE PROJECTS

Structural Analysis

- Baltimore Parking Structure - Detroit, MI: Assessment, analysis, repair documents, and construction observation of post-tensioned concrete structure with button head wires
- The Grand Hotel - Mackinaw Island, MI: Assessment, analysis, and repair documents for multiple buildings on hotel's campus
- 411 Piquette Manufacturing - Detroit, MI: Structural evaluation and repair documents for historic steel water tower on roof
- Advance Parking Structure - Southfield, MI: Assessment, analysis, and repair documents for precast concrete structural system, including a double-tee deck supported by Cazaly hangers
- Mt. Zion - Clarkston, MI: Structural steel evaluation of a curved, three-dimensional roof structure and its partial roof collapse

Facade Assessment

- The Kahn Building - Detroit, MI: Assessment, repair documents, and construction observation of limestone, granite, and clay brick masonry elements
- The Kales Building - Detroit, MI: Assessment of terra cotta and clay brick masonry elements to satisfy City of Detroit Facade Ordinance requirements; repair documents development and construction observation during stabilization/repair work
- Lee Plaza Hotel - Detroit, MI: Assessment and conceptual repair design for historic terra cotta and brick hotel cladding
- Metropolitan United Methodist Church - Detroit, MI: Assessment, repair documents, and construction observation of sandstone, granite, and brick masonry elements
- University of Michigan, C. C. Little Building - Ann Arbor, MI: Assessment, water infiltration testing, repair documents, and construction observation of clay brick masonry and limestone elements

Failure/Damage Investigations

- Detroit Public Schools - MI: Structural and building envelope assessments of sixty-three vacant historic school buildings
- Parking Structure - Detroit, MI: Structural evaluation of concrete structure collapse
- Pontiac Central High School - Pontiac, MI: Structural assessment of fire damage to elevated concrete slab and concrete masonry
- Indoor Athletic Facility - College Station, TX: Assessment and testing of the steel cable bracing systems of two fabric hoop structures after a partial roof collapse

Nondestructive Evaluation

- Automotive Manufacturing - Saginaw, MI: Use of impact echo to locate distressed concrete in elevated concrete slab
- Carlyle Place Apartments - Clinton Twp., MI: Use of ground penetrating radar to locate voids in concrete slab on ground