



#### EDUCATION

- University of Illinois at Urbana-Champaign
  - Bachelor of Science, Civil Engineering, 2011
  - Master of Science, Civil Engineering, 2013

#### PRACTICE AREAS

- Structural Analysis
- Repair and Rehabilitation
- Failure/Damage Investigations
- Bridges and Civil Infrastructure
- Corrosion
- Facade Assessment
- Facade Access

#### REGISTRATIONS

- Professional Engineer in IL
- Structural Engineer in IL
- Fracture Critical Inspector for Steel Bridges

#### CONTACT

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#### EXPERIENCE

Since joining WJE in 2013, Oana Toma has been involved in the condition assessment, field investigation, structural evaluation, and rehabilitation of a wide variety of structures. She has primarily worked with reinforced concrete, steel, aluminum, and masonry elements of buildings, bridges, parking structures, foundations, and power generating stations.

Ms. Toma has experience with nondestructive evaluation techniques, service life analyses, and large-scale data collection and processing.

#### REPRESENTATIVE PROJECTS

##### Structural Analysis

- Sam Rayburn Tollway Retaining Walls - Dallas, TX: Stability analysis and relative risk assessment of seventy mechanically stabilized earth retaining walls
- High-Rise Condominium Building - Chicago, IL: Analysis and structural strengthening of concrete framing for increased load requirements on new rooftop sun deck
- Major Retail Chain - Nationwide: Inspection and structural analysis of steel joist and joist girder-framed roof structures
- Microwave Relay Tower - Angola, IN: Condition assessment and structural analysis of concrete antenna tower

##### Repair and Rehabilitation

- All Saints Cemetery & Mausoleum - Des Plaines, IL: Design of concrete retaining walls to replace failed segmental crib walls
- Condominium Complex - Downers Grove, IL: Structural evaluation and repair design of distressed concrete beam bearings in below-grade parking garage

##### Failure/Damage Investigations

- Shure Headquarters - Niles, IL: Investigation of wind and snow effects on aluminum sunshades
- Single-Family Home - Glenview, IL: Assessment of structural damage caused by vehicle impact

##### Bridges and Civil Infrastructure

- Multistory Parking Structure and Transportation Center: Concrete distress and corrosion evaluation, temporary safety measures for critical conditions, and structural analysis of post-tensioned concrete and steel structure
- IH-345 Bridge - Dallas, TX: Fracture critical inspection of 1.6-mile-long bridge
- Indiana Toll Road Bridges - IN: Field inspection of concrete substructure elements for ten bridges °

##### Corrosion

- Ohio River Bridges East End Crossing - KY: Corrosion service life modeling to achieve one hundred-year year service life for design-build bridge construction
- San Francisco-Oakland Bay Bridge - CA: Corrosion assessment and service life modeling of anchor rods for seismic stability

##### Facade Assessment

- InterContinental Hotel - Chicago, IL: Limestone facade assessment and repair
- Sheridan Edgewater Apartments - Chicago, IL: Masonry facade restoration of 1920s residential building
- Various Buildings - Chicago, IL: Annual facade ordinance inspections

##### Facade Access

- Metrowest - Naperville, IL: Load testing, failure investigation, and repair design of davit bases
- Franklin Center - Chicago, IL: Design of partial replacement of rooftop track for facade maintenance unit
- Various Buildings - IL: Inspection and load testing of davit bases and dedicated anchorages for facade access