



#### EDUCATION

- Virginia Polytechnic Institute and State University
  - Bachelor of Science, Civil Engineering, 2014
- Purdue University
  - Master of Science, Civil Engineering Materials and Structures, 2015

#### PRACTICE AREAS

- Nondestructive Evaluation
- Concrete Structures
- Structural Analysis
- Historic Preservation
- Roofing and Waterproofing

#### PROFESSIONAL AFFILIATIONS

- Acoustic Emission Working Group
- American Concrete Institute
- Society of Women Engineers
- Structural Engineers Association of Southern California

#### CONTACT

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#### EXPERIENCE

Since joining WJE in 2016, Heather Todak has worked on numerous projects involving concrete assessment and repair, structural evaluation, water intrusion investigations, historic concrete inspections, and nondestructive testing. Her work has involved both existing structures and preconstruction services. Ms. Todak is actively involved in structural seismic preparedness research and assisted in the development of WJE's [SeismicOrdinances.com](http://SeismicOrdinances.com), an informative resource for seismic ordinances in California.

Prior to joining WJE full-time in the Los Angeles office and while a student at Virginia Polytechnic Institute and State University, Ms. Todak completed an internship with the WJE office in Washington, D.C. She took part there in structural evaluations, material investigations involving both destructive and nondestructive testing, and concrete repair detail design.

During her studies at Purdue University, she specialized in concrete materials durability. Her research enabled her to become familiar with a number of nondestructive evaluation techniques including acoustic emissions and ultrasonic testing. Ms. Todak has published papers on this topic in the *Journal of Cement and Concrete Composites* and the *Concrete InFocus Magazine*. She has given technical presentations on freeze-thaw durability at the Brittle Matrix Composites Conference in Warsaw, Poland, and the CONCREEP conference in Vienna, Austria. Ms. Todak has also presented her research on the application of acousto-ultrasonics to concrete durability studies at the World Conference on Acoustic Emission.

#### REPRESENTATIVE PROJECTS

##### Nondestructive Evaluation

- Elizabeth Condominium - Washington, D.C.: Comprehensive sounding survey to evaluate concrete balconies
- Concrete Transit Structure - Washington, D.C.: Ground penetration radar survey to determine as-built post-tensioned reinforcement layout

##### Concrete Structures

- USC Pacific Asia Museum - Pasadena, CA: Basement moisture investigation
- Leo Baeck Temple - Los Angeles, CA: Concrete retaining wall investigation
- Watergate Complex - Washington, D.C.: Concrete balcony assessment and repair design
- WMATA Metrorail Station - Washington, D.C.: Metro station platform slab material testing and condition assessment

##### Structural Analysis

- Grand Wailea Resort, Haleakala Ballroom - Maui, Hawaii: Existing eye-hook connection load capacity analysis
- Fire Assessment - Orange, CA: Structural integrity investigation
- Odysseo Cavalia - Irvine, CA: Circus tent structural review

##### Historic Preservation

- John Anson Ford Amphitheatre - Los Angeles, CA: Historic concrete evaluation and repair documents
- May Company Building - Los Angeles, CA: Historic facade replacement and repair
- USS Maine Memorial, Arlington National Cemetery - VA: Infrared thermography study for water penetration detection on ship mast
- Washington National Cathedral - Washington, D.C.: Ceiling crack mapping after 2011 Virginia earthquake

##### Roofing and Waterproofing

- UCLA Luskin Conference Center - Los Angeles, CA: Drain and curtain wall assembly water tests; waterproofing membrane pull-off tests
- Inova Hospital Center - Washington, D.C.: Water testing for preconstruction building envelope mock-up