



## PERSONNEL QUALIFICATIONS

### Robert J. Firman III | Senior Associate



#### EDUCATION

- Bucknell University
  - Bachelor of Science, Civil Engineering, 2010
  - Bachelor of Management for Engineers, 2010
- Purdue University
  - Master of Science, Civil Engineering, 2011

#### PRACTICE AREAS

- Bridges
- Structural Analysis/Computer Applications
- Concrete Structures
- Collapses
- Instrumentation/Monitoring/Load Testing
- Structural Metals

#### REGISTRATIONS

- NACE Certified Coating Inspector - Level 1
- Professional Engineer in DC, NJ, and VA

#### PROFESSIONAL AFFILIATIONS

- American Concrete Institute
- American Institute of Steel Construction
- American Society of Civil Engineers
- National Association of Corrosion Engineers

#### CONTACT

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#### EXPERIENCE

Robert Firman joined the Washington, D.C. office as a full-time associate in January 2012. Since that time, he has gained experience working on a broad range of projects including condition assessment, instrumentation, materials testing, and structural analysis of structural steel buildings, light-gauge metal structures, and prestressed and post-tensioned concrete buildings and bridges.

As an undergraduate at Bucknell University, Mr. Firman spent three summers performing research in the field of structural dynamics and coauthored papers presented at the International Modal Analysis Conference in 2009 and 2010. Prior to joining WJE, he gained work experience in engineering, construction, steel fabrication, and erection as an intern in Thornton Tomasetti's Philadelphia office and by working at a steel fabrication facility while attending college.

#### REPRESENTATIVE PROJECTS

##### Bridges

- Nottoway Reservoir Bridge - Nottoway County, Virginia: Condition assessment, instrumentation, materials testing, and service-life modeling of concrete substructure and steel superstructure
- Route 15/Interstate 66 Overpass - Haymarket, Virginia: Fire damage assessment of steel and concrete bridge components
- Commodore Barry Bridge: Bridgeport, NJ - Concrete materials testing of bridge piers to determine the potential for ASR

##### Structural Analysis/Computer Applications

- Reagan National Airport Station - Arlington, VA: Investigation and analysis of post-tensioned station platform
- Silver Spring Transit Center - Silver Spring, MD: Field investigation and structural analysis related to the performance of a post-tensioned concrete structure
- Blair House Apartments - Silver Spring, MD: Development of steel entrance canopies

##### Concrete Structures

- Multistory Building - Denver, CO: Condition assessment, analysis, and repair design of precast concrete column connections
- Metrorail Station Platforms - Washington, D.C.: Ground penetrating radar and specialized inspections
- Calvert Cliffs Nuclear Generating Station - Lusby, MD: Condition assessment, nondestructive testing, and construction observation of reinforced concrete wall repairs
- Parking Garage - Fairfax, VA: Construction observations of repairs at concrete columns and precast double-tee sections

##### Collapses

- File Storage Warehouse - Landover, MD: Structural analysis and investigation into warehouse progressive collapse
- Springfield Town Center - VA: Investigation of partial collapse of elevated concrete slab during construction
- Underground Parking Garage - Washington, D.C.: Investigation into concrete structure collapse during construction

##### Instrumentation/Monitoring/Load Testing

- The Howard Hughes Medical Institute - Ashburn, VA: Installation of crack and temperature monitoring equipment on a concrete retaining wall
- USS Maine Memorial - Arlington, VA: Installation of temperature and humidity monitoring equipment at Arlington National Cemetery
- Miller-Coors Brewery - Elkton, VA: Installation of tiltmeters on fermenting tanks in response to steel column failures
- Embassy Building - Washington, D.C.: Crack monitoring at concrete beams and columns

##### Structural Metals

- Navajo Generating Station - Page, AZ: Inspection of boiler system scaffold installation