PERSONNEL QUALIFICATIONS

# Stephen V. Grelle | Senior Associate

## EDUCATION

- Missouri University of Science and Technology
  - Bachelor of Science, Architectural Engineering, 2009
  - Bachelor of Science, Civil Engineering, 2009
  - Master of Science, Civil Engineering, 2011

## PRACTICE AREAS

- Concrete Structures
- Failure/Damage Investigations
- Instrumentation/Monitoring/ Load Testing
- Structural Analysis/Computer Applications
- Structural Metals

## REGISTRATIONS

- NHI Course 130078 - Fracture Critical Inspection Techniques of Steel Bridges
- Professional Engineer in OK, TX
- Structural Engineer in OK

## PROFESSIONAL AFFILIATIONS

- American Concrete Institute
- International Concrete Repair Institute
- Structural Engineers Association of Texas

## CONTACT

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## EXPERIENCE

Stephen Grelle has enhanced his expertise in structural engineering through his involvement in a wide variety of repair, rehabilitation, and condition assessment projects. Many of his projects involve repair and maintenance of parking garage waterproofing and structural systems, particularly those involving repair of damaged or deteriorated concrete. Mr. Grelle has also worked on a number of projects related to design, evaluation, and testing of facade access equipment.

While studying at Missouri University of Science and Technology, Mr. Grelle researched and tested emergency repairs to damaged structural concrete members using fiber-reinforced polymer (FRP) laminates as a research assistant in the High-Bay Structural Laboratory. He has special interest in the design and evaluation of FRP-to-concrete anchorage systems used in structural repair and rehabilitation.

## REPRESENTATIVE PROJECTS

### Concrete Structures

- Adolphus Hotel Electrical Vault - Dallas, TX: Rehabilitation of corrosion-induced deterioration of structural concrete and steel framing
- Joule Hotel Expansion - Dallas, TX: Rehabilitation of corrosion-induced deterioration of structural concrete
- University of Texas Southwestern Medical Center - Dallas: Design and construction observations for parking garage vehicle barrier retrofit and various concrete repairs
- Horseshoe Tunnel - Dallas, TX: Evaluation of and repair design for a 1930s concrete storm sewer tunnel
- Bishop Dunne Catholic School - Dallas, TX: Repair design for deteriorated concrete pan joist system

### Failure/Damage Investigation

- Manufacturing Facility - Northwest TX: Site investigation and structural analysis to determine case of metal building collapse
- Argyle High School - Argyle, TX: Site investigation and structural analysis to determine cause of metal building collapse
- Old Parkland Hospital - Dallas, TX: Structural analysis to determine cause of retaining wall failure
- Spur 341 Bridge at Interstate Highway 30 - Fort Worth, TX: Investigation of structural damage to bridge after vehicular impact
- Remington Tower - Tulsa, OK: Investigation of tornado-damaged high-rise office tower

### Instrumentation/Monitoring/Load Testing

- Crescent Hotel - Dallas, TX: Design and load testing of anchorages for facade access
- Joule Hotel Expansion - Dallas, TX: Load test of historic two-way slab system
- Meacham International Airport - Fort Worth, TX: Vibration monitoring and analysis of aircraft hangar door
- Multiple Data Centers - Richardson, TX: Vibration monitoring during renovations for sensitive server equipment
- Stacy Riddle Forum - Waco, TX: Vibration monitoring, analysis, and mitigation recommendations for steel-framed building
- Texas Tech University, Various Buildings - Lubbock, TX: Design and load testing of new and existing anchorages for facade access

### Structural Analysis/Computer Applications

- Hillcrest Towers - Fayetteville, AR: Lateral force resisting system analysis for reinforced masonry building
- Multipurpose Building - Muscogee, OK: Finite element modeling of concrete dome structure
- Norfork Dam - Baxter County, AR: Structural analysis of post-installed anchors at new maintenance bulkhead connection
- North Texas Tollway Authority - TX: Structural analysis of MSE retaining wall inventory

### Structural Metals

- NorthPark Center - Dallas, TX: Investigation and repair documents for corroded steel stair towers in parking garage
- St. Elizabeth Ann Seton Church - Plano, TX: Computer modeling and analysis of long-span steel trusses
- Exall Dam Pedestrian Bridge - Highland Park, TX: Investigation, analysis, and repair design for 1940s through-truss steel pedestrian bridge