PERSONNEL QUALIFICATIONS

Natalia L. Carey | Associate III

EDUCATION

- Missouri University of Science and Technology (formerly University of Missouri-Rolla)
  - Bachelor of Science, Civil Engineering, 2007
  - Bachelor of Science, Architectural Engineering, 2007
  - Master of Science, Civil Engineering, 2009
  - Doctor of Philosophy, Civil Engineering - Structures, 2012

PRACTICE AREAS

- Failure/Damage Investigations
- Parking Structures
- Repair and Rehabilitation
- Condition Assessment
- Structural Evaluation and Analysis
- Construction Materials Assessment

REGISTRATIONS

- FHWA-NHI 130056 Course - Safety Inspection of In-Service Bridges
- HASC Basic Orientation Plus
- Professional Engineer in TX

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- International Concrete Repair Institute

CONTACT

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EXPERIENCE

Natalia Carey's work focuses on the investigation, structural evaluation, design, and repair/rehabilitation of numerous structures. Her consulting experience includes concrete, steel, masonry, and wood structures.

Before joining WJE, Dr. Carey worked as a structural engineer in the oil and gas industry. She has expertise in the design, analysis, and assessment of new and existing structures subjected to conventional loads, high winds, and blast loads in onshore and offshore oil and gas facilities. Her graduate research focused on characterization, testing, and finite element modeling of fiber-reinforced concrete and coating systems under blast loading.

REPRESENTATIVE PROJECTS

Failure/Damage Investigations

- Tilt-Up Distribution Facility - Edwardsville, IL: Investigation of roof and wall collapse
- Tilt-Up Facility - Houston, TX: Investigation of partial roof collapse during construction
- Low-Rise Education Building - Houston, TX: Investigation of partial roof collapse
- Apartment Complex Parking Structure - Houston, TX: Structural assessment and repair design of precast prestressed concrete double-tee beams exposed to fire
- Mid-Rise Condominium Building - Houston, TX: Repair design of cast-in-place concrete members exposed to fire
- Tilt-Up Office Building - Houston, TX: Structural assessment of steel-framing system and precast walls exposed to fire
- High-Rise Condominium - Houston, TX: Investigation of slab-on-ground distress and repair design

Parking Structures

- Office Complex Parking Structures - Austin, TX: Condition assessment, evaluation, and repair design of three precast concrete parking garage structures
- Senior Living Facility Parking Structure - Houston, TX: Evaluation of concrete distress, repair design, and construction administration
- Condominium Parking Structure - Houston, TX: Assessment of concrete distress, prioritized repair plan, and repair design of cast-in-place parking garage structure

Repair and Rehabilitation

- Hotel - Austin, TX: Structural assessment and repair design of masonry wall due to vehicular impact
- Banking Center - Houston, TX: Structural assessment and repair design of wood-framed structure
- High-Rise Office Building - Houston, TX: Facade-access steel and coating repairs

Condition Assessment

- Port of Houston Authority - TX: Condition assessment of wharf structures
- Refinery - Deer Park, TX: Condition assessment of steel-framed process building
- Tilt-Up Retail Center - Houston, TX: Condition assessment of steel-roof framing and precast concrete walls
- University Utility Plant - College Station, TX: Condition assessment of concrete structure
- Water Treatment Plant - Shreveport, LA: Evaluation of concrete distress

Structural Evaluation and Analysis

- High-Rise Office Building - Houston, TX: Analysis of facade-access support structure
- Retail Facility - Memphis, TN: Wind loading calculations
- Industrial Facility - Oklahoma City, OK: Foundation design
- Apartment Complex, Office Building, and Banking Centers - Houston, TX: Assessment of foundation-related distress
- Mid-Rise Office Building - Houston, TX: Evaluation of foundation-related distress

Construction Materials Assessment

- Wastewater Treatment Plant - Fulshear, TX: Evaluation of low-compressive-strength concrete and voiding in concrete walls
- Sand Plant - Wallis, TX: Investigation of voiding in concrete walls
- Business Park - Tomball, TX: Assessment of concrete pavement cracking
- Airport Utility Tunnel - Houston, TX: Evaluation of concrete cracking
- Industrial Facility - Houston, TX: Evaluation of cracking along concrete walls