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

