PERSONNEL QUALIFICATIONS

Brian D. Merrill | Principal

EDUCATION

- University of Texas at Austin
  - Bachelor of Science with Honors, Civil Engineering, 1983

PRACTICE AREAS

- Bridge Engineering
- Failure Investigation
- Structural Evaluation
- Repair and Rehabilitation
- Condition Assessment
- Construction Troubleshooting
- Materials Evaluation and Research

REGISTRATIONS

- Fracture Critical Inspection/Steel Bridges (NHI 130078)
- Professional Engineer in TX
- Safety Inspection/In-Service Bridges (NHI 130055)

PROFESSIONAL AFFILIATIONS

- American Concrete Institute (ACI)
- Associated General Contractors (AGC) of Texas
- American Segmental Bridge Institute (ASBI)
- Post-Tensioning Institute (PTI), Fellow

TECHNICAL COMMITTEES

- ASBI Grouting Committee, faculty
- PTI/ASBI - M50, Bonded Post-Tensioning
- PTI - DC40 Bridges, chair
- PTI - M55 Grouting, chair

CONTACT

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EXPERIENCE

Brian Merrill joined WJE in 2013 with thirty years of experience as a civil/structural engineer in the areas of bridge design, construction, and maintenance; construction materials; forensics; structural condition assessment; and structural repairs. His background includes ten years of bridge design work and nineteen years of bridge construction and maintenance experience.

Prior to joining WJE, Mr. Merrill spent twenty-seven years with the Texas Department of Transportation's (TxDOT) Bridge Division, serving the last thirteen years as the State Bridge Construction and Maintenance Engineer. While at TxDOT, he led their decade-long effort to address alkali-silica reaction (ASR), developed their standard specifications for bridge construction and maintenance, chaired their Structures Research Advisory panel, addressed issues related to post-tensioning and grouting, and represented TxDOT on a national level regarding ASR, grout for post-tensioning, and bridge maintenance. During Mr. Merrill's career, he has conducted condition assessments on more than five hundred bridges across the state of Texas.

REPRESENTATIVE PROJECTS

Bridge Engineering

- LBJ Express - Dallas, TX: Analysis of straddle bent cracking
- SH 99 - Houston, TX: Routine inspections of more than 150 bridges, more than 130 retaining walls, and more than fifty other ancillary structures over four-year period
- Harbor Bridge - Corpus Christi, TX: Bridge replacement peer review and steel corrosion evaluation
- Bridge Lifting Projects - AR, FL, LA, MS, OK, and TX: Subconsultant to Gibson and Associates failure investigation
- Hotel - Austin, TX: Investigation of portico collapse
- Chemical Warehouse - LA: Assessment of failed joist girder-to-column connections during construction of warehouse
- Commercial Bldg. - Austin, TX: MSE wall collapse investigation
- Rayse Creek Bridge Collapse - Mt. Vernon, IL: Investigation of steel H-piling failure

Structural Evaluation

- Sam Rayburn Powerhouse Switchyard - Jasper TX: Investigation of corrosion-distressed concrete foundation elements
- Hotel - Austin, TX: Structural assessment and repair design for balconies
- 201 N. Main - Taylor, TX: Assessment of 1911-era timber and steel-framed building
- Port Houston - TX: Assessment of several wharves/piers and bulkheads

Repair and Rehabilitation

- Cow Bayou Swing Bridge - Bridge City, TX: Rehabilitation design and construction administration of historic swing bridge
- Frank Erwin Center - Austin, TX: Assessment and retrofit design for scoreboard

Condition Assessment

- Queen Isabella Causeway - Port Isabel, TX: Condition assessment of bridge deck, bridge expansion joints, and all substructure elements, including corrosion-related
- Voestalpine Facility - Portland, TX: Corrosion assessment of dockside and clarifier systems
- St. David's Medical Center Garage No. 2 - Austin, TX: Assessment of distress in two-year-old facility
- JFK Memorial Causeway - Corpus Christi, TX: Condition assessment and service life modeling of bridge's segmental boxes
- SR 34 Over Mississippi River - Burlington, IA: Condition assessment and fracture-critical inspection of steel cable-stayed bridge
- Mopac Sound Walls - Austin, TX: Design peer review, nondestructive evaluation, structural analysis, and development of repair/retrofit recommendations

Construction Troubleshooting

- Waco Suspension Bridge - Waco, TX: Development of temporary support system to be used during cable replacement
- TexRail - Fort Worth, TX: Bridge roll-in design
- I-65/I-22 - Birmingham, AL: Analysis of curved plate girder erection

Materials Evaluation and Research

- Oklahoma DOT: End-region cracking of prestressed concrete girders
- Grout Void Detection: In-house research using nondestructive evaluation methods