

# Civil/Structural Engineering

The Civil/Structural Engineering Department of Engineering Systems Inc. provides you with professional engineers experienced in the investigation, evaluation, and design of buildings, bridges, and other facilities. Our staff has experience with virtually all construction materials, including wood, masonry, concrete, steel, and aluminum. They are skilled in on-site investigations, inspections, fact gathering, and evidence handling and are available for immediate deployment.

This department is supported by mechanical and metallurgical engineers, architects, fire investigators, and environmentalists. Additionally, if the project is litigation related, our staff is fully experienced in providing expert testimony.

## Areas of Expertise

- Structural Distress Cause and Origin
- Structural/Architectural Damage Assessment
- Fire/Explosion Damage
- Failure Analysis of Building Components
- Weather Damage
- Code Compliance Investigation
- Structural Collapse
- Geotechnical Engineering
- Water Infiltration
- Waste/Storm Water Management Facilities
- Peer Review
- Construction Monitoring
- Engineering Surveying



## Design Services

- Repair/Restoration
- Structural Reinforcement/Modification
- Alterations/Additions
- Preparation of Construction Documents

## Emergency Services

- Disaster Response
- Structural Stability Evaluation
- Shoring Design



## Structure Types

Bridges  
 Residential Buildings  
 Industrial  
 Commercial and Institutional Buildings  
 Warehouses  
 Wastewater Treatment Facilities  
 Parking Facilities



## Building Systems Failure Analysis

Structural Systems  
 Building Envelope  
 Facades  
 Low- and Steep-Slope Roof Systems  
 Foundations  
 Fire Protection Systems



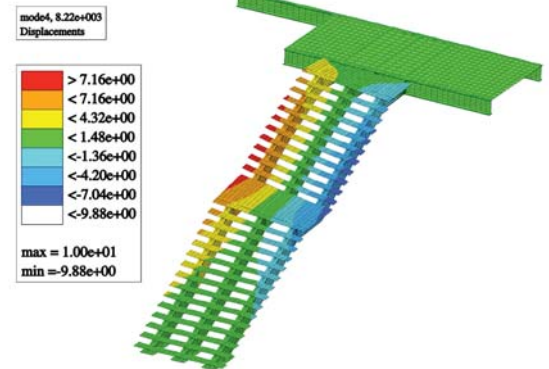
## Technical Capabilities

Structural Design  
 ADA Compliance Assessment  
 Architectural Design  
 Material Failure Analysis  
 Finite Element Computer Modeling  
 Wood Truss Repair Design  
 Carbon Fiber Repair Design for Concrete  
 Vibration Monitoring  
 Mine-Related Subsidence Investigation  
 Expansive Soils Investigation



## Litigation Capabilities

Expert Testimony  
 Demonstrative Graphics  
 Computer Animation  
 Mock-ups  
 Specialized Testing



**Providing Clear Answers**  
*Through Insights and Multidisciplinary Excellence*

Assignments vary from national disasters to simple evaluations. We address complex issues with a multidisciplinary approach and the sharing of knowledge. Add to that research specialists, laboratories, test facilities, first-class modeling and graphics, and you have the best advice and support available in this industry...right here at ESI.

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