NOVEMBER 2026 NEWSLETTER

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ENGINEERING SOLUTIONS



Project Spotlight

Esplanade Condominium – Structural Rehabilitation

Engineering Solutions is currently involved in a comprehensive structural rehabilitation project at the Esplanade Condominium, a 37-unit residential building in Boca Raton, Florida. The project focuses on addressing structural deterioration, restoring affected building components, and supporting compliance with the City of Boca Raton's Building Recertification Program to enhance the property's long-term safety, durability, and structural integrity.

As part of the rehabilitation process, our team conducted a structural conditions assessment involving visual inspections, aerial drone imaging, and sounding of the building's exterior components and unit balconies. The findings were documented in a detailed report identifying areas of deterioration, structural deficiencies, and recommended repairs to address the building's condition and applicable recertification requirements.

Based on the assessment, we prepared permit-ready construction documents outlining repair locations, estimated quantities, structural details, and specifications in accordance with the Florida Building Code, 8th Edition (2023). With construction now underway, repairs are being performed to address the identified deficiencies and help satisfy the City's building recertification requirements. We're proud to support the Esplanade Condominium throughout this project, from initial evaluation and repair design to the ongoing rehabilitation of the building.

Our Latest Projects

- **Esplanade Condominium (Boca Raton, FL)** – Structural Rehabilitation
- **Bijou Bay Harbor Condominium (Bay Harbor Islands, FL)** – PT Assessment
- **N Woods Road Residence (Palm Beach, FL)** – Structural Design Residential Renovation
- **207 Royal Poinciana Way (Palm Beach, FL)** – Commercial Restaurant Renovation
- **Icon Brickell (Miami, FL)** – PT Tendon Review
- **Artesa Drive Residence (Boynton Beach, FL)** – Residential Renovation Balcony Addition
- **426 Claremore Drive (West Palm Beach, FL)** – Temporary Shoring Design
- **310 South Dixie Highway (West Palm Beach, FL)** – Structural Conditions Assessment



Miami's Signature Bridge: Concrete Defects and Engineering Challenges Explained

Miami's highly anticipated I-395 Signature Bridge, known as "The Fountain," has faced significant construction delays due to reported concrete quality issues and engineering design challenges. Originally scheduled for completion in 2021, the landmark project is now expected to finish in late 2029 after complications with concrete production and structural design.

According to investigative reports, a malfunction at an on-site concrete production facility allegedly led to improper concrete mixtures being used in parts of the structure, requiring corrective work. Additional disputes involved allegations that initial engineering calculations underestimated wind loads on the bridge's signature arches, prompting design modifications and additional reinforcement.

These challenges highlight the importance of proper concrete mix design, material testing, quality control, and accurate structural calculations. The project reminds us that comprehensive engineering analysis and adherence to established construction standards are essential to ensure structural integrity, minimize costly repairs, and maintain project schedules.

Planning Ahead: Turning Structural Assessments Into Actionable Repair Projects

As 2026 comes to an end, condominium associations, property managers, and commercial building owners are preparing maintenance budgets and capital improvement plans for the coming year. Year-end planning offers an opportunity to evaluate building conditions, address outstanding structural concerns, and prioritize necessary repairs before deficiencies become more costly.

A comprehensive structural assessment helps identify issues such as concrete cracking, spalling, corrosion, and water intrusion. These findings help property owners understand their building's condition, set repair priorities, and develop a proactive maintenance strategy.

Turning assessment findings into an actionable plan may involve developing repair recommendations, preparing construction documents, estimating repair quantities, and coordinating with contractors. Proactive planning reduces unexpected expenses, minimizes disruptions, and protects a property's long-term structural integrity.

Planning structural repairs or capital improvements for 2027? Engineering Solutions provides comprehensive structural assessments, repair recommendations, and permit-ready construction documents. Contact our team today to discuss your property's needs and start planning for the year ahead.

