Structural Engineering and Evaluation

CTLGroup's team of structural engineers and technical specialists is experienced in the analysis, design, evaluation, and repair of buildings and structures. We have helped our clients on a range of projects, including design consultation for specialty structures, evaluation and mitigation of performance and serviceability issues, development of retrofits and strengthening solutions, construction troubleshooting, asset and risk management, and the investigation of catastrophic structural failures.

Our experts leverage expertise in structural mechanics, cutting edge knowledge in the performance evaluation of in-service structures, our understanding of structural codes and standards, and years of experience in failure analysis and loss prevention to provide comprehensive solutions for our clients. CTLGroup service offerings include evaluation and life extension of existing structures, advanced structural analysis, performance monitoring of in-service structures, and forensic structural engineering.

Structural Evaluation & Life Extension

- Structural condition assessment
- Non-destructive testing & evaluation
- Repair, restoration, and retrofit design

Advanced Structural Analysis

- Analysis of extreme loads: wind, earthquake, blast, and impact
- Computational modeling and simulation, including dynamic and non-linear behavior
- Design of unique and specialty structures
- Vulnerability assessment and risk analysis

Performance Monitoring of In-Service Structures

- Structural health monitoring
- Monitoring for high consequence events
- Validation of structural behavior
- Vibration monitoring, analysis, and mitigation
- Acoustic emission monitoring

Forensic Engineering

- Structural collapse investigation
- Design, construction, and material defect analysis
- Catastrophe and natural disaster response
- Construction accident & failure analysis
- Evaluation of damage from adjacent site activities
- the root cause of the problem.

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