WHEN SHOULD YOU CALL A STRUCTURAL ENGINEER?

A Practical Guide for Building Owners, Property Managers, Facility Managers & Contractors

STRUCTURAL ENGINEERING ISN'T ONLY FOR MAJOR FAILURES.

Building conditions, repairs, renovations, modifications, and construction activities can all raise structural questions that benefit from engineering evaluation or design. Use this guide to recognize common situations when bringing in a structural engineer may be appropriate.

YOU SEE A BUILDING CONDITION

- New or changing cracks in structural components.
- Concrete cracking, spalling, or exposed reinforcement.
- Corrosion or deterioration of structural steel.
- Visible movement, displacement, deflection, or settlement.
- Damaged structural members or connections.
- Deterioration affecting balconies, parking structures, stairs, or other structural components.
- Recurring conditions that previous repairs have not resolved.
- A condition raises questions about structural performance or repair needs.

YOU'RE PLANNING A REPAIR OR MODIFICATION

- Structural components will be repaired, replaced, altered, or strengthened.
- Openings are being added or modified.
- Walls, columns, beams, framing, slabs, or foundations may be affected.
- Equipment or other loads are being added to an existing structure.
- A renovation changes how structural components are used or loaded.
- A contractor needs engineered repair details.
- A proposed repair needs structural analysis or design.

YOU'RE STARTING A PROJECT

- Structural design or calculations are required.
- Signed and sealed drawings are needed.
- Structural permitting requirements need to be addressed.
- An Engineer of Record may be required.

- Existing construction must be integrated with new work.
- Structural coordination is needed with architectural or other disciplines.

SOMETHING CHANGES DURING CONSTRUCTION

- Field conditions differ from the drawings.
- Concealed deterioration or damage is discovered.
- The contractor encounters an unexpected structural condition.
- A proposed substitution affects the engineering design.
- An RFI requires structural engineering input.
- Supplemental structural details are needed.

A GOOD RULE OF THUMB

If a building condition, proposed repair, modification, or field discovery raises a structural question that cannot be answered from existing documentation, it may be time to involve a structural engineer.

WHAT HAPPENS AFTER YOU CALL?

Not every structural question requires the same engineering response.

1. **ENGINEERING CONSULTATION**
   The condition or project may initially require document review, discussion of project objectives, or preliminary engineering input to determine appropriate next steps.

2. **STRUCTURAL EVALUATION**
   When existing conditions need to be better understood, engineering evaluation may include field observations, document review, measurements, analysis, or targeted investigation appropriate to the condition.

3. **ENGINEERING DESIGN**
   When repair, modification, strengthening, renovation, or new structural work is required, engineering may progress into calculations, design, drawings, details, and permit documentation.

4. **CONSTRUCTION-PHASE SUPPORT**
   Engineering involvement may continue through permitting and construction with applicable submittal reviews, RFIs, field-condition evaluation, supplemental details, and other technical support within the engineer's scope.

WHAT TO HAVE READY WHEN YOU CALL

- Photos of the condition or project area.
- Building address and basic property information.
- Available drawings or plans.
- Previous engineering reports, if applicable.
- Repair or maintenance history.
- A description of what you've observed.
- Proposed project or repair scope, if one exists.
- Contractor information, if already engaged.
- Permit or jurisdictional information, if known.
- Your primary questions or project objectives.

YOU DON'T NEED TO DIAGNOSE THE PROBLEM BEFORE YOU CALL.

A structural engineer can review the available information, help clarify the engineering question, and identify an appropriate next step based on the condition, project objectives, and required scope.

NOT SURE WHAT TYPE OF STRUCTURAL ENGINEERING SUPPORT YOU NEED?

Prema Consulting Group provides structural engineering consulting for existing buildings, repairs, renovations, retrofits, structural modifications, and select new-construction projects. Our team can review your project information and help identify the appropriate engineering path forward.

DISCUSS YOUR PROJECT WITH PREMA'S ENGINEERING TEAM

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