Foundation uplift

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How do I model bearings with uplift?

**Answer:** Bearings with uplift may be modeled using nonlinear gap (compression-only) link objects. In that these objects demonstrate nonlinear behavior, nonlinear analysis must be specified in the load case. Additional details are available in the CSI Analysis Reference Manual (The Link/Support Element - Advanced > Gap Property, page 258) and in Verification Example 6-003, available through Help > Documentation > Analysis Verification > Links.

How do I model a tension pile when uplift forces exceed dead load?

**Answer:** To model a pile for the case in which it resists only tension, and not compression, two options are available, described as follows:

- **Frame object** – Model a frame object with a zero compression limit.
- **Link object** – Model a link object using the nonlinear hook property.

**NOTE:** A nonlinear load case must be applied to activate the nonlinear properties of these structural objects, and to characterize uplift behavior.

How do I know if uplift occurs?

**Answer:** Review the bearing pressure for various uplift cases to determine whether or not uplift occurs. Regions with zero bearing pressure will indicate uplift.