

# North Carolina Board of Examiners for Engineers and Surveyors

## Foundation Repair Guidelines

The North Carolina Board of Examiners for Engineers and Surveyors is providing this document to serve as an interpretative guide for proper foundation repair with respect to engineering services to comply with the Engineering and Surveying Licensing Act, G.S. 89C. The variation in engineering firm organization and services requires that these general guidelines be applied to the specific facts for each company, taking into account the definition of engineering in G.S. 89C-3(6), the requirement for licensing of business firms in G.S. 89C-24 and the associated General Statutes for business formation in G.S. 55B (Professional Corporations), and G.S. 57C (Limited Liability Companies).

*The purpose of these guidelines is to assist a Professional Engineer and engineering firm in complying with the statutes and Board Rules to assure that the public is properly protected when receiving recommendations for foundation repair and the associated engineering analysis and recommendations. This starts with the preliminary assessments of foundation repair services and requires that a Professional Engineer (PE), or an employee of the PE who is under the direct supervisory control (responsible charge) of the PE, make the preliminary analysis, recommendations, judgment, and calculations as to methods of repair, including evaluation of the number and location of support piers, continuing through the design of the repair and the final certification of completion and closeout documentation that certifies completion in accordance with the plans and specifications. The furnishing of “as-built” drawings can only be certified by the PE to the extent that the PE, or an employee under the PE’s responsible charge, verified the field conditions. Otherwise, a disclaimer clearly stating the source of the field data must be placed on the drawings, such that the client or the authority having jurisdiction (AHJ) can determine adequacy.*

*A statement that there is a failure of the foundation, or structural repairs are required, should only be made by a PE who has evaluated the conditions. If such conditions are suspected by other than a PE, a referral should be made to a PE. The process requires that a Professional Engineer (PE) be in responsible charge, as required by Board Rule 21-56.0701(d), of the repair evaluation, analysis, recommendations and design from the beginning.*

The process involves various parties that the PE needs to be aware of to assure that the PE does not aid and abet, or associate with, companies that are not in compliance with the engineering practice statutes.

- a) **Company Engineering License Required.** Every company that evaluates a foundation and makes a recommendation as to whether repair is needed must have a properly licensed Professional Engineer and the company must be licensed with Board of Examiners for Engineers and Surveyors (the Board) or have a properly licensed engineering firm do the evaluation and recommendations. The foundation companies simply not holding

themselves out as engineers does not avoid the issue. One difficulty is that the Professional Corporation Act in G.S. 55B limits the ability of most foundation repair companies (if a corporation or limited liability company) to become licensed with the Board, due to ownership requirements (G.S. 55B-6) and the limitation on services offered (G.S. 55B-14). Many companies set up a separate associated licensed engineering firm or have an existing engineering firm do the engineering.

- b) **The Contractor.** Recommending certain foundation repair work based on a company's status and experience as a licensed general contractor is very limited and would not encompass the analysis and recommendations typically encountered with foundation repair. It is within the realm of a general contractor to recommend certain work to restore the prior condition, such as pointing up mortar joints, replacing portions of a foundation wall, replacing damaged joists, etc., but not analyzing the reason for failure, making the recommendations for a support system, or performing calculations and specifying the design for the repair. This does not prevent the foundation repair contractor from inspecting a foundation and from that evaluation and preliminary assessment referring the client or the matter to a PE if structural issues are suspected. If a foundation failure is suspected the client or the matter should be referred to a properly licensed PE and engineering firm for an evaluation. There may be reasons for the failure that should be addressed. The analysis, recommendation and design of a solution must be done by a PE.
- c) **Manufacturers of the Foundation Repair Systems.** The foundation repair companies cannot simply leave it to the manufacturers of their products (helical piers, grout, etc.) to design and test the products, even if using licensed engineers for the product design, and simply install the products per the specs of the manufacturer. This does not account for making the initial determination that there is foundation failure, the extent of any repair required, type of support, spacing and many other conditions, along with taking responsibility to protect the client. The PE is required to account for the actual field conditions.
- d) **Home Inspectors.** A licensed Home Inspector may note that there may be an issue with a foundation or structural component, but the client should be referred to a properly licensed PE and engineering firm for an evaluation as noted above in paragraph (b) applicable to General Contractors. This is consistent with the Home Inspector Licensure Board Rule 11 NCAC 08 .1103(b)(3)(D) and the education provided by that Board.