

## **DECEMBER 17, 2003 - Investigations of Existing Building Foundations on High Plasticity Soils**

*Speaker:* [Mr. Andre G. Garner, P.E.](#) Tel. 512-358-7020 of Carrasquillo Associates, Austin TX.

### **PRESENTATION SUMMARY**

Mr. Garner, a licensed professional engineer with bachelors and master's degrees in civil engineering talked to an audience of 35 about the investigation of existing building foundations on high plasticity soils in order to determine the cause of foundation movement.

Some highlights of Mr. Garner's PowerPoint presentation:

- A review of existing documents such as architectural and structural foundation design plans and geotechnical reports should be conducted.
- A detailed timeline of pertinent events should be written.
- A site investigation should be performed, including onsite interviews, photographs, a visual condition survey of the foundation and superstructure, spot elevation measurements of the foundation, leak testing of the domestic water supply lines and the drain piping system, and geotechnical borings under and around the building. For the spot elevation measurements, Mr. Garner recommended foundation elevations every 5 feet and outside grade elevations every 20 ft.
- A comprehensive analysis of the existing documents, in combination with the field data, should be performed to correlate observed distress, foundation elevations, and sources of moisture and/or drying. Mr. Garner emphasized that all data retrieved must correlate before the cause of movement can be assessed.

Mr. Garner is a proponent of cutting sections through the foundation and site plan, showing exaggerated elevations in order to correlate apparent vertical movement with such conditions as plumbing leaks and poor outside drainage conditions.

Mr. Garner said his firm, Carrasquillo Associations sometimes does not accept a forensic project if the client is not prepared to spend the money for sufficient testing needed to determine the cause of foundation movement.

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