

JANUARY, 2002 - Restricted Access Foundation Remediation Using Minipiles, Jet and Compaction Grouting Techniques

Speaker: Dennis Boehm of Hayward Baker

At the FPA meeting on January 16, 2002, Dennis Boehm of Hayward Baker made a presentation entitled, "Restricted Access Foundation Remediation Using Minipiles, Jet and Compaction Grouting Techniques." His talk was very practical with three local case histories presented:

1) His company worked on a 16x26 ft tunnel at Houston's Bush International Airport in which they used jet grouting to make concrete piers in the soil by radially jetting grout from a 6" drill pipe. On this project they were able to effectively install 48" dia. pier shafts with capacities of 124 kips each under existing columns. They installed 16 per column.

2) At One Woodway Building near the Galleria, Hayward Baker used Minipiles (combined with Compaction Grouting) to lift a four-story building that had settled some 13 inches. They leveled it to within 1". For installation of the Minipiles, they used 7 5/8" drill pipe to drill in and grout through. They pulled the pipe as they cemented, leaving a steel bar for center reinforcing. They did load tests on the 80 ft long minipiles and achieved 178 kips with 0.25" deflection and 242 kips with 0.5" deflection.

3) At the Westin Galleria Hotel, Hayward Baker used jet grouting, minipiles and soil nailing to enlarge the underground mechanical room (what used to be the original cinema). At a 30 ft penetration, they achieved a 120 kip capacity on the minipiles. They also used 3 rows of soil nails and 5" of gunnite to hold back a 16 ft high soil wall.

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