

JANUARY 2008 MEETING

Wednesday, January 9, 2008

TECHNICAL PROGRAM

Specification and Application of Void Spaces Below Concrete Foundations

Speaker: [Michael Skoller, P.E.](#) of [National Structural Engineering](#) Houston TX, Tel. No. 713-956-2094

licensed professional engineer experienced in foundation designs using void space systems, presented the FPA-SC-11 paper authored by the structural subcommittee of which he was chairman.

In the presentation, Mr. Skoller discussed the void space system types, the purpose of which is to provide a buffer zone between expansive soil and a concrete slab-on-grade foundation. The types of void space systems were presented as: Degradeable, Collapsible, and Non-Collapsible. The advantages and disadvantages of each were discussed. Heave of expansive soil was discussed as well as the various ways in which heave occurs. Mr. Skoller briefly gave the floor to FPA-SC-11 subcommittee member Mike Turner, president of [SureVoid Corporation](#), who presented a movie of foundation construction using void space systems.



Mr. Skoller continued with a discussion of design procedures, considerations for under slab utilities, testing, testing criteria, geotechnical studies, fiber board protection for void space systems (during construction), soil retainers, pier-top forms, onsite protection and installation, while presenting many photographs to illustrate the concepts.

During the presentation Mr. Skoller highlighted several points:

- Void spaces often fill with water, but noted that with proper design, such foundations can function without problems.
- Trapezoidal Void Boxes should never be used.
- Degradeable Void Space Systems should be used under the slab areas only.
- The testing specification in the FPA-SC-11-0 document should be given to the Void Space System manufacturer
- When a vapor retarder is employed, it must be located above the Void Space materials
- If fiber board is used for protection during construction, it should be at least 1/8 inches thick.
- SureVoid's price for 6 or 8 inch Void forms is about \$2.00 per square foot.
- Where soils are highly expansive such that Void Space Systems are desired to limit foundation movement, the overall cost of the foundation (including deep piers, thicker slab, extra reinforcing and void space system) will increase anywhere from 50 to 100 percent over a slab-on-grade.

To download the slide presentation, click [here](#).

To download Document No. FPA-SC-11-0, which Mr. Skoller presented, click [here](#).

To read summaries of previous FPA presentations by Mr. Skoller, please click:

[June 2004](#)
[January 2003](#)