

## **FEBRUARY 21, 2001 - Carton Forms**

*Speaker:* Dave Isbell, P.E.

Dave Isbell, P.E., who does both structural and geotechnical engineering in Dallas made an excellent presentation on carton forms at the FPA main meeting this evening. Several years ago, he realized the industry did not understand how or if void boxes worked. So he executed extensive testing to see what caused them to crush. Some of his conclusions were:

- to not use poly below the voids,
- to specify vertical cell boxes with curved and closed ends as manufactured by Sure Void,
- to specify expandable foam to seal around piers and other gaps,
- to cover slab cartons with 1/4" masonite prior to tying the steel,
- to use no more than 1 or 2 inches of leveling sand, and
- the grade beams with carton forms must be formed, and the slab placed separately.

Mr. Isbell is a firm believer in using void boxes with expansive soils. He believes that the reason they have been associated with failures in the past is primarily because the piers were improperly designed. He advocated using piers that are much deeper than those typically specified in the industry.

Mr. Isbell's designs typically specify 15 ft deep underreams and 25 ft deep straight shafts, both with 18" dia. shafts and a full cage of steel. Dave bases his pier depth on soil suction results which he does himself because he has had difficulty procuring the tests elsewhere. He said when he started doing suction testing by the filter paper method 9 months ago, it did not cost that much to get set up and it is a fairly inexpensive test to run.

To download a copy of Mr. Isbell's presentation, [click here](#) (2.31 MB)

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