Soil Testing Locations:

- Soil Testing Phase I
- Soil Testing Phase II
- Soil Testing Phase III

Phase I Testing used to determine foundation system

Phase II Testing used to refine soil stabilization design

Phase III Testing used to determine why stone column installation failed
October 23rd, 2015

Attn: Mr. Michael Haeemeyer  
Mr. Pravin Jha  
Heliotech  
8251 Bunker Road  
Caseyville IL  62232

Re: Committee on Standards and Tests

Issue: Alternative Arrangement and Protection of Circulation Stair and Atrium

Case: 2015_10B

Dear Michael Haeemeyer, Pravin Jha,

In response to your October 21st, 2015 presentation to the Committee on Building Standards Tests, the Committee has voted to allow the use of Heliotech - Stone Vibratory Columns as an earth stabilization system for use at 851 West Grand Avenue which will be a new construction 6 story residential building.

This approval is subject to the following requirements:

1. The Department of Buildings will require additional load tests for this specific project as follows:
   - The protocol for the load tests shall be prepared and signed by the Licensed Structural Engineer of Record for the 851 West Grand Building. This protocol shall be submitted to the Department of Buildings Structural Bureau for review.
   - 4 stone piers in different locations on the site shall be load tested.
   - 1 fully completed footing located in an area of critical soil shall be load tested.
   - The results of the load tests will be submitted to the Department of Buildings during the course of construction.

All other Building Code requirements shall be met. This installation is site specific and shall not be viewed as a precedent. A permit is required for this work. A signed hard copy of this communication will be mailed to you at a later date. Please contact your project administrator for further assistance.

Very truly yours,

Robert Fiddleson  
Manager of Regulatory Review  
Chair of the Committee of Standards and Tests  
For Judith Frydland, Commissioner

120 NORTH RACINE AVENUE, CHICAGO, ILLINOIS 60607

851 W. Grand
6 Story Residential Development
January 18, 2016

Mr. Drew Friestedt
#F Properties
1101 W Monroe St., Suite 200
Chicago, IL 60607
E-mail: Drew Friestedt [drew@#fproperties.com]

Re: 851 West Grand – Foundation Load Test

Dear Mr. Friestedt:

We have reviewed the testing protocol as outlined in the “psi” letter dated January 15, 2016. The testing procedures include both the individual stone pier tests and the full footing and foundation wall load test, as required by the “Committee on Standards and Tests.”

It is our opinion that the submitted protocol will be adequate to verify the acceptability of using Helitech – Stone Vibratory Columns as an earth stabilization system for the above mentioned project.

The above constitutes our understanding of the issues discussed. If there are any questions or comments, please do not hesitate to call.

Milind R. Joglekar
Illinois License Number 081-004876

Very Truly Yours,
Stearn-Joglekar, Ltd.

Expires: Nov. 2016

Additional Soil Testing Locations:

- Soil Testing Phase III 〇
- More Fill
- Lower Soil Strength

$S_0 \ (psf) = \ Q_0 \ (fsf) \ \times \ 1000$
CPT Dissipation Test

[Graph showing depth vs. CD with data points and notes on hydrostatic pressure based on H_a O e ground surface]

Slide 12
To: Department of Buildings Plan Examiners and Inspectors
From: Judith Frydland
Commissioner
Date: April 4, 2016
Re: Soil Improvement Systems - Geopiers or Stone Columns

1. The use of Geopiers or Stone columns soil improvement systems to increase the load bearing capacity of soil shall demonstrate that the bearing capacity of the soil resulting from the installation of the soil improvement system is 200% of the proposed safe load as required by the section 18(13-132-070)(b)(3) of the Chicago Municipal Code.

For a one story building using Geopiers or Stone Columns, the final soil bearing capacity may be established by calculations with minimum safety factor of three or by use of the individual Geopier or Stone column load test method describe below.

2. For buildings two stories or greater in height the design soil bearing capacity achieved by the soil improvement system shall be established by the Load Test Method described in item #3 below.

3. The Load Test Method: After the installation of the soil improvement system, the load test(s) shall be performed to verify soil bearing capacity.

   A. The kind of load test to be performed such as Compression or Tension load test shall be decided by the project structural engineer in consultation with the Department of Buildings (DOB) Structural Bureau.

   B. The protocol for the load tests shall be prepared and signed and stamped by the Licensed Structural Engineer of record. The load test protocol shall be submitted to the DOB Structural Bureau for review and electronically uploaded as a permanent record document to the building permit file.

   C. The Load Test requirements are:

   1. A continuous foundation supported on a minimum of three Geopiers / Stone Columns shall be load tested.

   2. One load test shall be performed for the most critically loaded completed footing in the area of the most critical soil.

   3. Individual Geopiers or Stone Columns shall be load tested as required by the DOB Structural Bureau.

4. The Service test load used for the load test shall be calculated based on the allowable soil bearing capacity and footing dimensions.

5. The Field Load test method shall comply with Section 18(13-132-070) Sub-sections (b), (c), (d), and (e) of the Chicago Municipal Code.

The findings from the load test(s) shall be reviewed with the DOB Structural Bureau before the installation of foundations. If the soil bearing capacity is found to be insufficient for the test load then the foundation system must be re-designed or additional soil improvement provided to achieve the required soil bearing capacity. Verify with the conditions of acceptance for the load test with Code Section 18(13-132-070)(c)(1)(2) of the Chicago Municipal Code. Revised structural calculations and plans for these structural changes shall be submitted and uploaded to the Department of Buildings as a permanent record document to the building permit file.

The Department of Buildings reserves the right to limit the height in stories or feet for buildings or structures seeking to use of Geopiers or Stone Columns in lieu of using deep foundations or a mat foundation.