

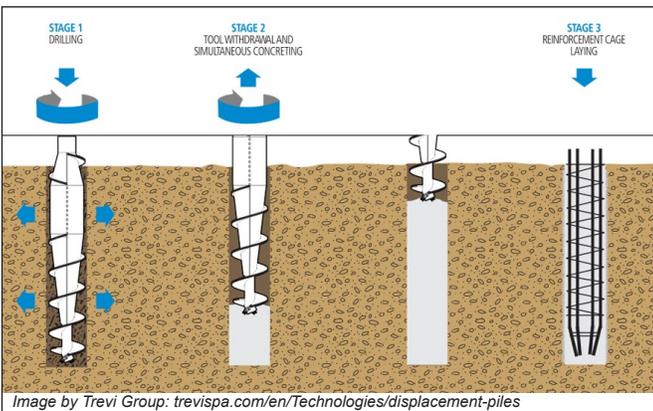


building experience

insights on building & site construction

Drilled Displacement Piling Gains Ground

As part of a recent project for a large, multi-national beverage manufacturer, Hixson was tasked with designing the foundation to support the work required above ground. Foundation work though was complicated by the project site. Located in an older, urban center, the site had been the home for numerous businesses over the course of time. Multiple buildings on the historic property had been razed, leaving behind lots of foundational detritus. More importantly, various types of oils, and even dry-cleaning solvents, had leached – or been dumped – into the soils. Any soil removed, therefore, would not only require movement off site, but would need additional handling and containment procedures that make it more costly.



Typically, one of the go-to methods for deep foundation work would be Continuous Flight Auger Piles (CFA), also known as auger-cast piles. With this method, the auger is lowered into the ground, continuously rotating as it goes deeper. When the auger is brought back to the surface, a column of

soil returns with it. This soil must be dispersed elsewhere onsite or removed.

For the project noted above though, Hixson employed a deep foundation method widely used in Europe which is now gaining traction here in the United States: drilled displacement piling. The displacement piling equipment has opposite spiral on the shaft so that the first few feet of the auger transfers the soil outward into the surrounding terrain as it moves down into the ground. Because of this dispersion, very little soil is brought to the surface. Voids are then filled with concrete or granular material.

So why does this matter to you? It's all about cost. For projects where there is plenty of acreage available, soil removal and dispersion to other areas on site may not be an issue, making auger cast piling a good choice for foundation work. Yet for projects in urban areas, those that are very large, and/or those that have contaminated soils, displacement piling may be a more cost-attractive option.

experience in brief

Aggregate piers are another popular option used for soil improvement. However, these piers have a similar issue as with auger-cast piles: Soil is removed from the hole and must be dispersed or removed.

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[How We Do It: Structural Analysis for Older Buildings - Building Experience Fall 2019](#)

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Direct Comments/Questions to:
Scott Mueller, P.E., S.E.
Manager, Structural Engineering
smueller@hixson-inc.com

Phone: 513.241.1230
Fax: 513.241.1287
www.hixson-inc.com

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