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Foundation Specialties, Inc. Geo-Support Construction

Foundation Specialties, Inc.

Foundation Specialties at forefront of expanding use of micropiles in Northwest Arkansas

Foundation Specialties geo-support construction division is the largest installer of micropile foundations based in the state of Arkansas. With projects ranging from small residential projects to multi-million dollar foundation systems at Crystal Bridges Museum of American Art, FSGC has the capability to meet any foundation need.

We recently increased our capacities with the addition of two new drills that operate at the extremes of both size capacity and accessibility. Our new Beretta T59 rotary track drill gives us the ability to install micropiles up to 8 inches in diameter, while our new TEI RDS250 rotary head allows us an unprecedented level of installation capacity on our man portable feed.

As a company, we have also begun development of a lower cost, small diameter pin pile as a rapid placement residential micropile for vertical and lateral pinning of lightly loaded residential structures.

H-Pile and lagging wall project completed at U of A

Foundation Specialties GEO-CON division recently completed our most recent excavation support project at the University of Arkansas Garland street parking deck. A 1350 square foot h-pile and lagging wall was required along the right of way by Lindell St.

New Construction Micropiles

Micropiles are a small diameter replacement pile capable of supporting compression, tension, and lateral loading. The load capacity of the micropile is generated by the large cross-sectional area of reinforcing steel and transfer of the loads to the surrounding material via the ground grout bond. This load transfer mechanism allows micropiles to be used in geologic conditions that would prove very difficult for any other deep foundation system.

One of the major advantages of micropiles are the speed of installation. When difficult ground conditions exist, achieving a required load resistance is often faster with micropiles than with traditional drilled caissons.

Unlike traditional drilled caissons, micropiles can be easily installed in low headroom—limited access situations calling for remedial support. In point of fact, micropiles can be used to underpin and support foundations and slabs in areas where no other system can be used.

Post Tensioned Ground Anchors

Ground anchors are used to control strong uplift forces by providing an active post tensioned downward pull on a structure. One of the most common uses of these anchors are bridge abutments. Bridges have high rotational or eccentric forces on the abutments which are counter-acted by the down pull of the tensioned anchors.

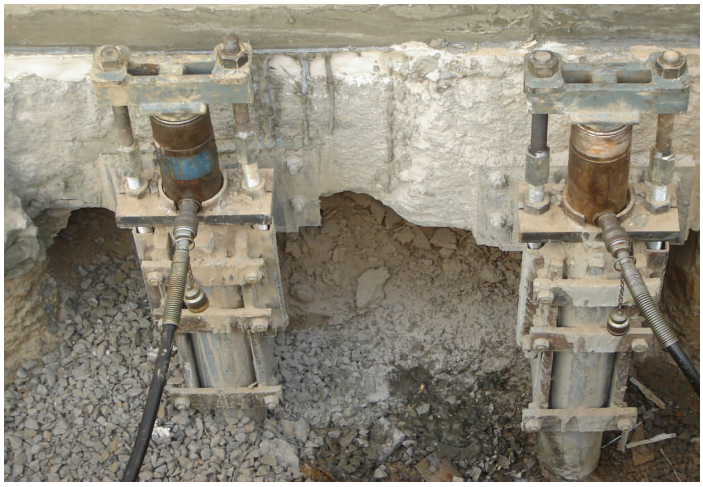
Soil Nails and Anchored Earth Retention Systems

Soil nails are fully grouted steel reinforcing rods drilled into a slope designed to penetrate a failure plane and retain the nailed materials. The nails are typically covered with a shotcrete retaining wall. These retaining structures can be either temporary or permanent. An anchored earth retention system is very similar to a soil nail wall in that the anchors are drilled and grouted with a subsequent application of a wall structure to hold back the slope. The difference between the two is in the way loads are transferred to the system. Soil nails are fully grouted bars, and as a result the loads are transferred along the entire length of the bar. However, in order to mobilize resistance, the wall must begin to move, thus a soil nail wall is a passive retention system. In contrast, an anchored earth retention system utilizes partially grouted bar or strand anchors that are subsequently post tensioned to preload the retention system creating an active retention system.

Helical Tie-Backs and Piles

Helical anchors can be used as temporary tie back anchors in multiple configurations. As light retaining walls, excavation support, and permanent deep foundations for lightly loaded structures, helical anchors are used as an alternative to micropiles. These systems consist of a pipe with flights which enter the soil like a screw and

FSI GEOCON and Earth Contact Products Underpinning System



Foundation Specialties has been working with ECP for several years to develop an under footing bracket that can be used with small diameter micropiles. The ECP model 350 steel pier bracket can be installed and our MP250 drill feed used to install either hollow bar micropiles, or by using a combination of continuous flight augers and down hole hammers a small diameter solid bar and cased micropile can be installed. The bracket allows for the structure loads to be directly transferred to the bracket.

This system has been used on several projects by Foundation Specialties with great success.

Excavation Support and Underpinning

Vertical excavation and structural support during construction are an increasing requirement of construction projects in urban settings. The stabilization of these conditions requires a diverse tool set of techniques which will allow for the most effective support possible. Micropiles, soil nails, resistance piers, helical pier tie-backs, micropiers, and ground anchors can be combined in various combinations to provide the required support for any project. Cost factors such as time savings, difficulty of access, staged construction in lifts to provide continued support for adjacent construction and restrictions on noise or vibration can all be addressed using our expertise.

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Foundation Specialties, Inc. is a full service concrete company that has been doing business in Northwest Arkansas for over 35 years. In addition to our geotechnical construction capabilities, we can also provide complete foundation systems from geotechnical foundations to grade beams, walls and suspended slabs. We also offer a full range of foundation repair techniques, water infiltration control, and crawl space encapsulation with the Clean-Space system.

Drilling Equipment to Facilitate Geotechnical Investigations

Foundation Specialties can also utilize any of our drilling equipment to facilitate geotechnical investigations. Our limited access drills can be used for auger, core, or DTH drilling up to 60 feet deep in spaces with limited head room or when access is limited to man portable equipment. Our larger rotary drills can be used in rough terrain and are can drill with either hollow stem auger or DTH systems to depths of up to 150 feet. We also provide a full range of load testing capabilities for all anchor and foundation systems that we install.