



# Earnest Commercial Construction Installs (1298) Helical Piles as Deep Foundations for a New Tilt-Up Facility Near Orlando International Airport

Summer/Fall 2024



**BK Earnest, LLC**  
Helical Pile Contractor  
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<b>Project Name &amp; Location:</b>	Orlando Air Commerce - Orlando, FL
<b>Project Date:</b>	Summer/Fall 2024
<b>Project Type:</b>	Helical Pile Deep Foundations
<b>Helical Pile Installation Contractor:</b>	<b>BK Earnest</b> , - Oviedo, FL
<b>General Contractor:</b>	<b>FCL Builders, LLC</b> - Itasca, IL
<b>Geotechnical Engineers:</b>	<b>Universal Engineering &amp; Mike Tannouse, P.E.</b> - Orlando, FL
<b>Structural Engineers:</b>	<b>McNamarra-Salvia - Sealed Elie El Zghayar, Ph.D., P.E.</b> - Orlando, FL
<b>Helical Piles Specifications:</b>	(1298) 2.875" Round Shaft Helical Piles - with 10",12",14",19" Helix Bearing Plates - New Construction Pile Caps - All Galvanized
<b>Soils &amp; Embedment Depth:</b>	Former Landfill with Waste Debris Throughout; Underlain with Dense Sandy Clay
<b>Project Timeline:</b>	Initial Pile Testing 9/21; Project Completion 12/24
<b>Helical Pile Manufacturer:</b>	Helical Anchors, Inc. - Supplied by Patriot Foundation Systems

## Project Overview

The site is near the Orlando International Airport (MCO), so named from McCoy Air Force Base - a former US Navy training center (McCoy Annex). Much of the site was filled with shallow waste debris as a landfill that was abandoned and was over grown with trees and underbrush.

Geotechnical testing revealed the garbage fill had to be removed prior to installing the helical pile deep foundations. The engineer specified a 24' maximum depth for the piles so the residual garbage would not leach into an underlying aquifer.

## Initial testing

- Density testing on 5 September 2021 to 90' using single 12' helix bearing plate at 3 locations
- Density testing on 18 September 2021 using 10"-12"-14"-19" helix bearing plate configuration to establish helical pile performance at 3 locations
- Full compression tests on 7 January 2022 to failure to establish proper  $K_t$  at 3 locations
- Full tension tests on 2 July 2024 to failure to establish tension  $K_t$  at 2 locations
- (1298) piles would be installed to 6K ft. lbs. around the perimeter and also for interior columns
- The building design is tilt-up wall construction with approximately 1/3 of the piles being installed for interior columns with the balance being installed for the exterior footings. The helical work is scheduled to be completed in December 2024.

