

General Mills Yoplait Production Facility: Auger Cast Piles



PROJECT: 217, 16" auger cast piles driven 35' to 55' deep

CHALLENGE: Constrained site

SOLUTION: Installed three different elevations of pilings and proper staging

CUSTOMER: Gerber Construction

LOCATION: Reed City, Michigan

TIMING: June 6 - July 15, 2011

VALUE: \$277,000 of a \$20 million dollar expansion

Team Elmer's broke ground on the latest improvement of the General Mills plant in Reed City, which manufactures the Yoplait brand of yogurt and is a major employer in the area.

The ground-breaking expansion project launched on the heels of an announcement from General Mills that the company had signed agreements with partner companies to acquire a 51 percent controlling interest in the Yoplait brand and a 50 percent interest in a related company that holds the worldwide Yoplait brands of products for approximately \$1.1 trillion.

Team Elmer's performed four static load tests prior to auger cast pile installation, which included loading the pile in various areas, with varying forces from 75 kips up to 150 kips to ensure successful load capability. Once those were approved, we installed the remaining piles. During the first phase of the expansion, 217 16-inch auger cast piles were driven 35 feet to 55 feet deep for the new building's foundation. The piles were 20 feet deep with six #5 vertical bar and #3 horizontal bar ties every 12 inches.

The biggest challenge Team Elmer's faced during this project was that crews could not work outside the building perimeter. To counter this, we scheduled the work in stages to allow a continuous flow and the ability to reach a successful ending.

The next step in the company's growth is a boon to the town, City Manager Ron Marek told the Cadillac News.

"The community will benefit with additional tax dollars and knowing that this project will continue to place the Yoplait Reed City operation in a very competitive position with their sister plants for future growth possibilities," Marek said.

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Auger Cast Piles

Auger cast piles are installed by rotating a continuously flighted hollow shaft auger into the soil to a specified depth. High strength cement grout is pumped under pressure through the shaft as the auger is slowly withdrawn. Reinforcing steel is added per pile specifications. An auger cast pile is both end-bearing and friction-based. Pile diameters of 12" to 18" are typical, but larger piles are available.

Why Use Auger Cast Piles

- Poor subsoils
- Environmentally sensitive sites
- High load needs
- Cost-effective
- Friction and end bearing piles

Drawbacks

- Wait 4-7 days for grout to cure
- Time-sensitive installation
- No data while installing
- Load test after 7 days

Field Load Testing

Team Elmer's can load test piles to determine and verify that design capacity has been achieved. This testing is a typical requirement for commercial projects.

Most projects are designed by a structural engineer for pier placement and load calculations. Soil borings are often recommended to determine pier type and depth requirements.

