

Career Tech Center Stabilization

Construction - Case Study

Background

In May of 2019, the Miami Valley Career Technology Center started a large construction project to expand their facility to offer more programs and increase student capacity. This \$130M project will add 565,000 SQ FT of new and renovated space to the school located in Englewood, OH. After the expansion, it will be Ohio's largest single school building in the state construction commission's history.

Due to the size of the project and the school year schedule, the project will be completed in phases with the target completion date of December 2023. Balsbaugh Excavating & Concrete, a trusted contractor that does complete site development in Central & Southern Ohio, started Phase 1 of the site work in May 2019 with a deadline of August 30th to be completed before the start of the new school year.

The Challenge

Balsbaugh had 3 months to complete 115,000 SQ FT building pad for Phase 1 of the project. Not only was the tight timeline and hard deadline a challenge, the building pad was to be built on a fat clay soil, which is susceptible to shrink/ swell, and often can be unworkable soil in its native state. In addition, the work had to be completed during the very wet spring months.

To combat these challenges, Balsbaugh reached out to Mintek Resources to see if one of their many solutions could help solve the problem of a tight timeline and unworkable soils. Mintek Resources has over 25 years of experience providing chemical reagents that dry, modify, and stabilize soils. Mintek and Balsbaugh worked closely together to determine that Mintek's proprietary product, Calciment, was the best solution to keep the project on track.

Executive Summary

- > Balsbaugh Excavating & Concrete was tasked with a 565K SQ FT expansion project of the Miami Valley Career Technology Center
- > The project will be done in multiple phases, but Phase 1 was 115K SQ FT building pad to be completed in a three month time frame
- > Not only was three months a short time frame, but it was during the wet rainy spring season and the building pad was to be built on a fat clay soil
- > Mintek's product, Calciment, was the solution to dry and modify the native soil
- > Mintek delivered 2-4 loads of Calciment per day that was then transferred to a spreader truck or the on-site portable storage unit
- > Balsbaugh Excavating completed the project two weeks ahead of schedule

"When I reach out to Mintek for loads of material, Mintek is always there to help get me the materials I need, when I need it."

- Doug Balsbaugh, Owner of Balsbaugh Excavating



Solution

After Calciment was identified as the chemical reagent that would be used to dry and modify the native soil, Balsbaugh and Mintek went to work.

Due to the poor state of the native soil, Balsbaugh had to excavate 4-8ft down to remove the soils. Once removed, Balsbaugh used cement to treat the bottom of the excavation to create a solid base for the Calciment modified fill soils to be placed and compacted. Calciment was then applied to each layer of fill to modify the soil properties until grade was met.

In addition, due to the tight timelines, it was imperative that Mintek was able to deliver the needed 2-4 loads of Calciment per day to stay on schedule. A portable storage unit was also placed on site to ensure continuity of supply and minimal downtime. This consistent flow of supply was imperative to completing the project in the 3-month timeline.

Implementation

Calciment was used at a 5% dose rate to dry, modify, & stabilize the soil. Mintek delivered 2-4 loads of Calciment per day in a pneumatic truck, which was then either transferred directly to a spreader truck or loaded into the on-site storage for future use.

Lasting Success!

Balsbaugh was able to complete Phase 1 of the project two weeks ahead of schedule and will continue to work on the other phases of the project through 2023. Calciment worked so well that it will be used in future phases of the project when unworkable soils are present.



Having a portable storage unit on-site was key for continuous on-site supply

