

Name: Dale Andrews, PG

Title: Senior Technical Advisor

Bio:

Dale Andrews earned his Master's Degree in Engineering Geology from Kent State, Ohio and is a registered Geologist in the state of Pennsylvania. Dale began his technical career as a geotechnical consultant and project manager within the transportation group of Gannett Fleming, a dynamic infrastructure solution and construction management service focused firm. After nearly a decade with Gannett Fleming, Dale accepted an offer to work for Carmeuse Lime & Stone. Carmeuse is a global leader in the production of lime and limestone, producing up to 7 million tons of lime, 12 million tons of high quality chemical grade limestone, and 15 million tons of quality aggregates per year in North America alone. Dale is currently Carmeuse's lead technical advisor and R&D manager for all of their construction and stabilization/solidification opportunities as well as their entire milled products' portfolio. Collectively, Dale has twenty years of experience in chemical stabilization of soil, solidification of waste, construction aggregate and filler applications, dredged material remediation, slope instability mitigation, foundation design, erosion control, landfill management and construction testing. Dale is also the current president of the Association of Environmental and Engineering Geologists (AEG).

Presentation Title: "Chemical Modification of Soils"

Soil drying, modification and stabilization incorporate different methods for altering the properties of soil to enhance its physical properties and engineering performance. Soil stabilization is utilized for a range of engineering tasks, the most well-known application being in the road construction and airfield pavements, where the primary goals are to dry the soil, improve the soil engineering properties and to lessen the development cost by making best utilization of locally accessible materials. In addition to improving strength, stabilization can provide erosion control, pH adjustment, and permeability reduction.

This presentation will outline the many benefits of utilizing chemicals, such as lime, in soil and explain how they are achieved. It will provide guidance on when chemical modification makes sense technically and financially and how to select the right chemical for a job. Additionally, it will provide an overview on applicable laboratory testing and how to best ensure their results will mimic field conditions. Finally, it will close by outlining the best field practices for incorporating chemical into the soil at the job site.