

Webinar - October 15th, 2020

COMBI PILES - LESSONS LEARNED TO MANAGE ACTIVE PIPING EROSION AT DEEP FOUNDATIONS

by:

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1.0 PDH available



Lessons learned will be shared regarding the construction of tiered retaining walls constructed with a top-down approach to support active rail lines while constructing ADA-compliant pedestrian connectivity between a developing urban neighborhood and the lakefront. The improved pedestrian connectivity accommodates a 40-ft elevation change within a narrow space between Norfolk Southern's Cleveland-Dearborn line and Lakefront West Shoreway, a 6-lane boulevard.

The Challenge – Construct deep foundations under artesian head in non-plastic silt with interbedded lean clay and fine sand along the shoreline of Lake Erie. This challenge was amplified by the presence of perched groundwater and active piping erosion. These constraints prevented the use of a conventional sheet pile cutoff with soil nailing.

The Solution – Combi piles came to the rescue to design and construct a 25-foot high cantilevered retaining wall with composite beam columns to construct a grade separation structure to support a Class 1 railroad and connect two pedestrian tunnels for ODOT in Cleveland, Ohio. The tiered cantilevered piles were designed to support a Cooper E80 live load and satisfy AASHTO LRFD design specifications. The piles consisted of composite encased sections to limit top deflection to a maximum of 3 inches.

Dr. Ciloglu is a Geotechnical Specialty Practice Lead and Geotechnical Department Manager for Michael Baker International, Inc. in Pittsburgh, PA. She is an experienced geotechnical engineer with expertise in the design and management of geotechnical projects for energy, transportation, government, and private clients. She has served as the technical lead for various design projects and has managed engineering teams to deliver projects aligned with industry quality standards. Areas of expertise include geotechnical earthquake engineering, seismic response analysis of dams and embankment, landslide remediation, deep/shallow foundation analysis and design, landfill design, slope stability analysis, and geotechnical subsurface exploration.

Dr. Ciloglu earned her Ph.D. in Geotechnical Engineering from Drexel University and her M.S. and B.S. degrees, both in Civil Engineering, from the Middle East Technical University in Ankara, Turkey.

WHERE

Zoom – Webinar

Link to Registration:

https://us02web.zoom.us/webinar/register/WN_4b-yeO2zSm-qZSVW21yR4g

TIME

11:00 AM – 12:00 PM EDT

Program Chair: Randall Booker (Email – rbooker@agesinc.com)