Geotechnical Competition (V1.0)

Mid-American Enginuity

Overview and Objective

As a part of the 2023 ASCE Mid-America Student Symposium, the Kansas State ASCE Student Chapter will host a Geotechnical Engineering-Site Investigation competition. One of our sponsors be demonstrating how to conduct some typical field tests that are standard in most geotechnical site investigations such as the Cone Penetration Test (CPT), Standard Penetration Test SPT), and the Pressuremeter Test (PMT). This will provide students with great insight into typical site-investigation procedures and how this invaluable data is collected/interpreted. Additionally, the post processing and interpretation of the test data will require teams to employ their best judgement to provide an informed engineering recommendation.

Participation Rules

No pre-Symposium work is required, however, reference material related to the sampling/testing procedures have been provided below. Each team (1-4 students) should become familiar with the ASTM standards for each of the following test methods and research how the information is used in geotechnical engineering:

- ASTM D3441 – 16 Standard Test Method for Mechanical Cone Penetration Testing of Soils
- ASTM D1586/D1586M-18 Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils
- ASTM D4719 – 20 Standard Test Methods for Prebored Pressuremeter Testing in Soils

Each team will be in charge of analyzing the raw test data and will need to make some recommendations based upon their interpretation of the test results. This mini-site investigation will occur downstream of the Dam at Tuttle Creek Reservoir just north of Manhattan, KS.

Recognition

The winner of the Geotechnical Engineering Competition will receive a plaque and all other finalists will receive an appropriate certificate recognizing their achievements.