



Cannon Beach Christian Conference Center Cannon Beach, Oregon

A Geopier ground improvement system was selected as the most economical solution to address compressible organic soils and liquefaction mitigation

Description: The project consisted of a 2-story, 20,000 square foot expansion to an existing dining hall facility on the Cannon Beach Christian Conference Center campus.

Subsurface Conditions: The subsurface conditions consist of about 7 feet of loose sand, underlain by 3 feet of loose silty sand with wood and organic debris, then 3 to 5 feet of organic silt. The organic soils were underlain by medium dense to dense sand to the boring termination depths. Groundwater was encountered at a depth of about 5 feet.

Geopier Solution: The design team was concerned about the organic soils below footings and the potentially liquifiable sands due to the shallow groundwater and loose sandy soils encountered. In order to address the organic soils, consideration was given to surcharging and also deep foundations; however, a Geopier ground improvement system was selected as the most economical solution to address both the compressible organic soils and to mitigate liquefaction soils.



Due to the shallow groundwater table and potential caving soils, two displacement systems were used for this project. The Geopier Armorpack® system was utilized to penetrate through the loose sands and organic soils and bear on the medium dense to dense silty sand to support the footings and the Geopier Impact® system was used on grid pattern below the building footprint and a confining row around the building to mitigate liquefaction below the slab between footings.

PROJECT TEAM

Owner:

Cannon Beach Christian Conference Center

Geotechnical Engineer:

Apex Companies, LLC

Structural Engineer:

INGENII, Inc.

Geopier Designer:

Geopier Northwest, Inc.

Geopier Installer:

Western Ground Improvement

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