

CASE HISTORY

ECP HELICAL TORQUE ANCHORS™



Supplemental Foundation Support for Beach Front House

Newburyport, MA

Earth Contact Products' Helical Torque Anchors™ were selected to provide supplemental support along with anchorage against scouring of the sand and wind

uplift on this beach front home.

The contractor contacted the engineering department of Earth Contact Products to design attachments to connect to the existing twelve inch diameter concrete foundation columns and to the girder beams under the structure. The system was required to support a 30,000 pound service load even if eight to ten feet of sand was displaced from below the structure.



This photo shows the configuration of the helical pile and custom bracket designed by ECP.

The pile system was required by the engineer to embed into coarse to fine cemented sand with a trace of gravel that was located approximately 20 feet below existing grade. Standard Penetration Test values for this stratum ranged from 50 to 75 blows per foot.

The helical Torque Anchor® pile selected for this project consisted of a 4-1/2 inch diameter tubular shaft that would provide maximum buckling strength through



This is a view of the Model 450-WM (12) Bracket connecting the 4-1/2 inch tubular pile shaft to the 12 inch diameter concrete column.

the anticipated eight to ten feet of unsupported column height should scouring occur around and under the structure. Attachment of the helical pile would be to the twelve inch diameter concrete columns that were supporting the structure off of concrete spread footing buried just under the surface. Two types of brackets were used for load transfer. One was specially designed bracket that surrounded and clamped to the concrete column supports; while under the structure, timber brackets were fastened between the laminated girder beams and the piles.

