

# CASE STUDY BROUGHT TO YOU BY DALINGHAUS CONSTRUCTION, INC



## **Project: Needles Pool Foundation**

**Project Location: Needles, CA**

### **Project Background Information:**

Building a pool for a home is a difficult process, it is even more difficult when the pool you are wanting to build is located just feet from the Colorado River. Building such a structure so close to a running body of water can cause challenges in the designing of the structure, primarily the foundation. This project started out with numerous micropyles being installed down to depths of 20'+ from the surface. We found a way to save our clients money as well as speeding up the installation process, all while maintaining the load requirements of the pile system.

### **Project Design Phase:**

The initial design concept for the project consisted of utilizing a combination of MicroPiles and grade beams to be installed on the structure. There were a total of 20 helical piles designed to go at various locations throughout the entire structure of the pool. Fill materials were found to be in the range of depths of 15'-25'.

### **Dalinghaus Solution:**

During Dalinghaus Construction's initial plan review and site visit we informed the client that the project may be able to yield better end and time frame results utilizing another deep pile product. The initial project data was provided to our engineering staff for review. They came back with a design that utilized a combination of 20 new construction helical piles.

Prior to installation of the production piles, Dalinghaus Construction installed a test pile. We performed a compression and tension test on the pile system. The system passed both tests with minimal movement.

The helical piles were installed throughout the layout of the pool, within grade beams that ran around the perimeter as well as through it to compensate for a waterfall design! The helicals were installed to depths ranging from 15' to 20' and an installation value exceeding 80,000 lbs.

The project was able to be completed with in a week and the steel contractor was able to start his scope of work immediately after. No wait time for concrete to set up or project downtime.

### **Project Team**

<b>Structural Engineer:</b>	SML Consultants, Inc
<b>Geotechnical Engineer:</b>	Patel and Associates, Inc
<b>General Contractor:</b>	Dalinghaus Construction, Inc
<b>Tieback/Pile Installer:</b>	Dalinghaus Construction, Inc

### **Products Installed**

- 19 - 3.5" Helical Piles with New Construction Caps