

# Friction Pile vs Concrete Caisson

Detail	BBI Open End Friction Pile	Drilled Concrete Caissons, Mat & Piers
Equipment	Mobilram.	Drilling Rig, Excavator, Crane.
Weather Dependency	Installed in any weather climate.	Weather dependent for installation. Rain will cause delays. Dewatering of the hole (s) may be needed causing additional cost, overages and delays.
Sandy, Wet or Loose Soils	Excels in sandy soils with increased friction. Strengthens loose soil by compaction.	Requires forming, steel liners, and/or sonotubes
Soil Removal	Friction Piles are driven through the contaminated soils. There is no removal of soil.	After drilling the hole, the spoils are removed from the project site resulting in additional labor, equipment, trucks and dump site. Contaminated soils can only be removed after the soil is loaded into a 1 cubic yard in a large barrel. Expensive.
Road	No additional clearing or road preparations are needed. Friction Piles can be delivered to the installation location by Skytrac, excavator, or boom truck.	Additional site clearing and road preparations are needed to "truck" the concrete to the site
Top Structure Erection	There is no waiting with a Friction Piles. The top structure can immediately be attached once the driving head is removed from the base plate of the FP.	Concrete requires a curing period for the concrete to reach a specific PSI strength before a top structure can be attached.
Distance to the Project Site	Friction Piles can travel any distance.	Concrete mixing truck can only travel 2 hours before the concrete strength decreases. For project sites further than the allotted 2 hours, batch plants are required. Batch plants are a significant timely and costly build-out.
Load Resistance Factors	Friction Piles can be designed for ultimate skin friction for compressive strength and/or designed with a larger diameter for ultimate overturning moment and shear strength.	Concrete foundations have compressive strength. Concrete foundations lack in resisting overturning moment and shear forces.
Cost	Friction Piles are installed within minutes, hours, or a single day depending on the size of the Friction Piles. One machine and a crew of three (3) can install a Friction Pile and set the structure in a single work day.	Concrete mixes are inexpensive, however, the concrete installation process is a costly and timely process. Concrete process can take up to 28 days before the structure is set.