

CLAIMS

What is claimed:

1. An extensible shell for constructing a ductile support pier in ground, the extensible shell defining an interior for holding granular construction material and defining a first end having a first opening therethrough for receiving the granular construction material into the interior and an opposing second end having an end closed by a cap.
2. The extensible shell of claim 1, wherein the cap is integral to the shell.
3. The extensible shell of claim 1, wherein the cap is removable.
4. A system for installing ductile support piers in ground, the system comprising:
 - an extensible shell defining an interior for holding granular construction material and defining a first end having a first opening therethrough for receiving the granular construction material into the interior and an opposing second end having an end closed by a cap;
 - a driving mandrel for nesting in to the extensible shell, the driving mandrel further comprising a removable driving collar for using in driving the nested extensible shell, and a removable pin.
5. A method for constructing a ductile support pier in ground, the method comprising:
 - positioning an extensible shell for driving into ground, the shell defining an interior for holding granular construction material and defining a first end having a first opening therethrough for receiving the granular construction material into the interior and an opposing second end having an end closed by a cap;
 - inserting a driving mandrel into the shell, the driving mandrel further comprising a removable driving collar for using in driving the nested extensible shell, and a removable pin;
 - driving the shell into the ground using the driving mandrel;
 - removing the driving collar and continuing to drive the mandrel such that the shell cap is removed;
 - filling the shell with granular construction material;

compacting the granular construction material such that a bottom bulb is formed beneath the shell as driven into the ground;

raising the mandrel out of the shell while simultaneously adding additional granular construction material to fill the shell and form a ductile pier.