



**EXCALIBUR™**

*PRODUCT CATALOG*

# WHO WE ARE

We are "Connecting People for Good" by manufacturing and supplying products for electric utility, communication and civil infrastructure.

MacLean Power Systems operates out of nine total manufacturing facilities worldwide. We are a division of MacLean-Fogg which is a global enterprise with 26 global manufacturing facilities and a worldwide workforce of more than 3,500 people.

Founded in 1925 MPS has a long history of supporting our customers with Engineering, Manufacturing and Customer Support. In North America, MPS serves both U.S. and Canadian customers with anchoring and piling products in the electric utility and civil construction markets. Working with our National Distribution Network we supply the largest range of anchoring products in our industries.

## Industries Served



***Power Utility***



***Civil Construction***



***Communications***



***Infrastructure***



# CONTENTS



# BOLTED PRESSURE GROUTED PILES

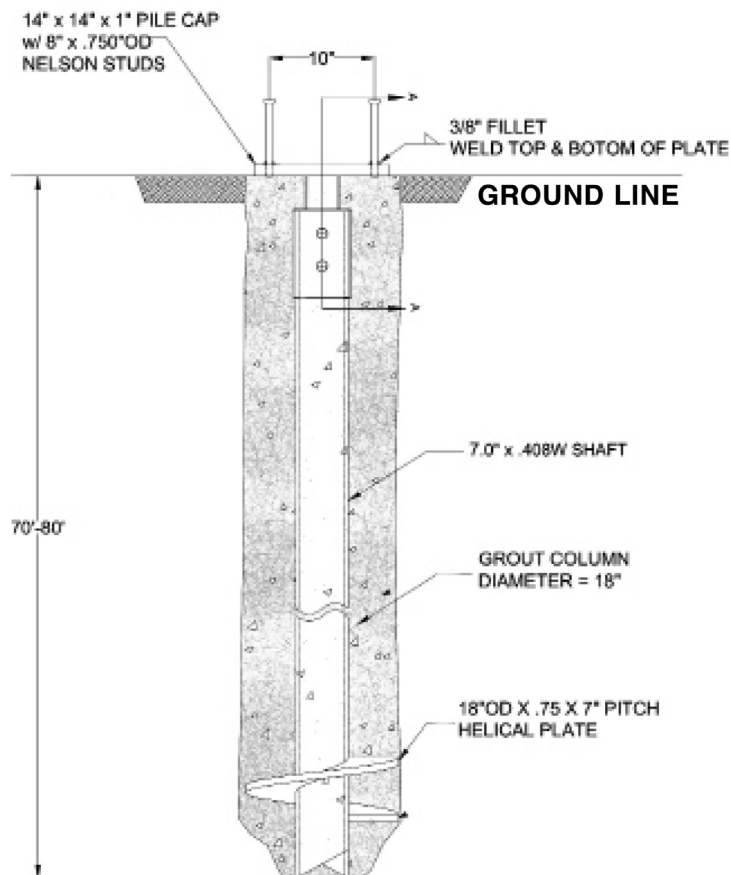
The MPS Excalibur pressure grouted bolted piles utilize modern grout delivery techniques to maximize load resistance. Grout is delivered through the ID of the pile as it is torqued into the soil and flows out through grout ports at the pile's toe. The pile designs are fully customizable, from the length and wall thickness, to the driver plate quantity and diameter.

## APPLICATIONS

- Soil Improvement
- Commercial Construction
- Limited Access
- Contaminated Soils

## CUSTOM PILE DESIGN

Everything on our bolted piles is customizable in order to best match your foundation design. Our flexible approach allows you to get the right pile to match your needs on the jobsite.



# ADVANTAGES



## GREATER LOAD SUPPORT

Pressure grouted piles can have significantly greater maximum load capacities than non-grouted piles.



## LOWER NOISE LEVELS

Installations are quiet and produce minimal vibrations, making them ideal for projects in urban and sensitive areas.



## SIMPLER INSTALL

MPS can provide installation guides and support to keep you project running smoothly



## ENVIRONMENTALLY FRIENDLY

These piles have minimal effect on the terrain, environment, and wildlife, making them a green foundation option.



## MORE LOCATIONS

By utilizing grout, this allows more consistent load capabilities in a variety of soil conditions.

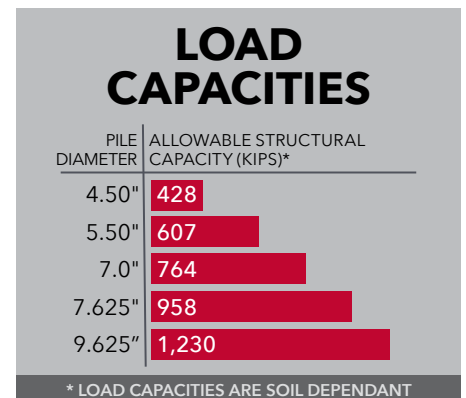


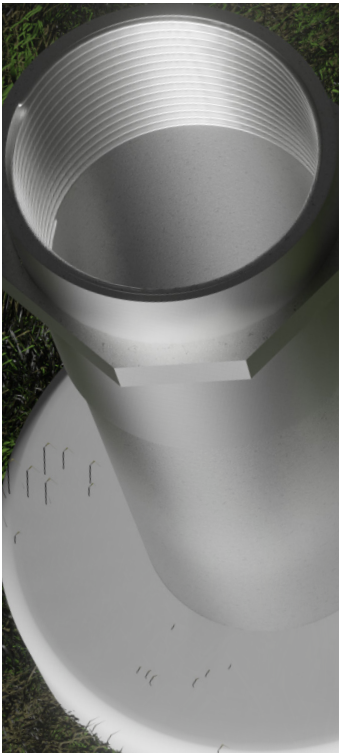
## MINIMAL SITE DISTURBANCE

Typical pile installation produces no soil cuttings. The jobsite is often cleaner and more optimized.

	<b>PILE SHAFT</b>	<b>DIAMETER:</b>	4.50", 5.50", 7", 7.625", 8.625", and up to 24"
		<b>LENGTH:</b>	5' – 40'
		<b>WALL THICKNESS:</b>	.290" – .750"
		<b>MATERIAL STRENGTH:</b>	80ksi, 110ksi
	<b>DRIVER PLATE</b>	<b>DIAMETER:</b>	8" – 30"
		<b>PITCH:</b>	4" – 21"
		<b>THICKNESS:</b>	1/2", 5/8", 3/4", 1"
	<b>PILE COUPLER</b>	<b>DIAMETER:</b>	4.50" – 24"
		<b>HOLE DIAMETER:</b>	Custom sizes available
		<b>HOLE PLACEMENT:</b>	Custom positions as needed

## TECHNICAL DETAILS





# THREADED PRESSURE GROUTED PILES

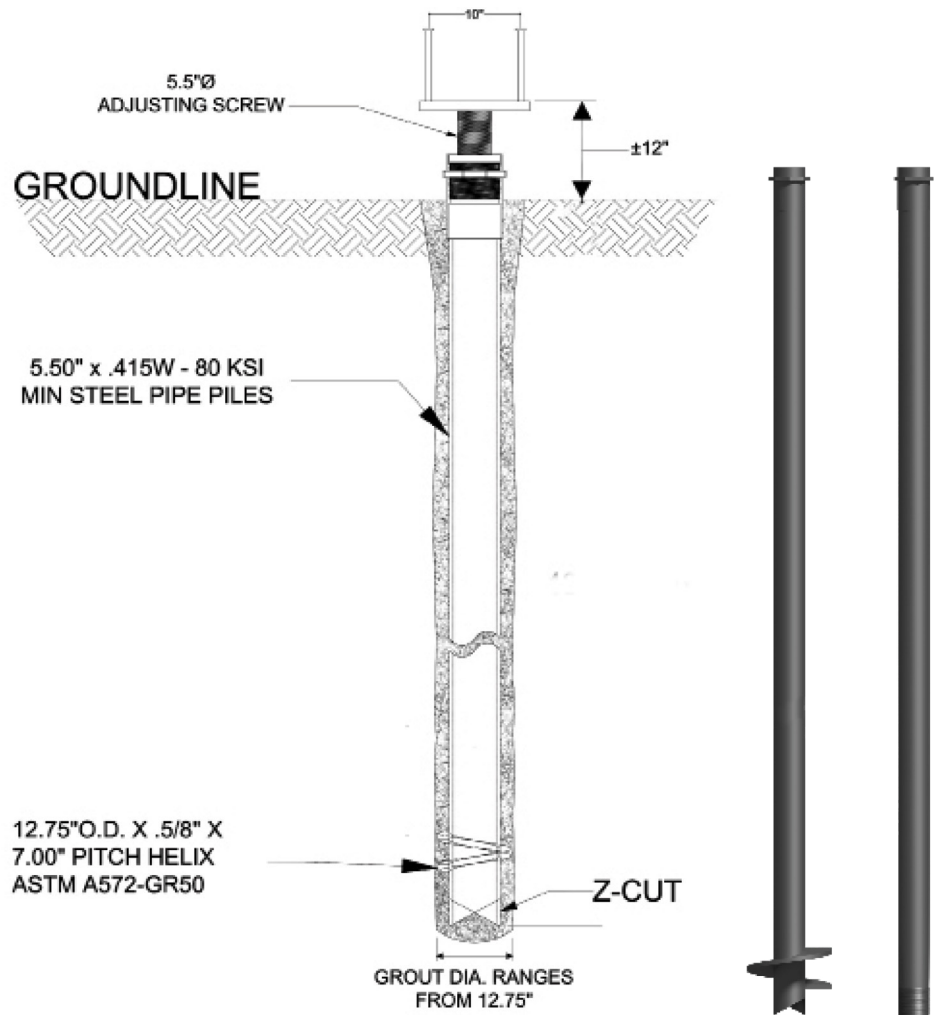
The MPS Excalibur pressure grouted threaded piles are designed for speed and efficiency, making them the most innovative high-capacity piles on the market. By eliminating coupling hardware you can maximize your labor hours and stop the unnecessary handling of hardware. By utilizing modern grouted delivery techniques to maximize load resistance, Grout is delivered through the ID of the pile as it is torqued into the soil and flows out through grout ports at the pile's toe. The pile designs are fully customizable, from the length and wall thickness, to the driver plate quantity and diameter.

## APPLICATIONS

- Soil Improvement
- Commercial Construction
- Limited Access
- Contaminated Soils

## CUSTOM PILE DESIGN

Everything on our threaded piles are customizable in order to best match your foundation design. Our flexible approach allows you to get the right pile to match your needs on the jobsite.





# ADVANTAGES



## GREATER LOAD SUPPORT

Pressure grouted piles can have significantly greater maximum load capacities than non-grouted piles.



## LOWER NOISE LEVELS

Installations are quiet and produce minimal vibrations, making them ideal for projects in urban and sensitive areas.



## SIMPLER INSTALL

Eliminates time spent handling hardware during installation.



## ENVIRONMENTALLY FRIENDLY

These piles have minimal effect on the terrain, environment, and wildlife, making them a green foundation option.



## MORE LOCATIONS

By utilizing grout, this allows more consistent load capabilities in a variety of soil conditions.



## MINIMAL SITE DISTURBANCE

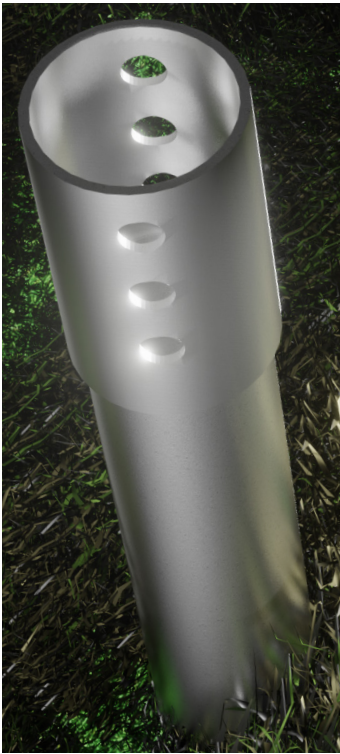
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<p><b>PILE COUPLER</b></p>	<b>DIAMETER:</b>	4.50" – 24"
	<b>THREADS:</b>	Threaded Tapered Pin & Box

## TECHNICAL DETAILS

LOAD CAPACITIES	
PILE DIAMETER	ALLOWABLE STRUCTURAL CAPACITY (KIPS)*
4.50"	428
5.50"	607
7.0"	764
7.625"	958
9.625"	1,230

\* LOAD CAPACITIES ARE SOIL DEPENDANT



# BOLTED DISPLACEMENT PILES

The MPS Excalibur displacement pile is fabricated with high strength steel to support the greatest loads. The pile designs are fully customizable, from the length and wall thickness, to the driver plate quantity and diameter. We can even custom place the bolt-hole configuration to match your current installation tooling.

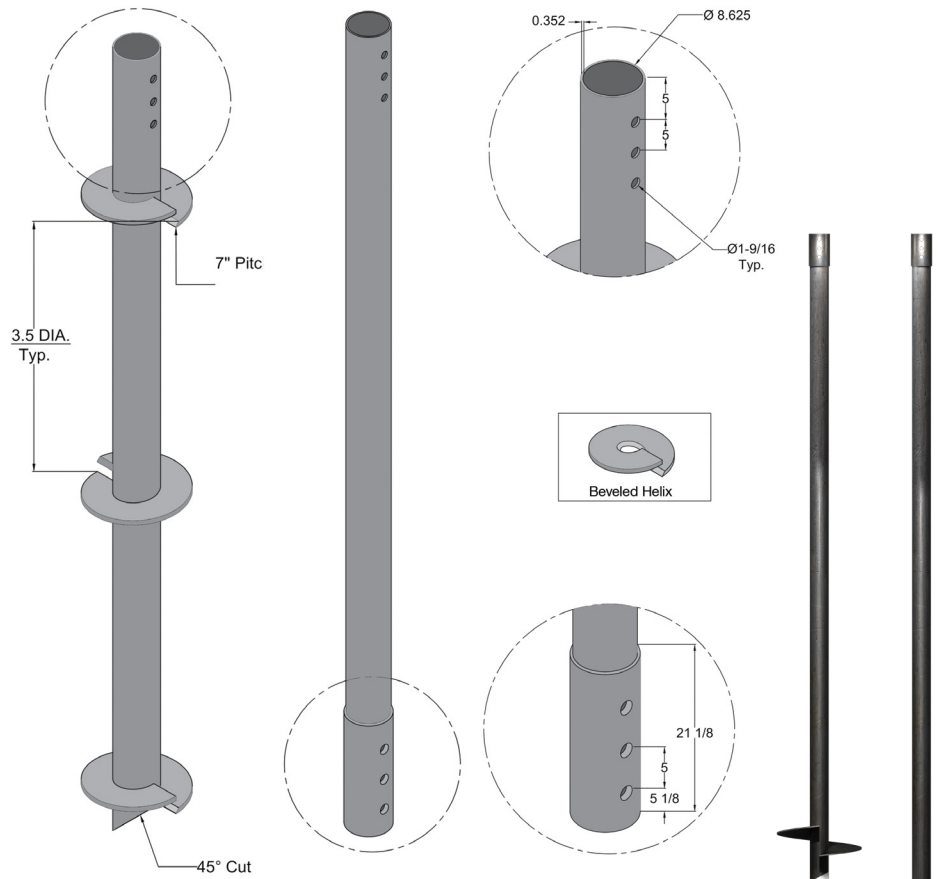
## APPLICATIONS

- Retaining Walls
- SOE Walls
- Geothermal
- Weak Soils

## CUSTOM PILE DESIGN

Everything on our bolted piles is customizable in order to best match your foundation design. Our flexible approach allows you to get the right pile to match your needs on the jobsite.

### DESIGN EXAMPLE





# ADVANTAGES



### RAPID INSTALLATION

Compatibility with common equipment makes mobilization and installation fast & economical.



### MORE LOCATIONS

Displacement piles are often used in remote locations & tight workspaces because they do not require heavy equipment.



### IMMEDIATE LOAD CAPABILITY

Eliminates the need for excess pore water pressures to dissipate or grout to harden.



### LOWER NOISE LEVELS

Installations are quiet and produce minimal vibrations, making them ideal for projects in urban and sensitive areas.



### MINIMAL SITE DISTURBANCE

Typical displacement pile installation produces no soil cuttings. The job site is often cleaner and more optimized.

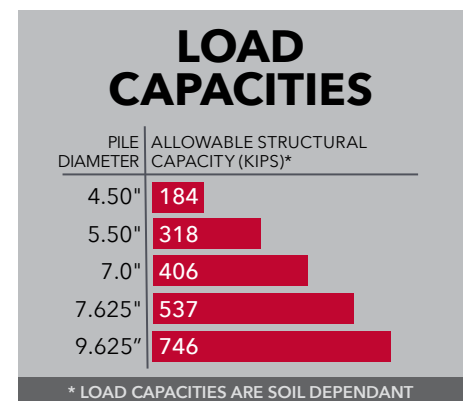


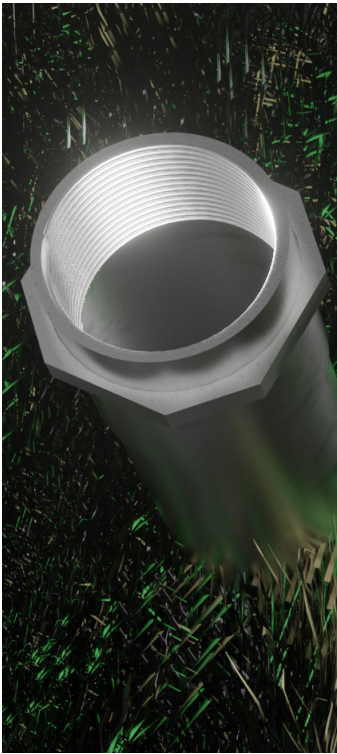
### ENVIRONMENTALLY FRIENDLY

These piles have minimal effect on the terrain, environment, and wildlife, making them a green foundation option.

<p><b>PILE SHAFT</b></p>	<b>DIAMETER:</b>	4.50", 5.50", 7", 7.625", 8.625", and up to 24"
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	<b>HOLE DIAMETER:</b>	Custom sizes available
	<b>HOLE PLACEMENT:</b>	Custom positions as needed

## TECHNICAL DETAILS





# THREADED **DISPLACEMENT PILES**

The MPS Excalibur threaded displacement piles are designed for speed and efficiency and are fabricated with high strength steel to support the greatest loads. By eliminating coupling hardware you can maximize your labor hours and stop the unnecessary handling of hardware. The pile designs are fully customizable, from the length and wall thickness, to the driver plate quantity and diameter.

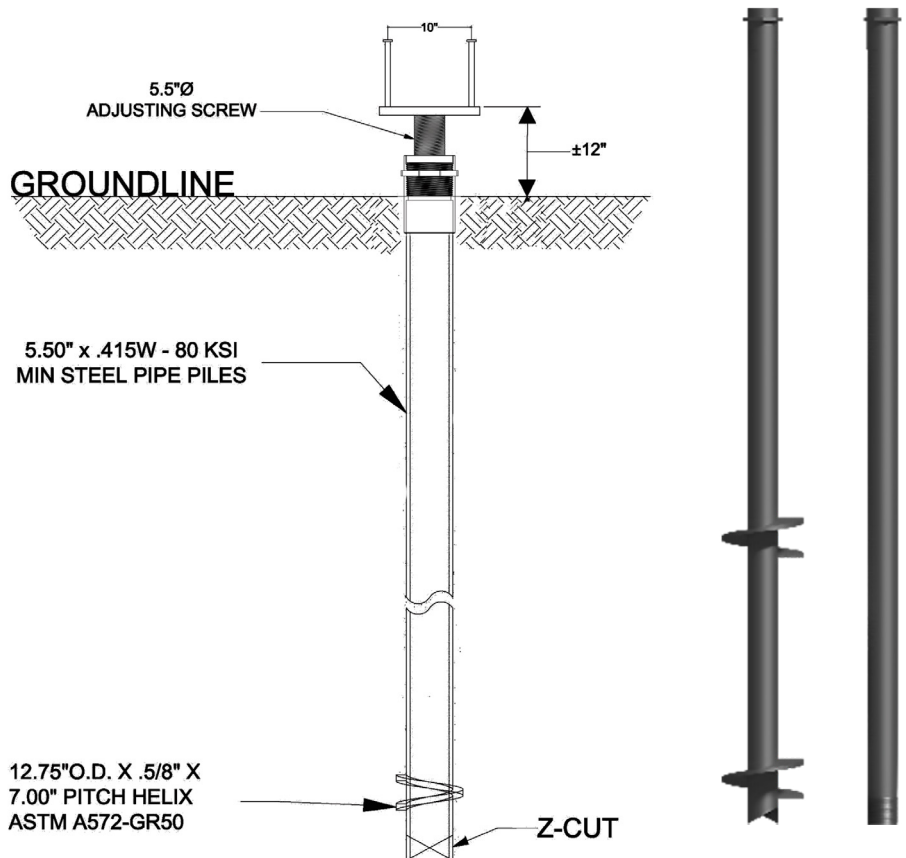
## APPLICATIONS

- Retaining Walls
- SOE Walls
- Geothermal
- Weak Soils

## CUSTOM PILE DESIGN

Everything on our threaded piles is customizable in order to best match your foundation design. Our flexible approach allows you to get the right pile to match your needs on the jobsite.

### DESIGN EXAMPLE WITH PILE CAP





# ADVANTAGES



### RAPID INSTALLATION

Compatibility with common equipment makes mobilization and installation fast & economical.



### IMMEDIATE LOAD CAPABILITY

Eliminates the need for excess pore water pressures to dissipate or grout to harden.



### GREATER COUPLING STRENGTH

A locking tapered thread design between pile sections provides couplers with superior strength.



### MORE LOCATIONS

Displacement piles are often used in remote locations & tight workspaces because they do not require heavy equipment.





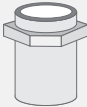
### LOWER NOISE LEVELS

Installations are quiet and produce minimal vibrations, making them ideal for projects in urban and sensitive areas.

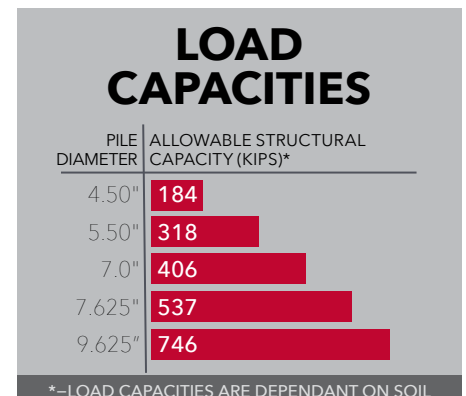


### ENVIRONMENTALLY FRIENDLY

These piles have minimal effect on the terrain, environment, and wildlife, making them a green foundation option.

 <b>PILE SHAFT</b>	<b>DIAMETER:</b>	4.50", 5.50", 7", 7.625", 8.625", and up to 24"
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	<b>THREADS:</b>	Threaded Tapered Pin & Box

## TECHNICAL DETAILS





# GROUTED OR NON-GROUTED **BUCKET** HELICAL PILES

Bucket piles utilize an enlarged steel casing to provide a tremendous increase in lateral and moment capacities. This product can greatly increase the lifespan of direct bury wooden poles by acting as a buffer between them and aggressive soils. The pile designs are fully customizable, from the length and wall thickness, to the lead section and bucket diameters. Grout can also be utilized in the pile design to further increase the axial and lateral capacities.

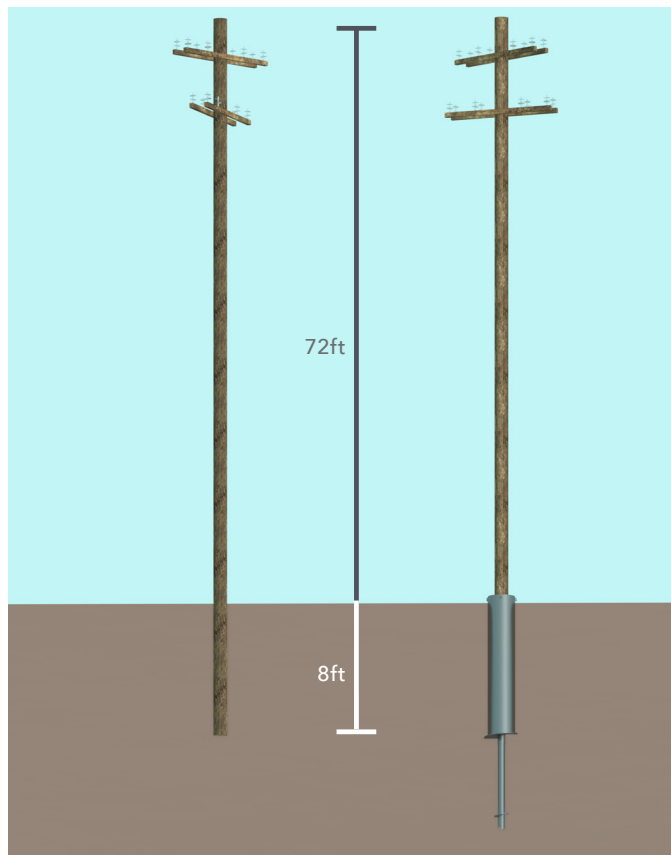
## **CUSTOM PILE DESIGN**

Everything on our bucket piles is customizable in order to best match your foundation project design. Our flexible approach allows you to get the right pile to match your equipment and product specific needs on the jobsite.

### **KEY FEATURES**

- Extends life-span of powerlines & utility poles
- Dramatically increases lateral capacity of deep foundations
- Keep utilities running more reliably by allowing simpler installation

### **LOG POLE VS LOG POLE IN BUCKET PILE**





# ADVANTAGES & APPLICATIONS



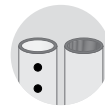
### GREATER LOAD SUPPORT

Pressure grouted piles can have significantly greater maximum load capacities than non-grouted piles.



### MORE LOCATIONS

By utilizing grout, this allows more consistent load capabilities in a variety of soil conditions.



### BOLTED OR THREADED

Bucket piles can utilize bolted or threaded connecting couplers to fit your application.



### LOWER NOISE LEVELS

Installations are quiet and produce minimal vibrations, making them ideal for projects in urban and sensitive areas.



### SIMPLER INSTALL

MPS offers adapters to pressure grout while installing to reduce install steps.

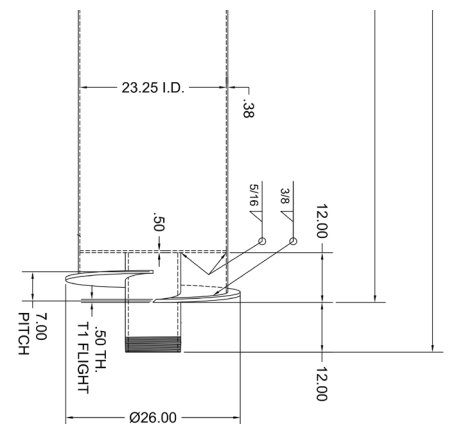


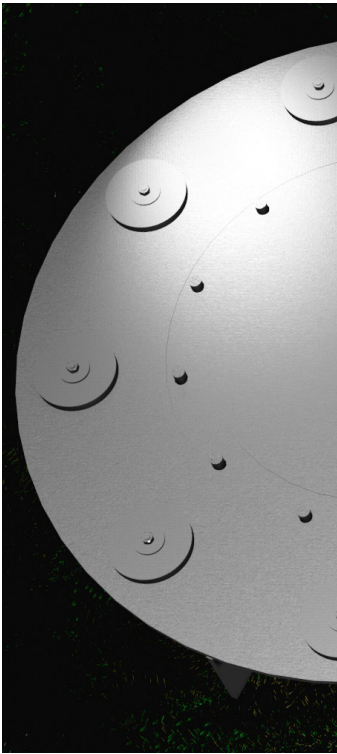
### ENVIRONMENTALLY FRIENDLY

These piles have minimal effect on the terrain, environment, and wildlife, making them a green foundation option.

	<b>PILE SHAFT</b>	<b>DIAMETER:</b>	4.50" – 24"
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		<b>PITCH:</b>	4" – 21"
		<b>THICKNESS:</b>	1/2", 5/8", 3/4", 1"
	<b>PILE BUCKET</b>	<b>DIAMETER:</b>	18" to 60"
		<b>COUPLER:</b>	Threaded and bolted coupler options
		<b>INSTALL METHOD:</b>	Using our Bucket Pile install adapter, common drive heads can install our Bucket Piles

## TECHNICAL DETAILS





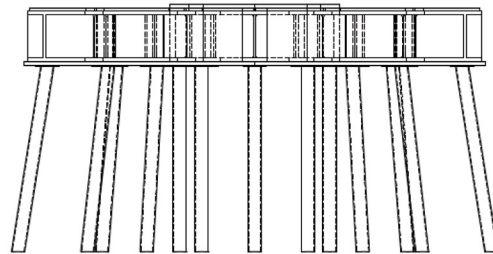
# DRILLED-SHAFT ALTERNATIVE **COMPOSITE** **PILE FOUNDATIONS**

Composite pile configurations were designed to provide an alternative means to drilled shafts used in the transmission and distribution industries. Size ranges for these foundation systems run from 6 to 16 feet in diameter and incorporate solid steel construction. These caps cover moment loads from 830 to 18,438 ft-kip. For larger sizes of the composite foundation, we incorporate pile groupings and a concrete cap structure to cover moment loads from 19,000 to 30,000 ft-kip. The foundation's construction allows for seamless installation of individual piles instead of trying to establish a single large-diameter drilled shaft. This system's main benefits are encompassed around a weldless cap assembly that incorporates threading to post-tension the pile cap to the piling foundation.

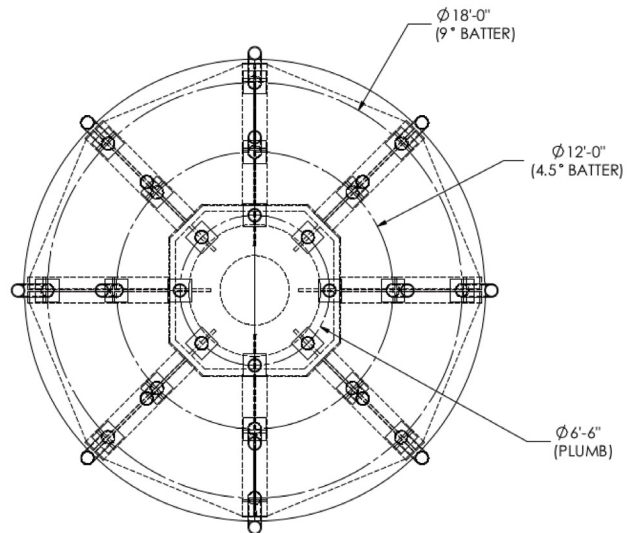
## **CUSTOM PILE DESIGN**

Everything on our Composite Pile Foundations are customizable in order to best match your foundation project design. Our flexible approach allows you to get the right foundation design to match your installation equipment on the jobsite, so you can use the tools you trust to get the results you need.

## **COMPOSITE PILE TECHNICAL DRAWING**



PILE SIZE = 7.00 X .432 WALL  
PILE MAT'L: L80  
TOTAL PILES: 24





# ADVANTAGES & APPLICATIONS



### GREATER LOAD SUPPORT

Pressure grouted piles have significantly greater maximum load capacities than non-grouted piles.



### MORE LOCATIONS

By utilizing grout allows for more consistent load capabilities in a variety of soil conditions.



### LESS LABOR

Composite piles simplify process involvement to establish each foundation, reducing the required labor.



### SIMPLER INSTALL

MPS offers adapters to pressure grout while installing to reduce install steps.



### LIMITED ACCESS FRIENDLY

Works well in tight work areas or areas with overhead restrictions. No need for large-diameter piling equipment.



### ENVIRONMENTALLY FRIENDLY

These piles have minimal effect on the terrain, environment, and wildlife, making them a green foundation option.

## TECHNICAL DETAILS



### ALLOWABLE MOMENT

6FT CAP	4 PILES	1,580 FT-KIP
7FT CAP	6 PILES	2,521 FT-KIP
8FT CAP	6 PILES	5,025 FT-KIP
8.8FT CAP	7 PILES	5,025 FT-KIP
10FT CAP	8 PILES	7,960 FT-KIP
12FT CAP	10 PILES	12,863 FT-KIP
14FT CAP	12 PILES	17,083 FT-KIP
16FT CAP	14 PILES	17,083 FT-KIP



# TRADITIONAL AND ADJUSTABLE **PILE CAPS** **BARE OR STUDDED**

MPS's Pile Caps are easy to install by hand, taking little time and effort. These pile caps can be customized to accommodate any modifications to suit the needs of engineers or project requirements. This guarantees you will receive a complete deep foundation solution that is tailored to your unique specifications.

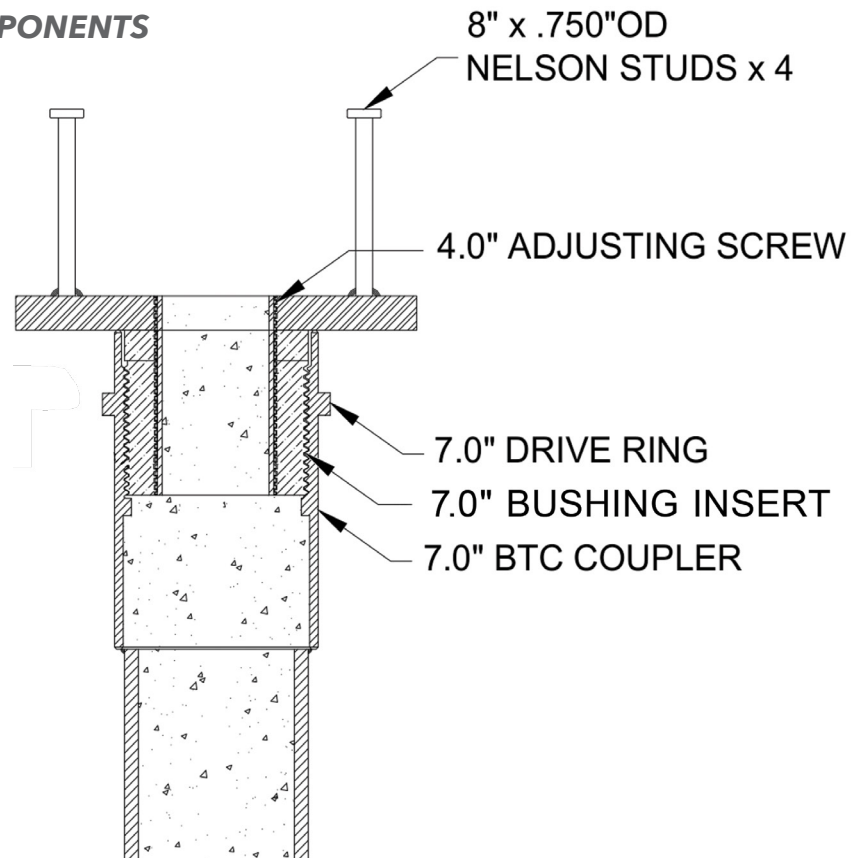
## **CUSTOM PILE DESIGN**

Our Nelson Stud Pile Caps finish off our piles. Using either a bolted or threaded coupler.

### **KEY FEATURES**

- *Easy to level*
- *Maintains full load potential of the pile*
- *Threaded caps screw directly into threaded piles*
- *True weldless approach*
- *Can be installed without heavy equipment*
- *No on-site surveyors required*
- *Small ground crews*
- *Locking screw on threaded cap ensures tight finish*

### **THREADED ADJUSTABLE CAP COMPONENTS**





# ADVANTAGES

Nelson Stud Pile Caps are easy to install by hand, taking little time and effort. As with all our products, MPS pile caps can be customized to accommodate any modifications to suit the needs of engineers or project designers, so you are guaranteed to have a complete deep foundation solution that is tailored to your unique specifications.



**PRECISION  
MANUFACTURED**

*HIGH QUALITY STEEL*



**CUSTOM DESIGNS**

*MADE FOR YOUR PROJECTS SPECIFIC NEEDS*

# PILE CAPACITIES

## EXCALIBUR DISPLACEMENT PILES

PIPE OD (IN)	WALL THICKNESS (IN)	WEIGHT PER LINEAR FOOT (LBS)	ULTIMATE AXIAL CAPACITY (KIPS)	ULTIMATE INSTALLATION TORQUE (FT-LBS)	ESTIMATED KT (FT <sup>-1</sup> )
4.5	0.290	13.5	184	35,000	6
5.5	0.415	23	318	65,000	5
7	0.408	29	406	122,000	4
7.625	0.500	38	537	150,000	3.9
9.625	0.545	54	746	250,000	3.1

80 ksi yield strength steel

Estimated axial capacity in field = Installation torque x KT

## EXCALIBUR PRESSURE GROUTED DISPLACEMENT PILES

PIPE OD (IN)	WALL THICKNESS (IN)	WEIGHT PER LINEAR FOOT (LBS)	ULTIMATE INSTALLATION TORQUE (FT-LBS)	GROUT COLUMN DIAMETER (IN)	ESTIMATED GROUT TAKE (YD <sup>3</sup> PER FT)	ULTIMATE COMPRESSION CAPACITY (KIPS)	ULTIMATE TENSION CAPACITY (KIPS)
4.5	0.290	13.5	35,000	16	0.05	428	169
5.5	0.415	23	65,000	18	0.07	607	292
7	0.408	29	122,000	20	0.08	764	372
7.625	0.500	38	150,000	22	0.1	958	492
9.625	0.545	54	250,000	24	0.11	1,230	684

80 ksi yield strength steel

5 ksi grout

Grout column diameters can be increased or decreased as needed

# Who We Are

We are "Connecting People for Good" by manufacturing and supplying products for electric utility, communication and civil infrastructure.

MacLean Power Systems operates out of nine total manufacturing facilities worldwide. We are a division of

MacLean-Fogg which is a global enterprise with

- 26 global manufacturing facilities and a worldwide workforce of more than 3,500 people.

Founded in 1925 MPS has a long history of supporting our customers with Engineering, Manufacturing and Customer Support. In North America, MPS serves both U.S. and Canadian customers with anchoring and piling products in the electric utility and civil construction markets. Working with our National Distribution Network we supply the largest range of anchoring products in our industries.

## Industries Served



Power Utility



Civil Construction



Communications



Infrastructure



Also, visit [MacLeanPower.com](http://MacLeanPower.com)  
or scan code for more  
product information.

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