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Our clients include owners of commercial and industrial facilities, engineering consultants, contractors, and public agencies. Among them are the following:

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Aetna Insurance Company  
Alyeska Pipeline Service Co.  
American Airlines  
Ameron Concrete & Steel Pipes  
S.J. Amoroso Construction  
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Ball, Ball and Brosamer, Inc.  
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Bethlehem Steel Corporation  
Blackhawk Corporation  
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Calif. Water Service Co.  
CalTrans  
Carnation Milk Company  
Chevron U.S.A., Inc.  
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Contra Costa Water District  
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Dillingham Construction Co.  
Dinwiddie Construction Co.  
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Dow Chemical Company  
East Bay Municipal Utilities Dist.  
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Foremost Foods  
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The Home Depot  
IBM Corporation  
Intel Corporation  
Irvine Land Management Co.  
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Kaufman & Broad  
Kiewit Pacific Company  
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Sebastopol School District  
Lockheed Missiles & Space Co.  
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MCM Construction Co.  
Modern Continental  
Morrison-Knudsen Co.  
Nevada Highway Dept.  
Nordic Industries  
Novato Hospital  
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Pacific Gas and Electric Co.  
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PK Contractors, Inc.  
Plant Construction  
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Riverside Cement Co.  
Rudolf & Sletten, Inc.  
San Francisco Int'l Airport  
Santa Cruz Metropolitan Transit  
Shell Oil Company  
Shimmick Construction Co., Inc.  
Standard Pacific Homes  
Swinerton & Walberg  
Tico Construction  
Trans World Airlines  
USS Posco  
U.S. Army Corps of Engineers  
U.S. Coast Guard  
U.S. Navy  
Alameda N.A.S.  
Mare Island  
Moffett Field  
Pearl Harbor  
Port Hueneme  
U.S. Steel Corporation  
Underground Construction Co.  
United Airlines  
Unocal  
Vadnais Corp.  
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Washoe County, Nevada  
West Coast Contractors, Inc.  
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Brown and Caldwell  
CH2M Hill  
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Earth Mechanics Inc.  
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Haro, Kasunich & Associates  
Harza  
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Krazan & Associates Inc.  
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PRA Group  
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Wahler Associates  
Western Technologies  
Woodward-Clyde Consultants



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*Steel piles with large diameter grout footings*

For

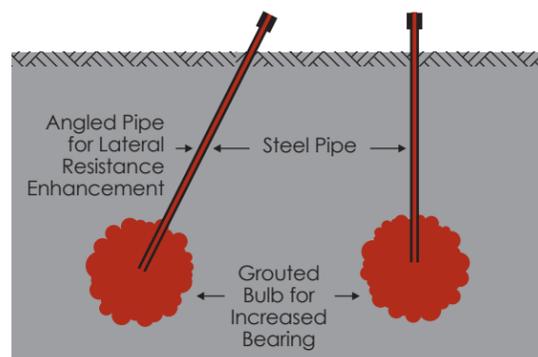
- ▲ Increasing load-bearing capacity
  - ▲ Transferring loads to competent lower strata
  - ▲ Eliminating or reducing settlements
  - ▲ Mitigating soil liquefaction
  - ▲ Increasing pull-out resistance
  - ▲ Improving shaft friction
- and for
- ▲ Angled (raked) piles with high lateral resistance
  - ▲ Pile groups with high concentrated loads



*The*  
**PRESSURE GROUT COMPANY**

**PressGrout Piles™** are steel piles with a grout footing (bulb) at the bottom of the pile to increase load-bearing capacity, as illustrated in Figure 1.

Either driving or drilling may be used for the installation of grouted piles, depending on soil conditions, site accessibility, and load-carrying requirements. The installation of these piles does not require large machinery or equipment at the site itself, since grouting equipment can be parked at



**THE BASIC PRESSGROUT PILE™**

Figure 1

### The Basic Pile

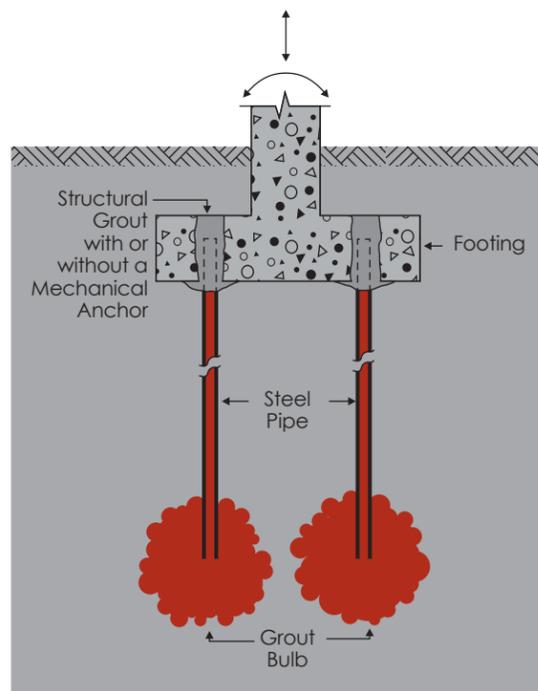
For grouted pile installations, a steel pipe is first installed in position, then a predetermined amount of grout is injected to create a footing at the bottom of the pile. This grout footing has two main purposes: To compact the soils around the tip of the pile, and to act as a footing for the pile. Generally, a grouted pile consists of a small diameter pipe (nominal 2 to 4 inches) with a single bulb at the bottom, although other pile diameters and grout configurations are

### Applications

PressGrout Piles™ are superior to comparable size piles for a number of reasons: First, they have a footing at the bottom of the pile for higher loadbearing capacity. Second, they can be angled for higher lateral resistance. Third, they can be installed with minimal access or headroom. And fourth, they can be installed where there is a hard layer of soil, which overlays softer deposits.

PressGrout Piles™ are useful and cost effective in applications for new construction or existing structures, such as

- ▲ Residential or commercial structures on improperly filled ground
- ▲ Structures requiring improved seismic or wind resistance
- ▲ Structures with low concentrated loads or loads distributed over large areas underlain by very soft soils
- ▲ Structures where it is necessary to eliminate machinery vibrations
- ▲ Structures requiring a high pull-out resistance to reduce overturning moments, for example tie downs or tie backs, as shown in Figure 2
- ▲ Slabs supporting heavy machinery on poor bearing strata
- ▲ Inaccessible sites where the use of heavy equipment is not possible
- ▲ Sites where there are restrictions on vibration or noise
- ▲ Sites where it is necessary to transfer loads vertically or laterally to more favorable lower strata



**PRESSGROUT PILES™ WITH HIGH PULL-OUT RESISTANCE**

Figure 2

### Raked Piles

PressGrout Piles™ can be installed at any angle to maximize load-carrying components. These piles have a particular advantage for structures that require a high component of lateral resistance because of seismic, wind, or hydrostatic soil/water loading, as shown in Figures 1 and 3.

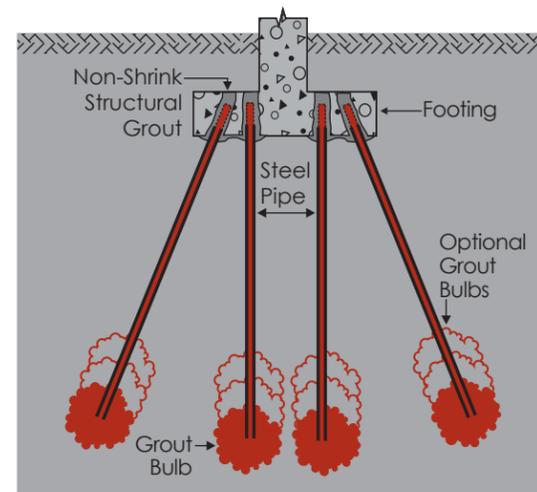


Figure 3

### Pile Groups

Pile groups or clusters are used for high concentrated loads. Some of the piles can be vertical, while others can be angled. Figure 3 illustrates a typical configuration of a pile group.

### Piles With Increased Shaft Friction

Although PressGrout Piles™ are largely bearing piles, shaft friction contributes to the pile capacity. In the absence of a competent-bearing layer, the shaft (skin) friction plays a major role in pile carrying capacity; hence, an increase in the friction force can be important.

Unlike conventional piles, friction capacity, can be greatly improved by using multiple grout bulbs along the shaft, as illustrated in Figure 3.

### Materials and Equipment

Galvanized steel pipe is usually used for PressGrout Piles™, but in sites where corrosion is not a problem, black steel can be substituted for galvanized steel. A sand-cement mixture with water is used for the grout to produce a low slump, less than 2 inches (ASTM C-143). This grout is injected under pressure to displace the soil and form a bulb around the tip of the pipe.

### The Pressure Grout Company

Pressure Grout Company can provide solutions to your soil and groundwater problems. If your project requires a unique grouting method and develop effective field applications. Our ideas in geotechnical stabilization can make the difference.

We have extensive experience In all types of geotechnical grouting for site development, new construction, and the stabilization of existing structures. We work closely with owners, engineering firms, contractors, and public agencies throughout the United States. We

- ▲ Build, operate, and maintain our own equipment
- ▲ Have one of the few research and development laboratories for grout materials and mixes
- ▲ Have a staff that includes engineers with extensive knowledge and experience in soils engineering
- ▲ Are licensed contractors and members of the Associated General Contractors, and
- ▲ Have broad, in-depth grouting experience that extends over a period of more than 45

We know and understand your problems, and welcome your inquiries:

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