

WILDBOAR CONCRETE FREE FOOTING SYSTEM INSTALLATION GUIDE



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Purpose

This guide outlines the installation steps for a design incorporating the Wildboar Concrete Free Footing System (Wildboar System).

This guide is for competent builders. Where applicable, the installer must be able to meet all RBW provisions.

While all reasonable efforts are made to ensure the information's accuracy, please note that it is subject to change, and this should be considered a guide only.

The Wildboar System

The Wildboar System is a proprietary, engineered alternative to standard NZS 3604-type timber-pile footings and is designed to withstand applied loads associated with residential construction.

The Wildboar System is also suitable for ancillary buildings or structures such as playground equipment, shade structures, hoardings, fencing, posts for signs or street lighting, ground-mounted solar PV-panel racking systems and other construction where ground resistance is required.

Installation steps

The Wildboar system is specifically designed by Wildboar for each application. This means it will be designed according to the particular site soil conditions and structural design loads.

PRE-INSTALLATION

Health and safety

- › Wear appropriate safety equipment, clothing, footwear, ear and eye protection.
- › Use all tools in accordance with relevant instruction manuals and keep tools sharp.
- › Clear the work area of any obstruction before starting.
- › Ensure all services have been located prior to installing
- › When cutting or drilling, ensure adequate ventilation or mechanical dust extraction.
- › Ensure proper support when cutting and nailing.

Further information can be found in the following documents:

- › *Small Construction Sites, the Absolutely Essential Health and Safety Toolkit* by WorkSafe. Available for download from worksafe.govt.nz/topic-and-industry/building-and-construction/absolutely-essential-toolkit/.
- › *Health and Safety at Work, Quick Reference Guide* by WorkSafe. Available for download from worksafe.govt.nz/managing-health-and-safety/getting-started/health-and-safety-at-work-quick-reference-guide/.

Handling and storage

Take care when transporting, handling and storing the components to avoid damage.



Tools and equipment required.

Use all tools and equipment in accordance with good trade practice, supplier's instructions and Wildboar's requirements.

- › 14-18kg electric or petrol jackhammer for standard penetrable soils.
- › Jackhammer driver to suit 30 mm hex-shaft.
- › Generator/power leads
- › Electric grinder.
- › Impact driver.
- › Sledgehammer (minimum 5 kg).
- › Socket set for bolt range M20-M24.
- › Level, tape measure.
- › Cold galvanising, zinc rich touch up paint.

STEP 1 SET OUT SITE

Locate boundary pegs and confirm boundary lines.

Where survey pegs or the defined boundary cannot be established, a registered surveyor must be engaged to satisfy the siting and/or finished floor level (FFL).

Survey the site for depressions or standing water that may need to be dewatered or permanently drained.

Verify:

- › the location of services or any underground obstruction.
- › the position of existing structures, if applicable.

Establish set-out lines and ensure lines setting floor levels will meet the minimum ground clearances specified in the building consent documentation and/or the project plans.

Where the structure is close to a given boundary, erect a string line to obtain the structure's accurate location.

If required by the geotechnical engineer, confirm soil conditions before installation.

STEP 2: INSTALL FOOTINGS

- a) Confirm the structural engineer's pile design and specified componentry. Set out using a GPS or laser or manually with string lines for the pile placement and alignment with bearers and subfloor set-out.
- b) Set out the Wildboar footings in their correct position.
- c) Install the Wildboar MultiFix in the defined locations and layout grid.
- d) Protect the top surface of the Wildboar with a timber block. Tap with a sledgehammer to bed down and level into soil.
- e) Slide opposing piles through the guide tubes and drive with a sledgehammer to 200 – 300 mm to secure the plate.
- f) Drive each pile in increments using a jack hammer and check periodically with a level.
- g) Drive to designed pile embedment depth or refusal. If embedment depth is not meet refer to the engineer.

- h) Lock the plate in place using the jackhammer through the centre hole and drive down until the piles are tightly locked in.
- i) Install the self-drilling Tek screw through the pile guides, securing the pile to the pile sleeve.
- j) Paint exposed metal with cold galvanised zinc.



STEP 3: TROUBLESHOOTING

Obstructions

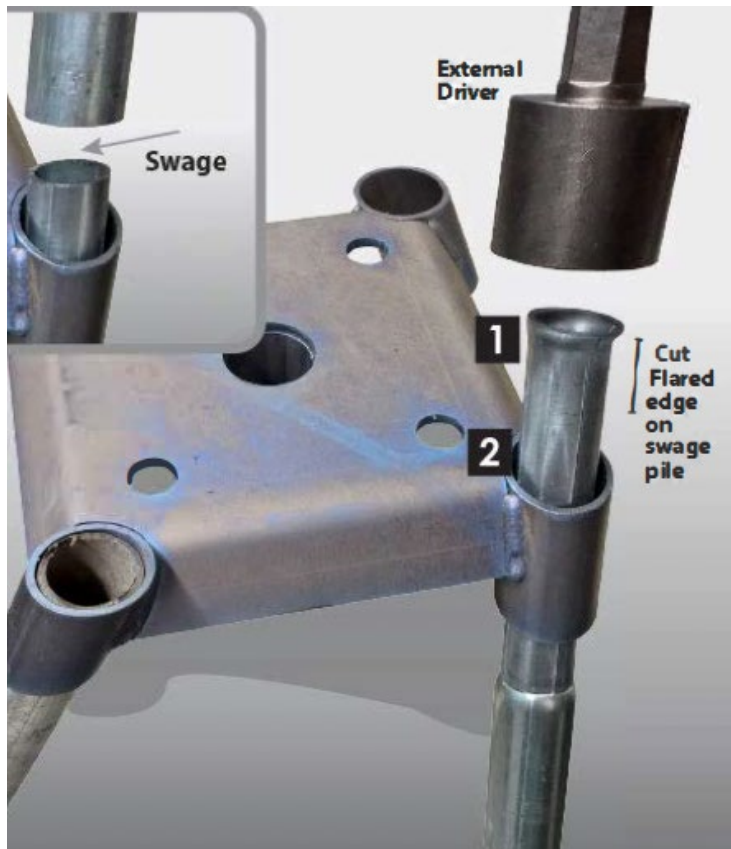
If a pile stops moving stop driving immediately.

Give the obstructed piles two firm hits with a sledgehammer if the pile bounce, further investigation is required. It maybe as simple as a tree root or and isolated rock, however if it is a service pipe, contact the Engineer as Wildboar have a number options that can be utilised to reconfigure the driven piles.

Limited access or limited resistance

Driven piles are estimated on a single long pile length. Where the pile is driven by an external driver it will result in a flared edge which will need to be cut off within 100 mm of the 100 mm of the plate.

Where access is limited and/or a second standard pile is required the piles can be jointed. The pile is cut to a swaged end cut and hammer down so that the jointed pile passes through the pile guide. Continue driving the swaged pile to the recommended pile embedment depth.



STEP 4: COMPLETE SITE DOCUMENTATION

During installation, photographs must be taken, and pile logs must be recorded as per the structural engineer's requirements. Complete a pile log for each footing and return to the Engineer once completed.

Variations to the building consent plans must be documented, and amended plans must be prepared subject to building consent authority requirements.

Complete the Producer Statement Construction (PS3).

Collate the installation documentation and forward it to the structural Engineer.

The engineer will review the documentation and Producer Statement Construction (PS3) and when satisfied will issue a Producer Statement Construction Review (PS4).

STEP 5: QUALITY CHECK

Confirm all relevant requirements are met, and documentation is complete.

Subject to contract scope, check the following:

- all subfloor connections, including but not limited to Wildboar pile-to-bearer connections, post connections and connections to all structural supports.
- protective coating to any chipped or damaged galvanising coatings.