The background features a light gray grid pattern. On the left and right sides, there are stylized line-art trees. In the center, the text 'Steel vs Concrete' is prominently displayed. Below the main title, the 'BLADE PILE' logo is shown, with a small pile icon under the letter 'I'. At the bottom of the page, there is an orange bar containing text about Australian Standards Engineering Certification, and a list of standards below it.

Steel vs Concrete

BLADE PILE

Site Specific Pile Designs - For Australian Standards Engineering Certification

AS2159 2009 - AS2870 2011 - AS4100 1998 - AS1163 2009 - AS1170.0 2002 - AS1170.1 2002

The Blade Pile

“A superior screw pile”

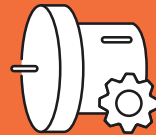
Residential & commercial projects



The best **alternative** to concrete piers, driven piles or grout piles. 



Rapid & precise installation.



Measure soil strength during installation.



Superior capacity when compared to bored piers or screw piles.



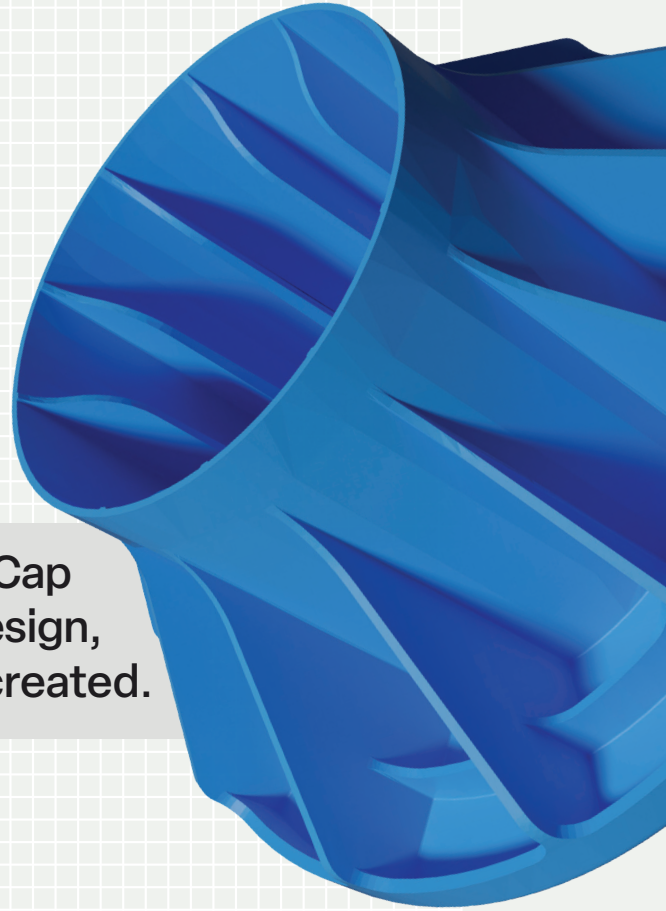
Fully compliant to Australian standards, AS2159-2009 & AS2870-2011.



Removable, reusable or recyclable. No site/environmental damage after design life.

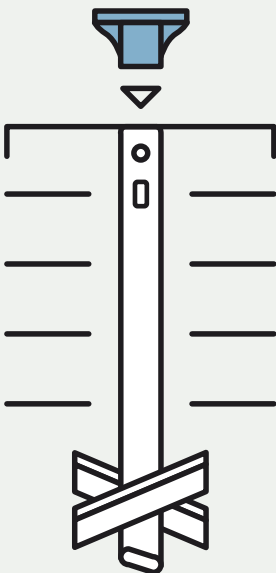
The Slip Joint Pile Cap

Isolated 'Bored Pier' substitute.

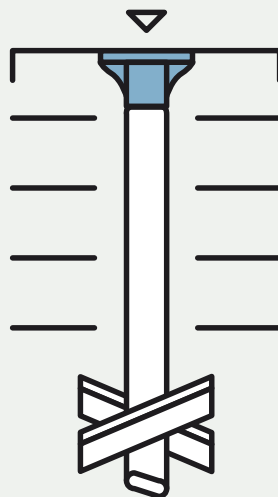


Combining the Slip Joint Pile Cap & Blade Pile with a raft slab design, the 'Pile Cap Slab System' is created.

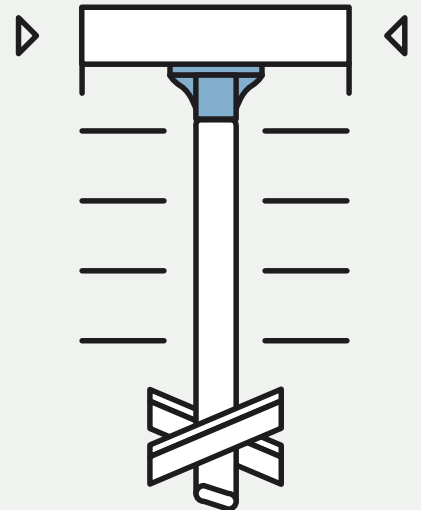
1.



2.



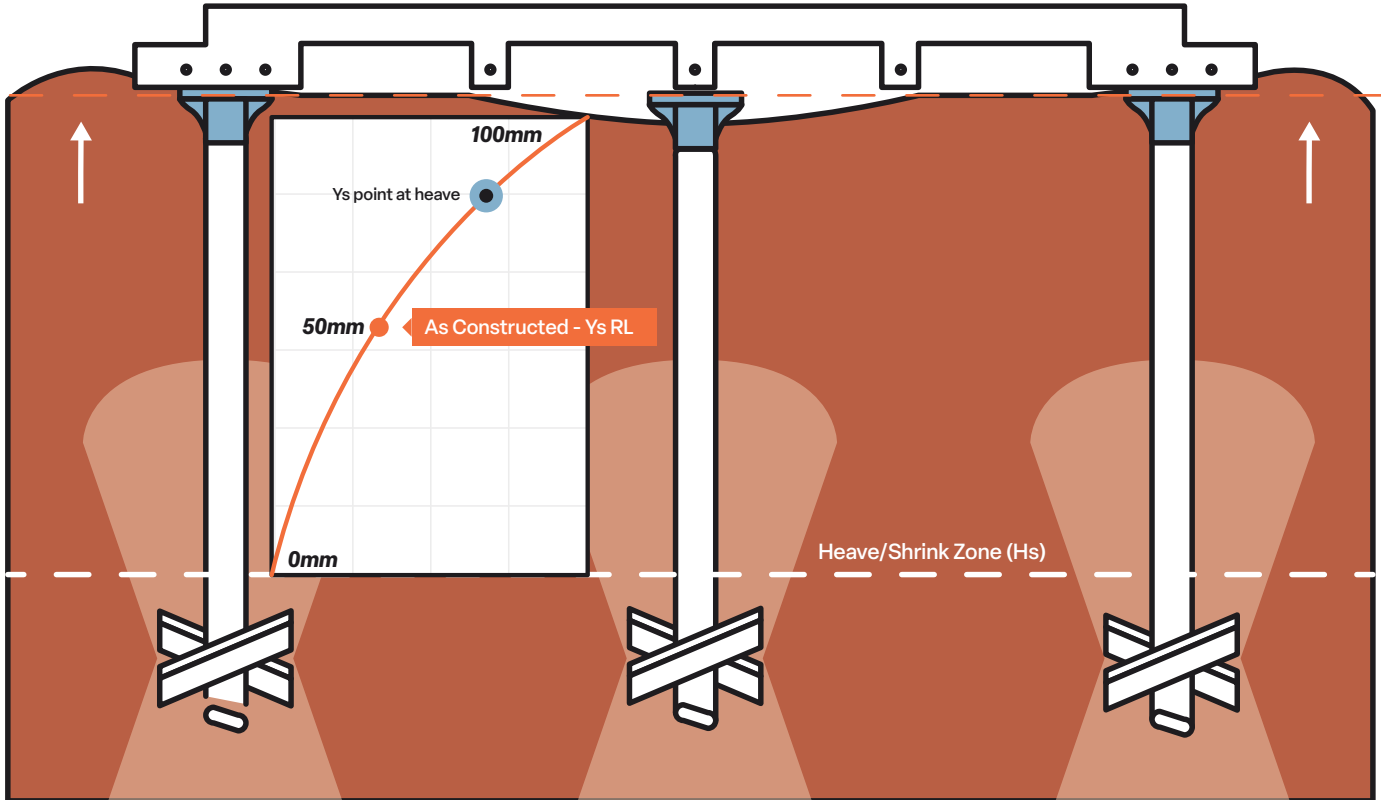
3.



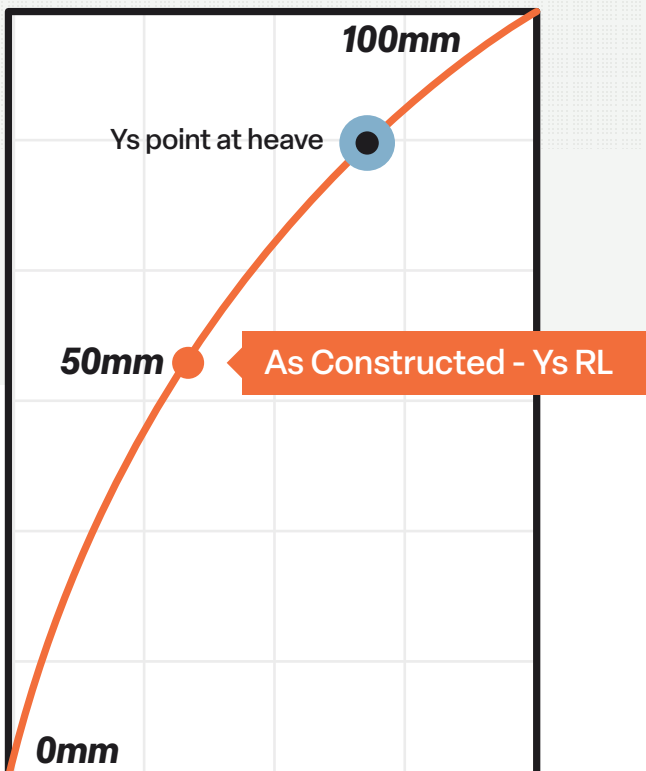
Pile Cap Slab System

Raft Slab, Blade Piles & Slip Joint Cap

Heaving Clay



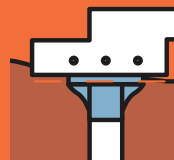
Key Notes



Blades Piles maintain 'as constructed' RL during periods of clay heave.



Pile Caps keep slab level by sliding with movement of soil.

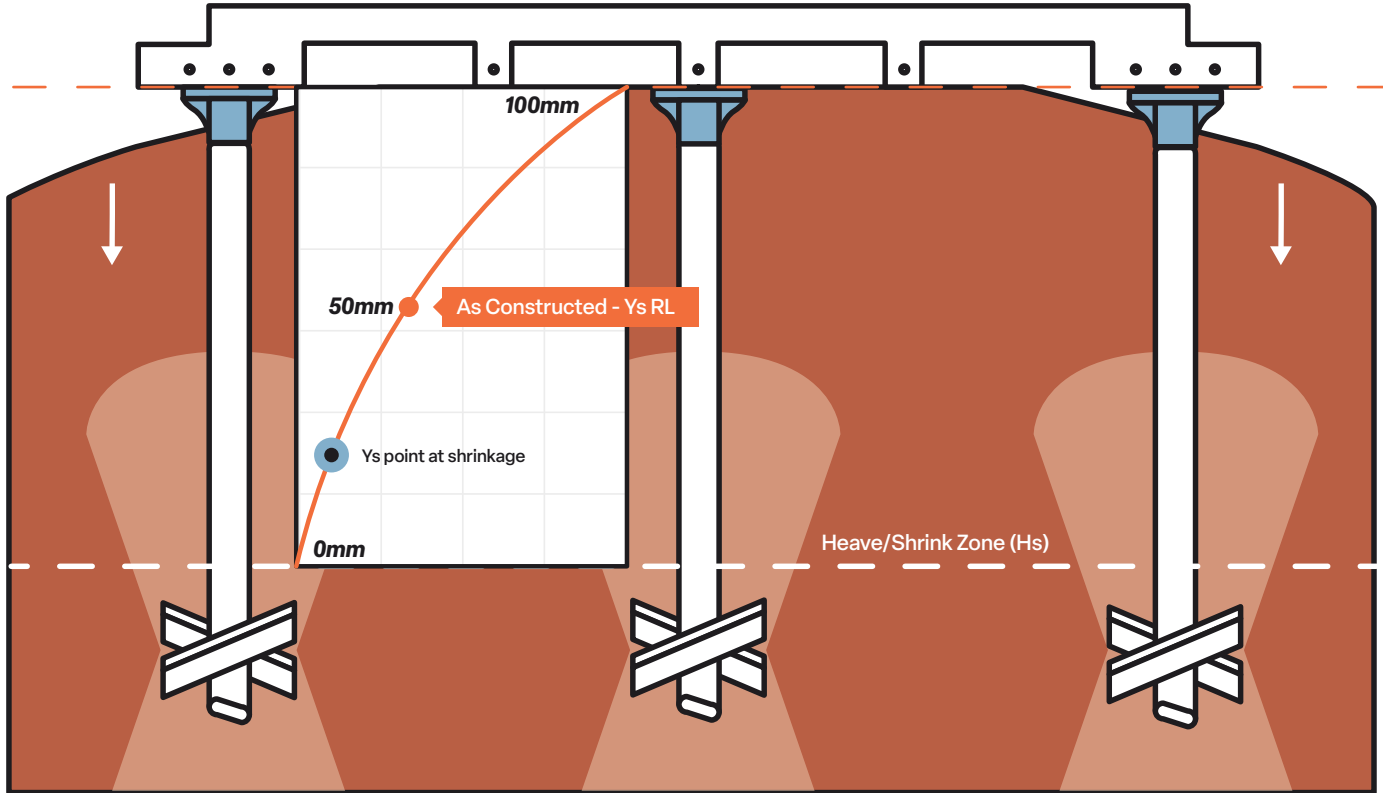


Slab remains connected to Pile Cap System to maintain level foundations.

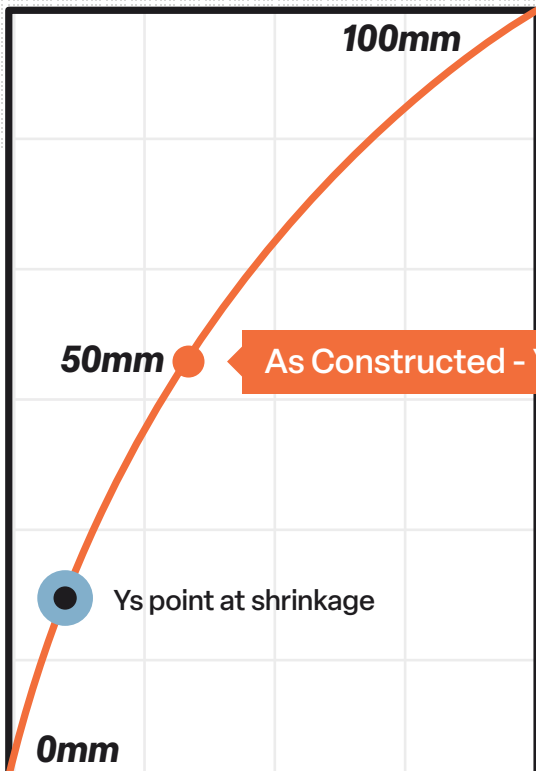
Pile Cap Slab System


Raft Slab, Blade Piles & Slip Joint Cap


Shrinking Clay




Key Notes



- 

Blade Piles suspend slab and maintain 'as constructed' RL during soil shrinkage.
- 

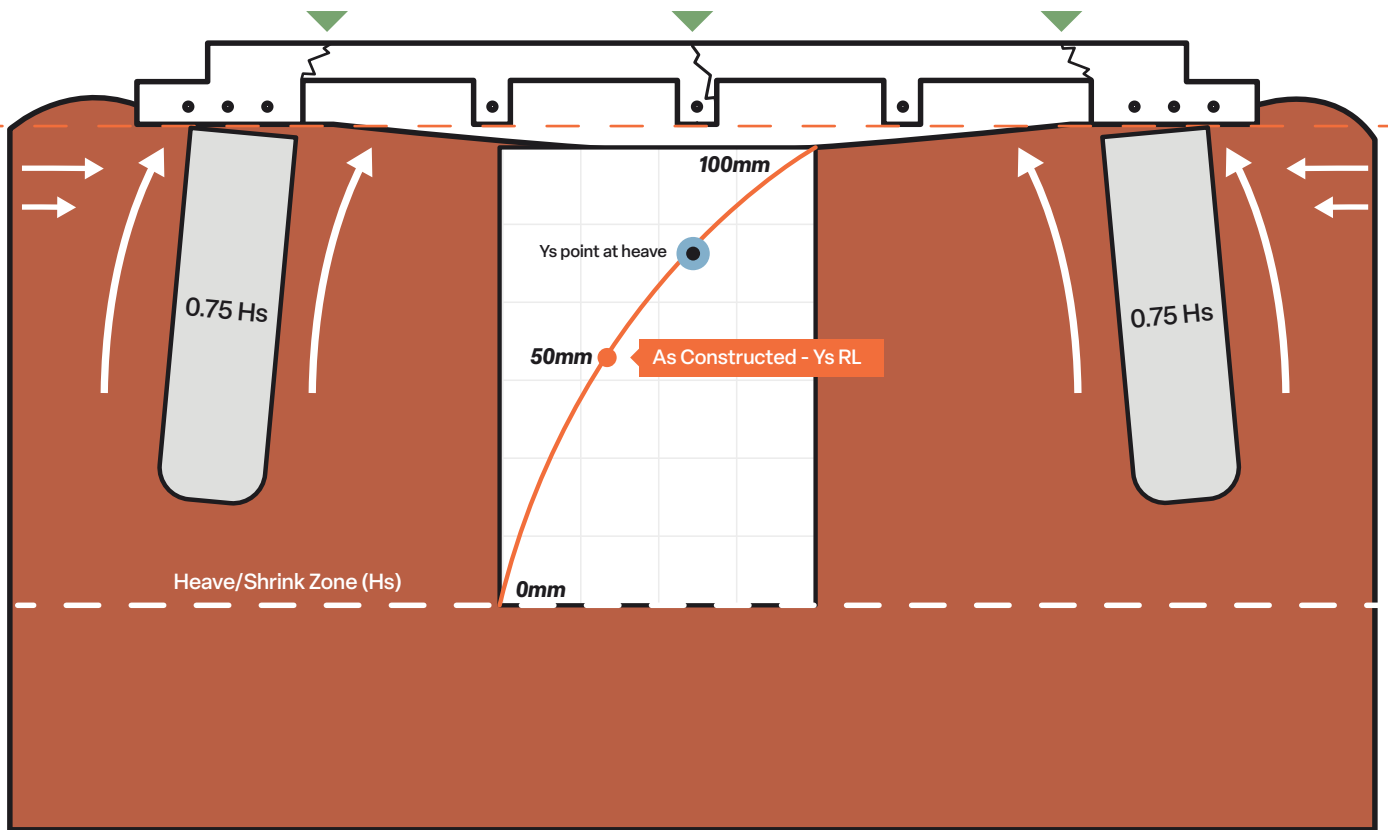
Pile Caps keep slab level by sliding with movement of soil.
- 

Slab remains connected to 'Pile Cap System' to maintain level foundations.

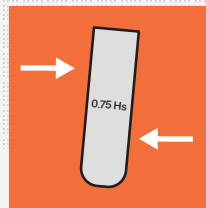
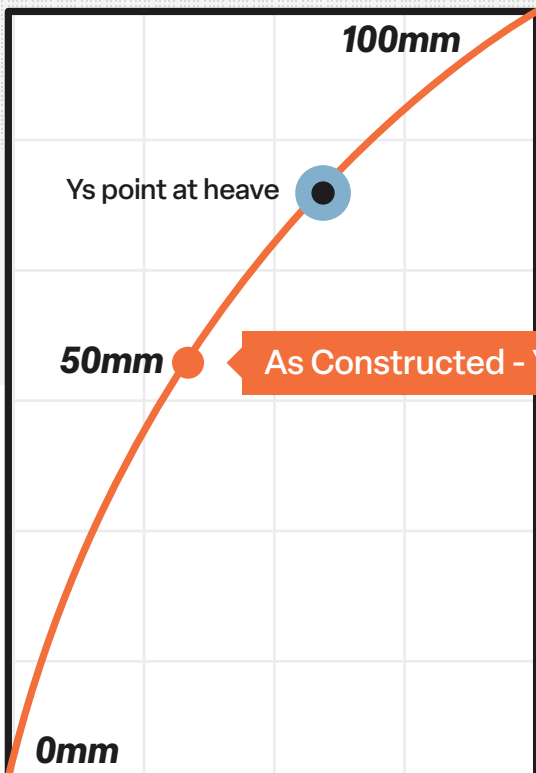
'0.75' Bored Piers in Heaving Clay Soil

'In friction' pushed up & rotated inward by clay

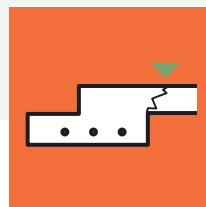
Heaving Clay



Key Notes



Bored piers are engaged in friction within the reactive clay zone, forcing the pier to follow the same path & level of heave movement.



Slab begins to show signs of cracking and becomes unstable due to heaving clay soil.

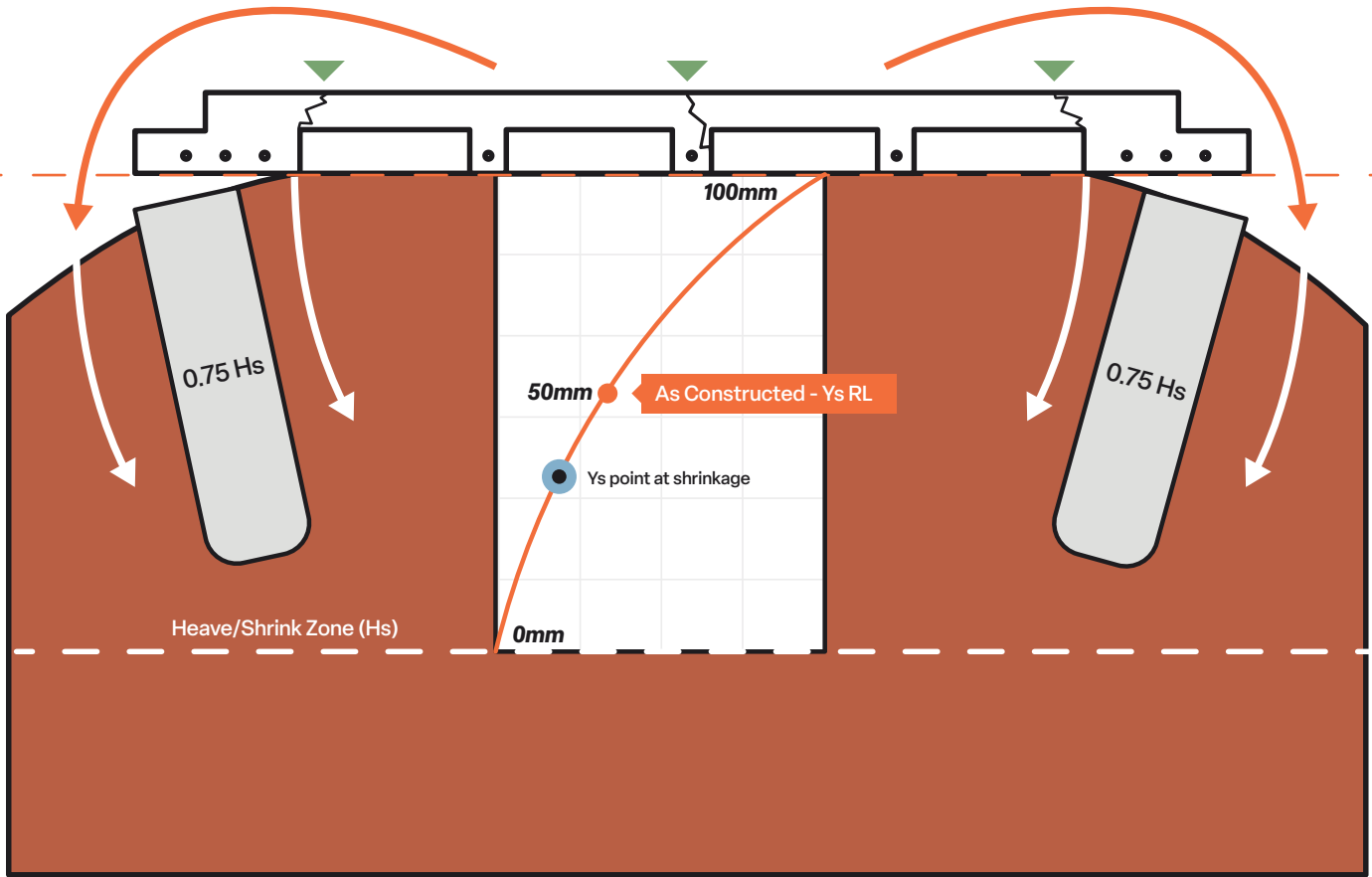


Concrete bored pier breaks away from slab creating an uneven surface.

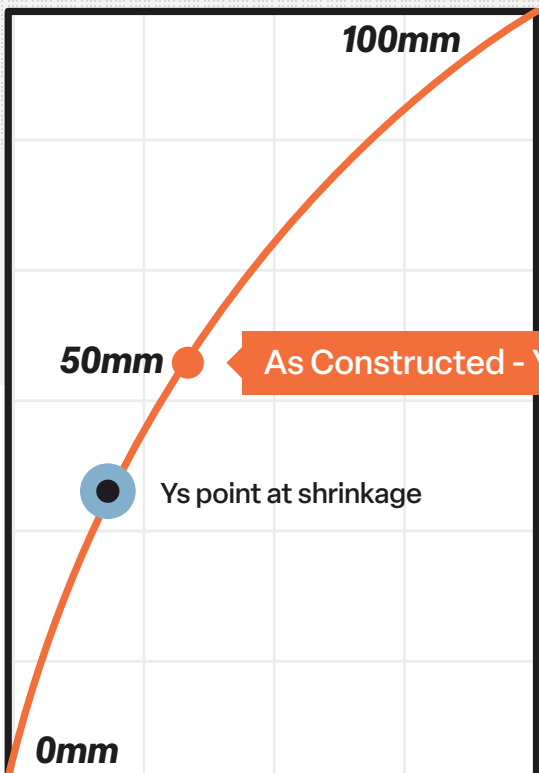
'0.75' Bored Piers in Shrinking Clay Soil

Shrinking Clay

'In friction' pulled down & rotated outward by clay



Key Notes



Bored piers are engaged in friction within the reactive clay zone, forcing the pier to follow the same path & level of shrink movement.

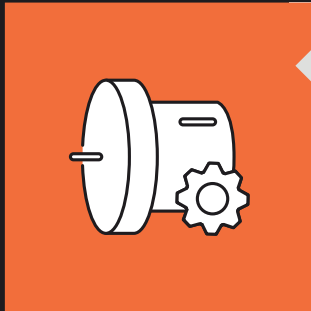
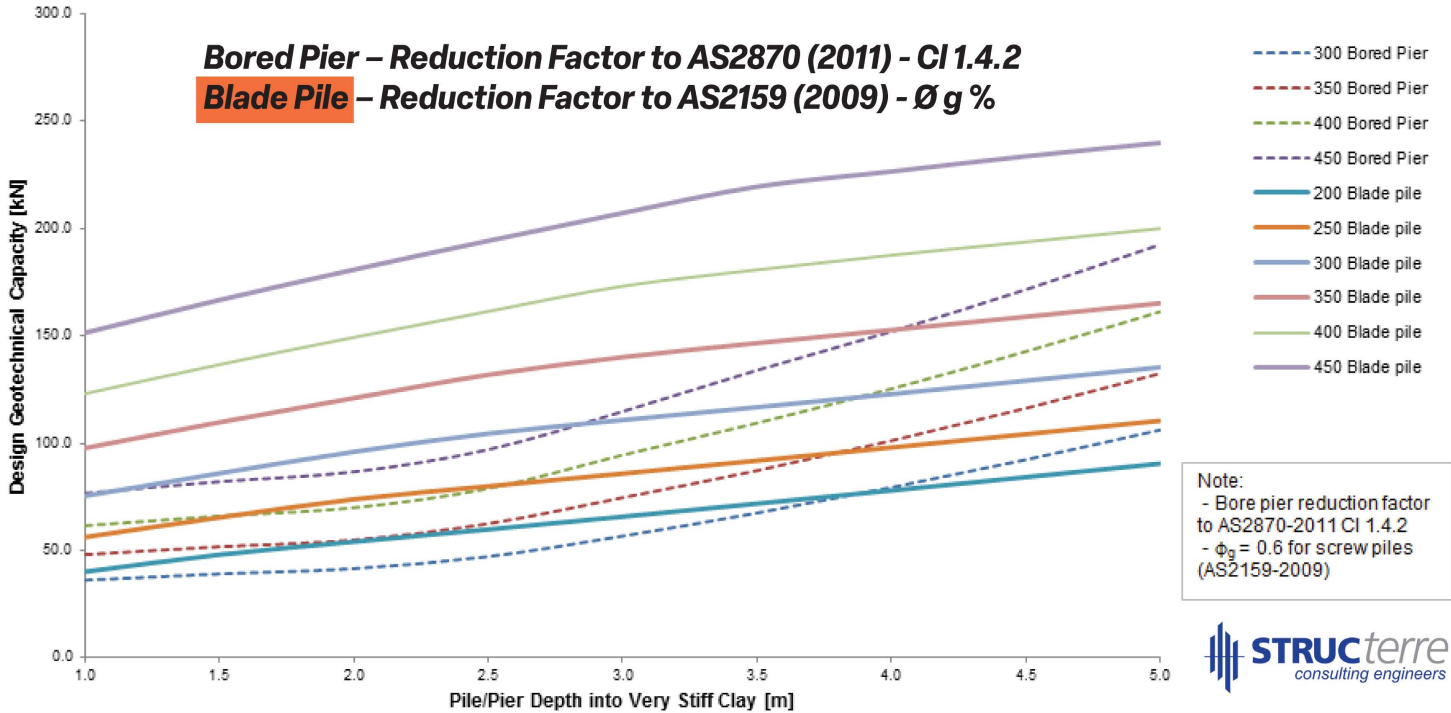
Slab begins to show signs of cracking and becomes unstable due to shrinking clay Soil.

Pier support loss to slab during shrinkage, leads to 'Hogging'.

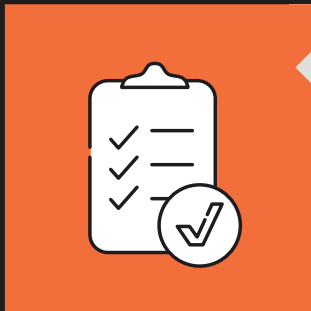
Bored Pier vs. Blade Pile & Pile Cap

Blade Piles offer a superior alternative to concrete

Bored Pier vs Blade Pile in Homogeneous Very Stiff Clay (Hs = 3.0m and Cu = 200kPa)



The Blade Pile outperforms the standard bored pier in our geotechnical capacity report in almost all sizes.



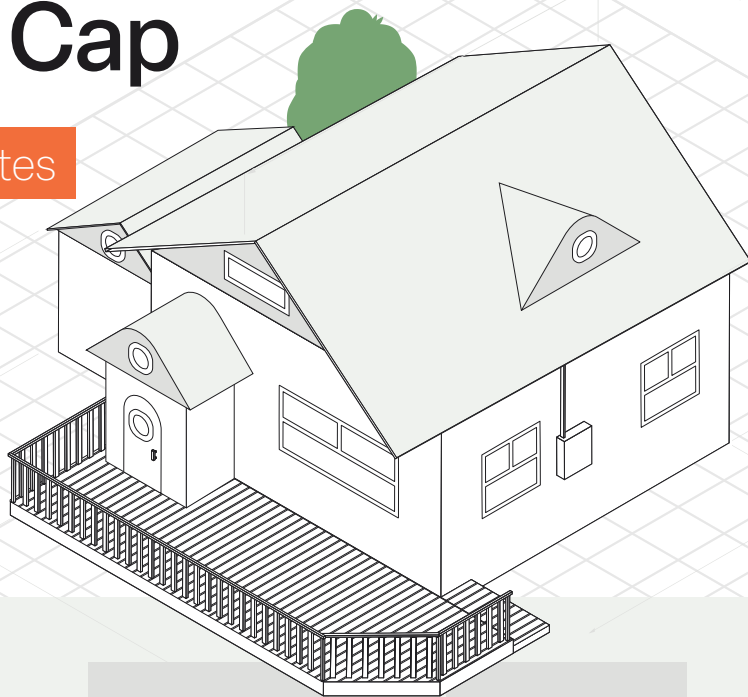
Made from 450 grade Australian steel, you can trust Blade Pile to deliver on quality and performance.



Blade Pile & Pile Cap

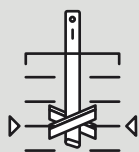
A solution for all types of problem sites

Residential & Commercial projects



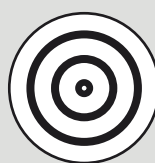
Planning

All pile locations are pre-approved before installation.



Depth

Minimum depth is predetermined based on site conditions.



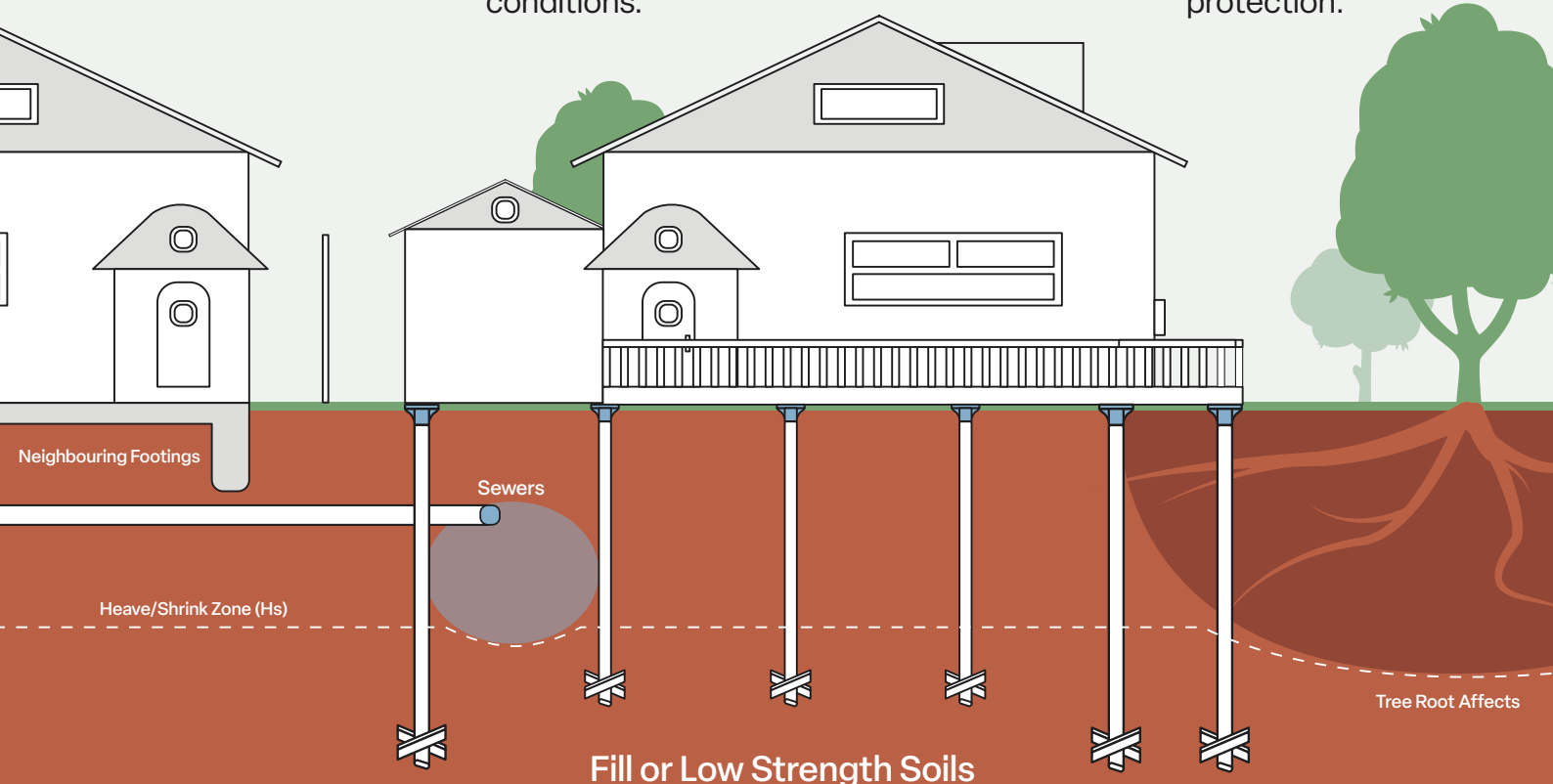
Precise

Once depth has been reached any remaining pile is cut.



Durable

Blade Piles are rated for 50 years of corrosion protection.



Pile Connection Innovation

A solution designed & fabricated for all needs

Connecting Bearers



Straight Slotted



Vertical Plate Stirrup



Large Straight (4 holes)



Straight (4 holes)

Pile Bracing Connections



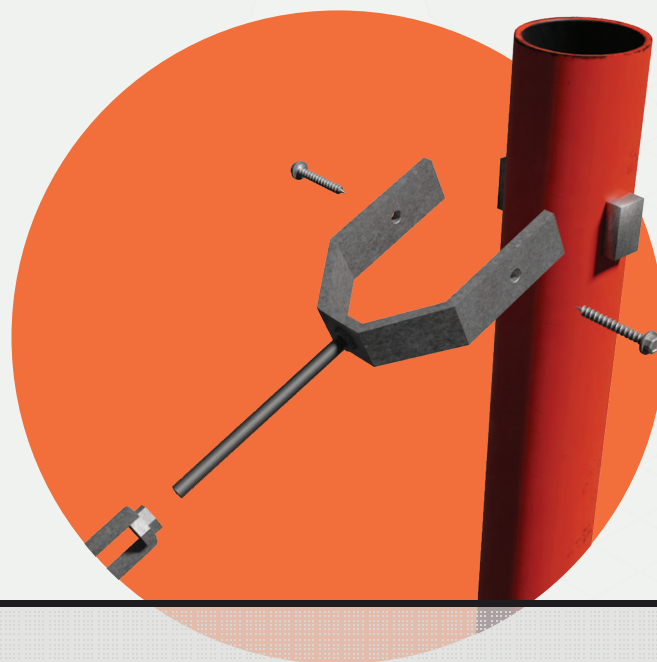
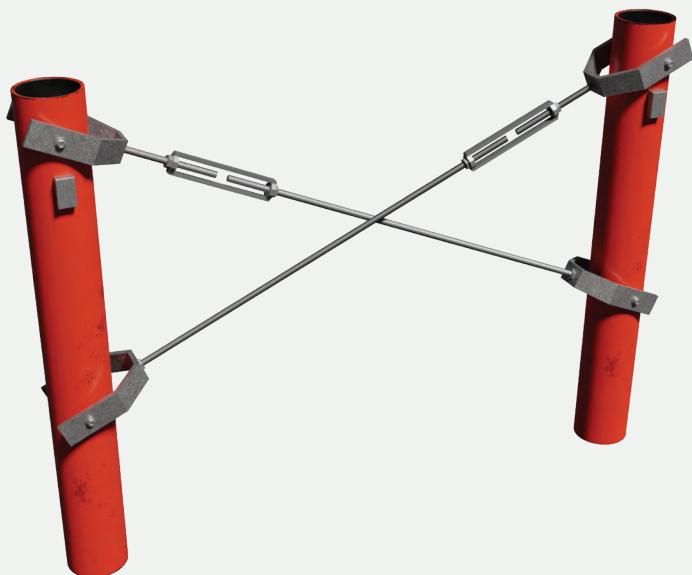
Maximum torque

- 76.1mm Pile: 8,200nm
- 88.9mm Pile: 15,000nm



Team size

- Minimum team of 2 people
(Installer + Site labourer)



Key Notes

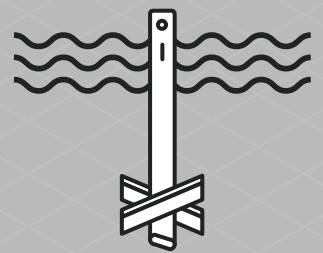
- ▶ Pile can't reach minimum depth
 - Attempt to work the pile anti-clockwise and clockwise to advance through material.
 - If pile still refuses, remove pile by rotating anti-clockwise and use drill auger to create a pilot hole to the required depth.
 - Engage pile again and install to required depth.

The Kingsford Smith Drive Freeway Widening City to Airport Link



City infrastructure

- ▶ Blade Piles being installed into the Brisbane River, for the Kingsford Smith Drive freeway widening, City to Airport Link.

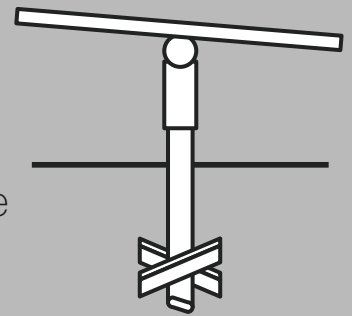


Moree Solar Farm (MSF) - NSW



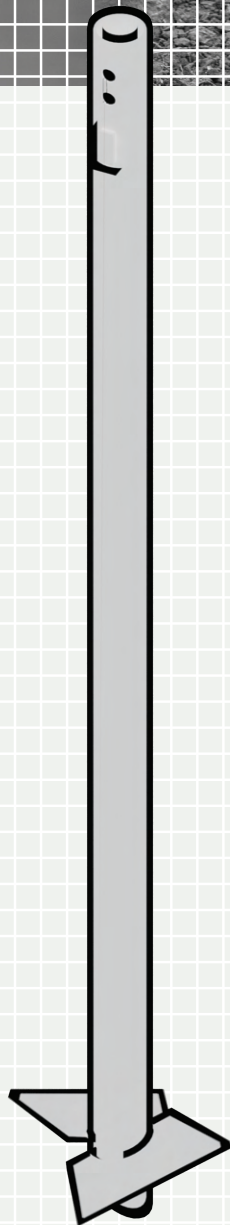
A renewable future

- ▶ Australia's largest ever 'screw in' steel piling contract.
- ▶ 32,000 Custom designed Blade Piles supplied & installed on time & on budget.
- ▶ Made possible by the patented Solar Blade Pile.
- ▶ Added 25 years to solar farm life, removable, reusable or recyclable. No site/environmental damage after design life.



Blade Pile Analysis

Ensures ULS is met, with optimum design for site conditions



Structural Load

(dead g + live q)
Factored for required - ULS



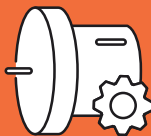
Pile Capacity (Shaft)

Factored 50 year life
for Corrosion - ULS



Ultimate Geotechnical Capacity

(ϕ_g % factor applied to R_d, u_g)
Determines Blade Pile sizes - ULS



Site Condition Filter - Blade Sizes & Types

Blades 'tuned' to site specific
conditions and issues.

Pile Testing

- ▶ Blade Pile has maintained the philosophy that ongoing independent structural and geotechnical testing of foundation products is critical.

We are proud to have independent verification and certification of our products and design methods from some of Australia's leading engineers over the years.

This includes Structerre Consulting Engineers, GHD Consulting Engineers WA, Aurecon SA, Prompt Certification WA, URS SA, University of South Australia, Griffith University, ALS Group, Foundations Specialist Group, Alfa Labs QLD, Dr. Peter Mitchell and Dr. Jialin Zhou.



BLADE PILE

Excellence from the ground **up.**

| **Connect with us** 

Call or email our team to get in touch.

admin@blade-pile.com.au

(07) 5593 8150

