

# RH

RUSSELL HEALE

# SCREW PILING

Tel: 1300 55 93 75

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## Creative & Practical Solutions for your Foundation Problems For over 15 years

We have been fulfilling our aim to provide creative and practical solutions for your foundation problems for around 15 years. Steel Screw Piles can offer significant advantages compared to traditional piling methods.

### Benefits of Steel Screw Piling:

- Saves you time and money
- Eliminates building settlement and costly repairs
- Unlimited pile lengths
- Continuous pile achieved every time – stops problems associated with soft or wet collapsing soils
- Segmented piles possible when limited head height
- Simple attachment to timber, concrete or steel structures

	Speedy Installation	Vibration Free	No Mess or Waste
<b>Steel Screw Piling</b>	✓	✓	✓
<b>Timber Piling</b>	✗	✗	✓
<b>Concrete Bored Piers</b>	✗	✓	✗

## About Us and Our Staff

**"I am confident in recommending Russell Heale Screw Piling for further work."**

**Mat Stringer,  
Stringer Building Services**

At Russell Heale we design, manufacture, supply, install and certify screw piles.

These can be for a diverse range of building and construction projects, all the way to 100 tonne SWL (safe working load) load bearing installations.

We are a family owned Australian business with over 15 years in the piling industry.

**Russell Heale** is a qualified builder and leading authority on piling. He has over 30 years professional experience, largely in building, piling and civil works. In his role as project manager, he concentrates on providing a "guiding hand" on difficult project management and technical issues to ensure the desired project outcomes meet or exceed expectations.

We have highly experienced operators and qualified boilermakers, and friendly

office staff.

*We have preferred to engage Russell's service because of his extensive experience in this industry. His prices are competitive and he has a professional attitude and friendly nature. Russell now provides 100 per cent of our screw piling needs and we are very happy with his service.*

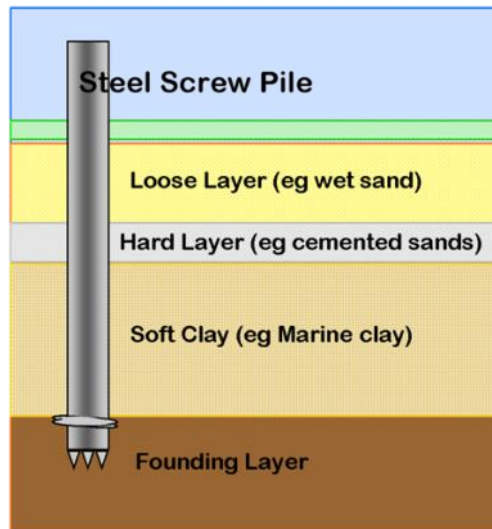
**Glen Watson, Glen Watson Building and Design**

*Onsite staff were polite and co-operative and the job was completed with a high level of professionalism.*

*I am confident in recommending Russell Heale Screw Piling for further work.*

**Mat Stringer, Stringer Building Services (SBS)**

**Screw Piles can be used for a wide variety of applications including bridges**



### Installation

Our own fully trained competent staff install engineered steel screw piles with bearing capacity of up to 100 Tonnes safe working load (SWL).

The piles can even be removed and reinstalled easily.

### Pricing

Each job is individually priced and manufactured to order.

## What is Screw Piling?

Steel screw piling is necessary for building foundations where the ground is not compacted, or strong enough or of variable capacity to carry the structure, for example in sand, mud or reclaimed land.

Steel screw piling is a deep foundation support system that transfers the weight of a building onto the stronger founding layer below. We can use screw piles for loads up to 100 tonnes and the length of the screw piles can exceed 20 metres.

To install them, we use an excavator with a power head and drive system designed by Russell Heale and built by the Engineering fitters and turners on staff.

Steel Screw Piles offer significant advantages over other piling types. If your job specifies concrete or timber piles, we can quote the steel screw pile equivalent.



**Russell Heale has the necessary plant and equipment you need for screw piling**

# Screw Pile Applications

Our piles have been installed for many different applications. These include executive homes in Sanctuary Cove and Sovereign Island and Raby Bay, as well as Optus and Telstra towers, power line transmission towers and commercial and industrial buildings.

We have successfully completed many jobs around Australia in locations such as Port Kembla, Port Douglas, Portland (VIC), Ballina, Rockhampton, Townsville and Emerald.

Here are some of the projects screw piles could be used for:

**Commercial (shopping centres, schools, airport buildings, surf clubs, factories)**

Tension Piles for uplift in basements below the water table

**Residential (houses, apartments)**

Swimming Pools

**Pylons/ Phone Towers/ Lighting Towers/ Power Poles**

Shade Structures (e.g. for bowling club greens)

**Temporary Buildings and Relocatable Buildings (piles are removable)**

Signs

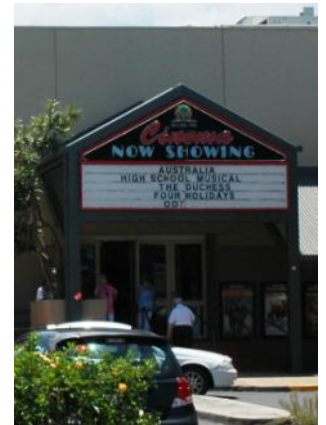
**Underpinning- e.g. Basements (segmented piles can be installed in limited headroom)**

Pipeline Support through creeks and rivers

**Boardwalks, Jetties and Structures over water such as restaurants**

Landslip stabilisation – Preventative work on roads threatened by landslip

*All photos on this page are from previous projects*



## Pools

We can Dig and Pile your Pool!

Our principal Operator for pool installations, Grant Massey, has been a highly experienced Excavator Operator for over 22 years in the housing, pool building and construction industry, being licensed in both NSW and QLD.

He brings to the industry a unique service, by doing the excavation and pile installation with the one machine, saving additional delivery and standby costs. As well as offering an all in one process, he also has a generator welder which is per-

manently mounted on the truck and carries additional pile extensions in case they are required.

Grant Massey in conjunction with Russell Heale has completed numerous jobs using limited access machines and barges to deliver equipment. If you have a job where access is a problem, we are happy to do a site inspection to ensure you receive an accurate quote.

***"Their prices have always been competitive against other quotes we have received, offering great value for money which is important in the construction industry."***

**Wayne Gill, Director, Coastal Pools & Spas (QLD) Pty Ltd**



**Getting the Piles ready**



**9 Piles Under Pile Cap**



**Closeup of Pile Cap**



**Crane ready to get in place**

## Case Study– Crane Base for Water Main

One particularly interesting job that we have done was the crane bases for an 1100 tonne crane that had a lift of some 200 tonnes of a bridge span for a water main.

On establishment the crane company realised that the ground conditions were not suitable. A phone call to us very late one Thursday afternoon explained the problem and the urgency set the wheels in motion. Fortunately there was an extremely good geotechnical report available which indicated excellent founding material at 12 metres deep.

### Pile Design

We did an initial pile design and outlined the costs on the Friday. After approval late Friday afternoon from the client, our engineers spent the weekend refining and finalising the pile and the pile cap design, for four 6.5 x 6.5 metre pile caps for the outriggers of the crane to sit on. Loadings for each pad were in excess of 3100 kN. As there was a requirement for minimal settlement we decided on 9 piles per pile cap.

Although the client wanted the structure for only one lift they also wanted it to be permanent so that it could be utilised at any time in the future if a parallel line had to be installed.

We used bearers and joists over the piles which

were designed to transfer the weight in total to the piles. The pile caps could have been used without the concrete if the client had wanted the piles removed.

### Great Result

The following Thursday the crane was in place to do the lift. The lift proceeded with a surveyor with 2 way radio contact with the crane driver.

As the crane was to be working at 98% of its capacity there were concerns for the stability of the crane. As the lift proceeded all four foundation pads were monitored and a maximum of 1 mm deflection was noted. This minimal deflection enabled the crane to complete the lift 6 hours quicker than was scheduled.



**The Bridge Span to be Lifted**



## Load Testing

We have conducted in excess of 130 load tests. This has improved our understanding of the effects of different types of soil conditions, helix pitch and torque.



## Methodology

All of the load tests we have conducted have been static load tests using the incremental sustained load method, as described in AS 2159- 2009 Piling Installation and Design. Most have gone on to test the pile to failure on completion of the test as laid out in AS 2159, so that the ultimate capacity is determined.

In order to minimise on site disruption, an additional pile can be installed on site for testing purposes. That way the builder can proceed with his construction program with minimal interruption.

Where possible we prefer to conduct load testing prior to construction, as the results may assist refining and optimising the pile design.

**Load Testing often leads to cost savings if carried out prior to pile installation**

## Equipment

Russell Heale Screw Piling has all the equipment required to complete your piling job.

Excavators are available in a variety of sizes, fitted with our own RHE (Russell Heale Engineering Pty Ltd) custom brand of Powerheads, designed for reliability and able to meet most requirements.

We hold spares of all our attachments minimising potential downtime.

We are capable of handling longer piles using a fly attachment and have equipment for predrilling if necessary.



**Load Testing Equipment**

## Best Practice Torque Measurement

We utilise world best practice torque measurement equipment. All of our machines are fitted with the latest torque measuring load cell technology with in cabin digital readouts and additional viewing readout fitted to the side cabin window, calibrated using NATA certified load testing equipment. The torqatrons have bi-annual recheck calibrations done and hold current calibration certificates.

## Vehicles

We have two semitrailer floats capable of transporting the piles and excavators to site, and three Canter 4x4 utes each with refuelling tank and Lincoln diesel powered welder, LN 25 wire feeder and all required accessories including fire extinguisher.

## Load Test Equipment

We have load test beams, for compression and tension and NATA calibrated load testing powerpack and rams up to 5000 kN.



**Transporting the Piles**

## Excavators and Attachments



## Horizontal Piling

We are the horizontal piling experts!

We have completed several projects over the past few years using horizontal piles, and this experience has resulted in R&D to build a specially set up powerhead specifically for this application. We believe we are the only contractor who has perfected this design.

If you have a project requiring horizontal piling and think this might be a solution to your problems, give us a call on 07 5593 7755.



### Case Study- Horizontal Piles in Noosa

The brief was to build several temporary retaining walls to enable the construction of a residence at Noosa on a hill with an gradient of between 30 and 35 degrees. The slope was very loose and sandy and the access difficult.

To get on site a huge tow truck was parked at the top of the hill which helped pull the excavator up the slope. A crowd gathered to watch this incredible sight!

The machine has been specially set up to install raked piles with the powerhead tilted as per the photo. These raked piles held the retaining walls into the hillside to enable the construction of concrete walls to support the structure.

A flying fox was used to get everything including the piles up the hill. This was a very useful piece of kit as walking from the bottom of the site to the top leaves the average joe out of breath and in need of a rest!!

***"Russell takes the time to fully review and evaluate the screw piling requirements for each individual job. This commitment is evident during discussions well before awarding his company any undertakings."***

**W.J. Williams, W. J. Williams  
Construction Pty Ltd,  
Award winning builder**

**Flying fox carrying materials up the steep hill at Noosa**



[www.rheale.com.au](http://www.rheale.com.au)



## Product Availability & Manufacturing

Each job is individually designed and all piles are manufactured in house. This allows us to have the flexibility to respond to our client's requirements quickly and offer value for money being direct from the manufacturer.

*... at times we have been desperate for a job to be done with minimal notice, and Russell Heale has always been able to produce. I have continuously been pleased with their excellent customer service.*

**Charlie Freriechs, Ace Homes & Suncoast Homes**

Russell Heale Engineering Pty Ltd has two fully equipped engineering workshops with qualified Fitter and Turners and Boiler-makers to allow us to meet any eventual-ity quickly and effectively. We manufac-ture piles at one workshop and build our own equipment at the other.

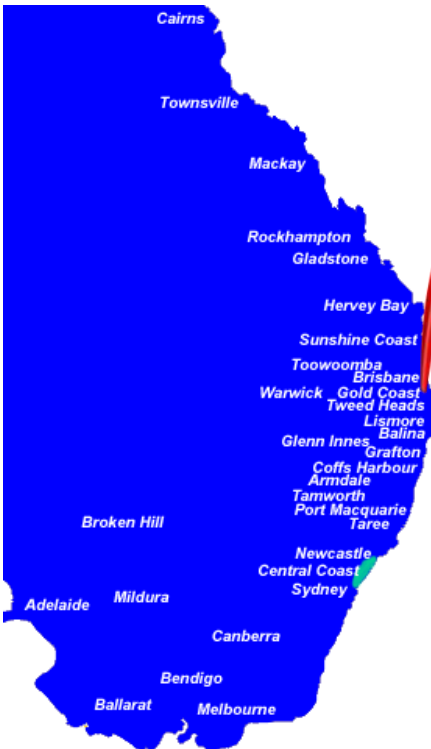
Russell Heale Screw Piling

**Creative and Practical Solutions for your Foundation Problems**



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## Where to find us

We can service from Cairns down to Melbourne from our base in South East Queensland, providing you with quality screw piles for your project. For an obligation free quote, please send us your **plans** with the **geotechnical report**.



## Talk to us

Should you or your Engineer have a query about footing design, we'd be happy to talk to you. With years of experience under our belt, we are worth a call or email [info@rheale.com.au](mailto:info@rheale.com.au) for a timely response. Our friendly competent staff may be able to offer you added insight for your project.

