



Building a solid foundation

Constructing the foundations for our project is a little more challenging than our specialist piling teams make it look. Along the 4.8km stretch on SH16 there is both deep, very soft soil and hard basalt rock with each type requiring a different approach and piling equipment.

Some of the softer soil around the Patiki Road on-ramp dates back 25 million years while the basalt rock near the Oakley Boardwalk originates from the Mt Albert volcano which erupted around 30,000 years ago.

The piling process involves vibrating pile casings (or metal tubes) through the soil or rock until they hit hard ground. The casings come in lengths of around 12m and are welded together on site to create the length of the pile. The depth of the piles varies greatly, for example at the Oakley Boardwalk

they are about 13.5m deep while the Patiki on-ramp they are over 40m deep.

Debris or soft sediment at the bottom of the pile must be removed because it can impact on the strength of the finished pile. Once our Engineering Geologist has confirmed the ground at the base of the pile is solid, level and the casing is clear of debris, the piling team use a crane to lower in to the hole reinforcing steel cages that have been checked by one of our structural engineers.

The cages are fitted together and secured before concrete is pumped into the pile from the bottom to the top. After the concrete pour has started the team need to remain on site until the concrete is nearly to the top of the casing which is why you might see our workers on site late into the evening getting the job done.



Patiki piling crew - specialist welders joining the pile casings (bottom left) on site for the deep piles.



Reinforcing steel cages which are lowered into the pile casings.



Traffic updates

From Friday 26 September to early Monday 29 September the east bound Great North Road offramp will be closed to complete a major realignment of the ramp. We may also take the opportunity to complete some work on the Whau River bridge during the same weekend.

Any closures will be advertised a few weeks before and detour routes will be signposted during the works.

The northwestern cycleway will remain open throughout the weekend.



Meet Kerry Brill, Senior Finishing Digger Operator

What do you enjoy most about driving diggers?

It reminds me of being back in the sand-pit as a child – it's really good fun. I enjoy being able to see what I have completed and it gives me a real sense of achievement. As a senior operator I am often called in to the more difficult or technical areas, such as the Rosebank boardwalk which required some precision digging due to the power lines and off-ramp overhead and the busy northwestern cycleway nearby.

How did you get into operating heavy machinery?

My father was a drain layer and he taught me the ropes. I had to spend three years on the end of a shovel before being allowed to touch a machine. That time provided me some really great lessons.

Where were you before the Causeway Alliance?

I spent four years on the Newmarket Viaduct Replacement Project and before that, four years on the Northern Gateway project. Before that I worked for 12 years in the tourism industry to fuel my passion for adventure sports. During this time I became a bungee master, a water-raft guide, a PADI dive master and completed over 10,000 skydives.



A new neighbour

While working at the Whau River bridge our team was lucky enough to spot a seal swimming around the piers. We believe it was a New Zealand fur seal (*Arctocephalus forsteri* or kekeno) most frequently seen around the South Island and Wellington. The seal was swimming on its sides, in and around the piers, which is a hunting method. Although it was hard to tell whether the seal was male or female, we presume it was a 'she' due to her petite size and that males generally have a mane.

Quick facts about Kekenos:

- Males are on average 126kg and can grow up to 2m in length
- Females weigh 30-50kg on average and can grow up to 1.5m in length
- Breeding usually occurs during March to June with a gestation period of 9 months
- They can dive deeper and longer than other fur seals with males diving for about 15 minutes to a depth of approximately 380m

More information

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