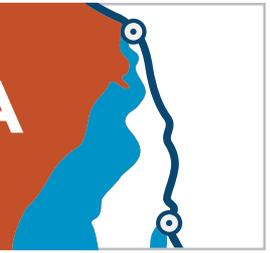


Port Wakefield Overpass and Highway Duplication

Fact Sheet - Piling Works

PW2PA
ALLIANCE



The Port Wakefield Overpass and Highway Duplication Project is jointly funded by the Australian and the South Australian governments and will be delivered by the Port Wakefield to Port Augusta Project (PW2PA) Alliance. The project will improve traffic flow and reduce congestion for all road users, particularly during peak travel times and public holidays, and improve safety and freight productivity along the National Land Transport Network.

During construction, the PW2A Alliance will install piles to support the new Port Wakefield Overpass and two bridges over the Wakefield River.

What is piling?

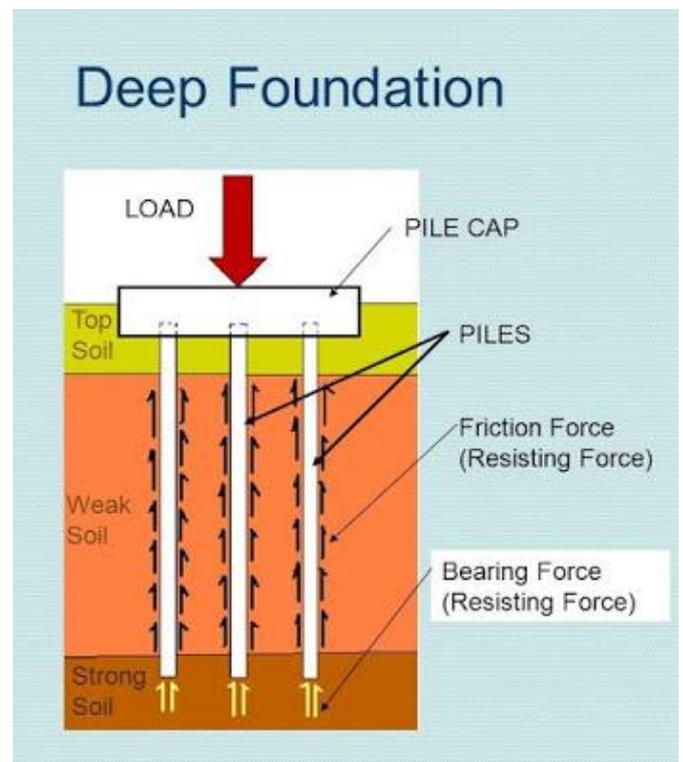
Piling is the construction of columns in the ground that provide vertical and horizontal support to a structure such as a bridge or retaining wall by connecting to stable soil or rock.

Piles are installed vertically into the ground and can be made from steel, timber or reinforced concrete. There are various piling methods used in construction, but generally it involves drilling or driving them in to the ground.

The piling type required for construction projects depends on various factors including soil and ground conditions and the structural weight or load on the pile.

The method of piling being used for the Port Wakefield Overpass and the two river bridges is precast driven piling. This type of piling is suited to sites where the ground conditions are highly variable as they are driven to a design depth or resistance achieved.

Square concrete piles are driven into the soil by applying blows from a heavy hammer. Each pile has two sections. The first section is driven to ground level, the second section is then joined and driven until the first section reaches the strong soil at the required level.



Piling foundations

Groups of piles will then form the base of the pile cap. The tops of the piles will be broken back to expose the reinforcement which will make an effective bond to the pile cap. The pile cap is a mass concrete structure that sits on top of the piles and is the first level foundation for the new structure.

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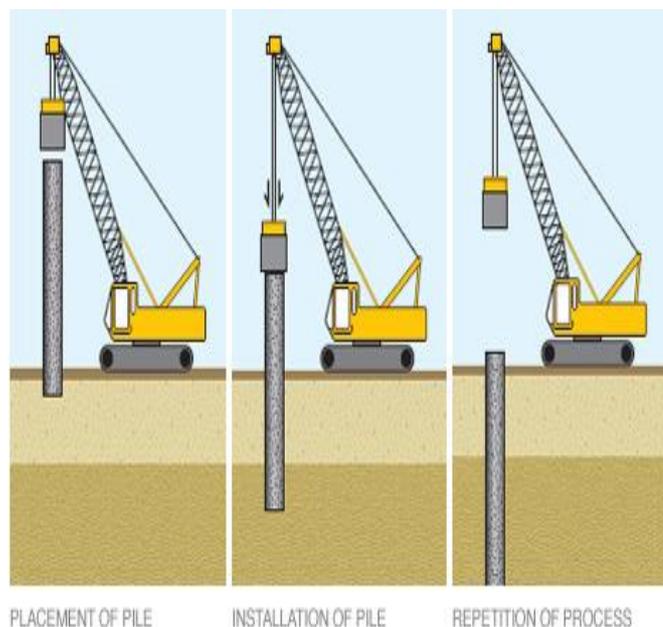


Driven piling creates some repetitive noise and vibration. Management controls including monitoring for noise, vibration, air and water quality will be in place to manage these works and minimise potential impacts to the local community, as much as practically possible

What machinery will be used for piling?

Piles are delivered to the project site on the back of a truck and are then delivered to a 72-tonne piling rig as they are required. The piling rig uses a percussion hammer to drive the piles into the ground.

A concrete pump and concrete trucks will be used to create the pile caps after the piles are driven into place.



Piling process

When and where will piles be constructed?

Piling for the southbound Wakefield River bridge will begin in early 2021 with the northbound starting in late 2021. Each bridge will take approximately 3-4 weeks to complete.

Piling for the Port Wakefield Overpass will commence in mid-2021 and is scheduled to be completed in late 2021.

Piling works will be undertaken, between 7am and 7pm, Monday to Saturday. The peak period of activity will generally occur during the middle of the day.

How many piles will be installed?

In total, 72 piles will be installed for the new structures in Port Wakefield. The two Wakefield River bridges have 21 piles each and the Port Wakefield Overpass 30 piles.

Each pile is 400mm square and approximately 18 to 21 metres long. Groups between 7 and 16 piles will form the base of the pile caps for the Port Wakefield Overpass and groups between 6 and 9 piles will form the base of the pile caps for each of the two Wakefield River bridges.

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