

Joy Baluch AM Bridge Duplication Fact Sheet - Piling Works

PW2PA
ALLIANCE



The Joy Baluch AM Bridge is an important link in the National Land Transport Network at Port Augusta, providing access across the Spencer Gulf for commuter, commercial and freight vehicles in the northern region of South Australia. It is also a key tourist connection to the Eyre Peninsula, northern South Australia and beyond. The Joy Baluch AM Bridge Duplication Project is a joint initiative of the Australian and South Australian governments and will be delivered by the Port Wakefield to Port Augusta Project (PW2PA) Alliance.

During construction, the PW2A Alliance will install piles to support the new bridge structure.

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.

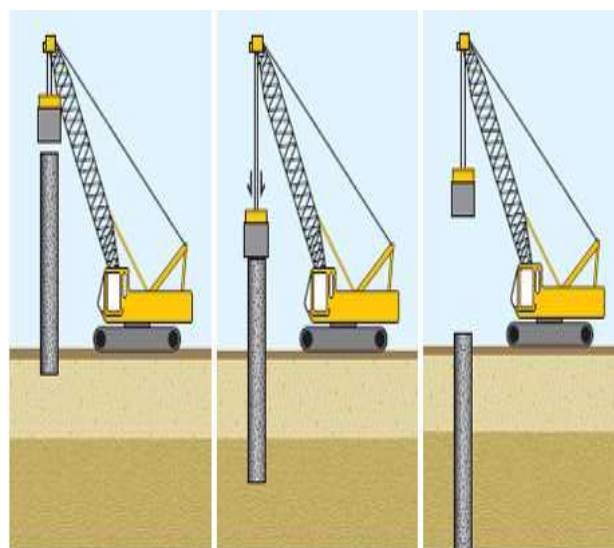
Piles are installed vertically into the ground and can be made from steel, timber or reinforced concrete. There are various piling methods used in construction, but generally it involves drilling or driving them in to the ground.

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

The method of piling being used for the Joy Baluch AM Bridge Duplication Project is driven piling, which is suited to marine and other near shore applications. Piles are constructed from steel and concrete.

The piles are driven into the soil by applying blows from a heavy hammer and once there is enough resistance, they are filled with concrete.

The completed piles will be visible as pier supports for the bridge.



PLACEMENT OF PILE

INSTALLATION OF PILE

REPETITION OF PROCESS

Piling process

Driven piling creates some repetitious noise and vibration. Management controls including monitoring systems 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.

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.

Piling works for the Joy Baluch AM Bridge Duplication Project are expected to be completed in mid-2021.

Marine fauna will be protected from underwater noise and vibration by undertaking a range of management measures, including the establishment of observation zones. Please refer to the 'Managing construction impacts - Marine fauna' fact sheet for details

www.pw2pa/marinefauna.com.au

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What machinery will be used for piling?

The first piles to be driven on the project will be used to support a new temporary wharf that will be used to load machinery and materials onto barges to gain access to the water during construction of the new bridge.

To drive the marine piles, a jack up barge is used. On the jack up barge is a 250-ton crawler crane. A leader rig is used to guide the pile into position and the crawler crane is used to lift the impact hammer to drive the piles to depth. Trucks will be used to deliver the piles to site and then transported to the jack up barge using an equipment barge.

The jack up barge has legs that can be lowered into the water to increase stability. It will also allow works to be undertaken in shallow waters regardless of tidal conditions.



Artist impression of the temporary wharf and jack up barge in operation

When and where will piles be constructed?

The piles for the temporary wharf, near the existing bridge on the Eastside Foreshore will be installed from late November 2020. The construction methodology and location of the temporary wharf allows us to undertake the marine piling works without depositing materials in the water, thereby minimising impacts to the environment.

Marine piling for the new bridge will commence in early 2021, followed by land-based piling to Tassie Street on the Eastside Foreshore.

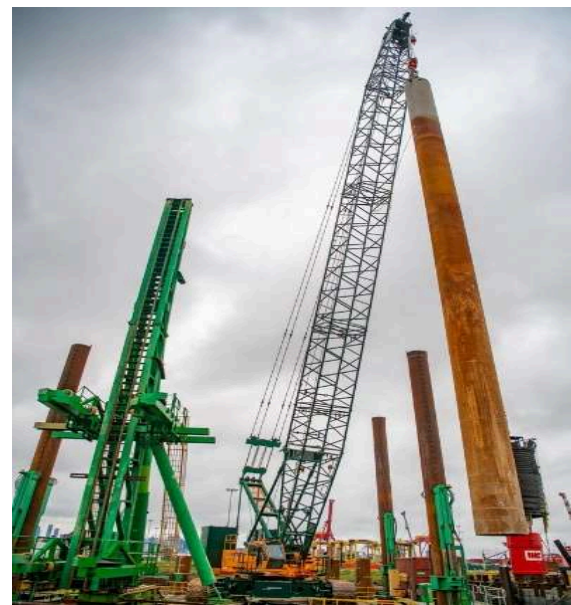
Specialist marine pilers will undertake these works within a marine exclusion zone when they are working in or over the water.

How many piles will be installed?

In total 46 piles will be installed for the new Joy Baluch AM Bridge and 16 piles will be installed for the temporary wharf.

The piles being installed to construct the bridge are 1200mm diameter steel with a reinforced concrete plug in the top section of the pile. Steel tubes for the piles will be welded together on site and will be driven to a depth of approximately 30 metres. Reinforcement and concrete are then placed into the top section of the tube to form the pile.

Approximately 1500 tonnes of Australian produced steel will be used for the piles.



Pitching of steel tube for driving

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