



# Granite Island Causeway Project

## Environment

The South Australian Government has committed \$31.1 million towards the Granite Island Causeway Project, to be delivered by the Department for Infrastructure and Transport (DIT). The Granite Island Causeway (the Causeway) is located 83 km south of Adelaide on the Fleurieu Peninsula, and is the only link between Granite Island and the mainland at Victor Harbor.



### General

The Department is committed to the protection of the environment and the project design and construction methodology reflects this commitment. During the planning phase of the project, an assessment was undertaken to determine the management measures required to mitigate potential impacts to environmental aspects. Assessment of impacts to vegetation, fauna, heritage (Aboriginal and non-Aboriginal), water quality and air quality was undertaken as well as investigation into the processes required to reduce the impacts of noise and vibration generated during project works. The assessment included consideration of broader environmental aspects as well. This factsheet provides information relating to key environmental aspects that have been of interest to the community.

### Whales, Penguins and Other Fauna

The waters around the Granite Island Causeway are located in a Habitat Protection Zone of the Encounter Marine Park. The broader area provides habitat to a variety of plants, birds (including Little Penguins), mammals (including whales), sharks and syngnathid (including seahorses, pipefish and sea dragons). The protection of whales, penguins and other sensitive marine fauna was considered throughout the planning and design of the Project.

Construction works associated with the Project (particularly piling work) can generate underwater noise which has the potential to impact marine fauna. The design of the Project and construction methodology has been assessed and will be managed to minimise and avoid such potential impacts. Local knowledge has been sought during consultation with experts from Flinders University, the Department of Environment and Water and members of the Save the Granite Island Penguins committee to support such assessment.

Noise modelling and recommendations regarding the management of underwater noise impacts have been developed in accordance with the Department's Underwater Piling Noise Guidelines (2012) and recent globally recognised peer reviewed research, namely Southall et al. (2019). These guidelines include measures that have been used successfully across Australia, including for repair work previously undertaken on the Granite Island Causeway.

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The Project was referred to the Commonwealth Department of Agriculture, Water and the Environment In accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act), due to the presence of Commonwealth protected species which are known to occur in the area i.e. Southern Right Whales, Humpback Whales and the Australian Sea-Lion. The Commonwealth Government confirmed the project would not require formal assessment (i.e. Not a Controlled Action), if undertaken in a Particular Manner. A summary of the particular manners / control measures include:

- All piling for construction of the new Causeway will be undertaken with the use of a modified piling gate which has been developed especially for this project. Refer to Figure 1 for a diagram of this unit.
- For whales, a shutdown zone (or exclusion zone) of 1 kilometre in all seaward directions from piling activity will be adopted, where piling works will cease if a whale enters the zone. For sea-lions and penguins, a shutdown zone (or exclusion zone) of 300 metres in all seaward direction will be adopted, where piling works will cease if a penguin or sea-lion enters the zone (in water). The indicative extents of the shutdown zone is provided in Figure 2.
- An observation zone of 1.25 kilometres will be continuously monitored during and 30 minutes prior to piling works for the presence of whales. The indicative extent of this zone is shown in Figure 2.
- The visual monitoring of the observation and shutdown zones will be undertaken by two dedicated specially trained and qualified marine fauna observers.
- Soft start procedures will be adopted during all piling works. This procedure allows for a slow build-up of piling power (and associated noise) over a period of at least 10 minutes. This method provides an additional safeguard to allow any whales (or other noise sensitive fauna) to move away from any areas of discomfort.

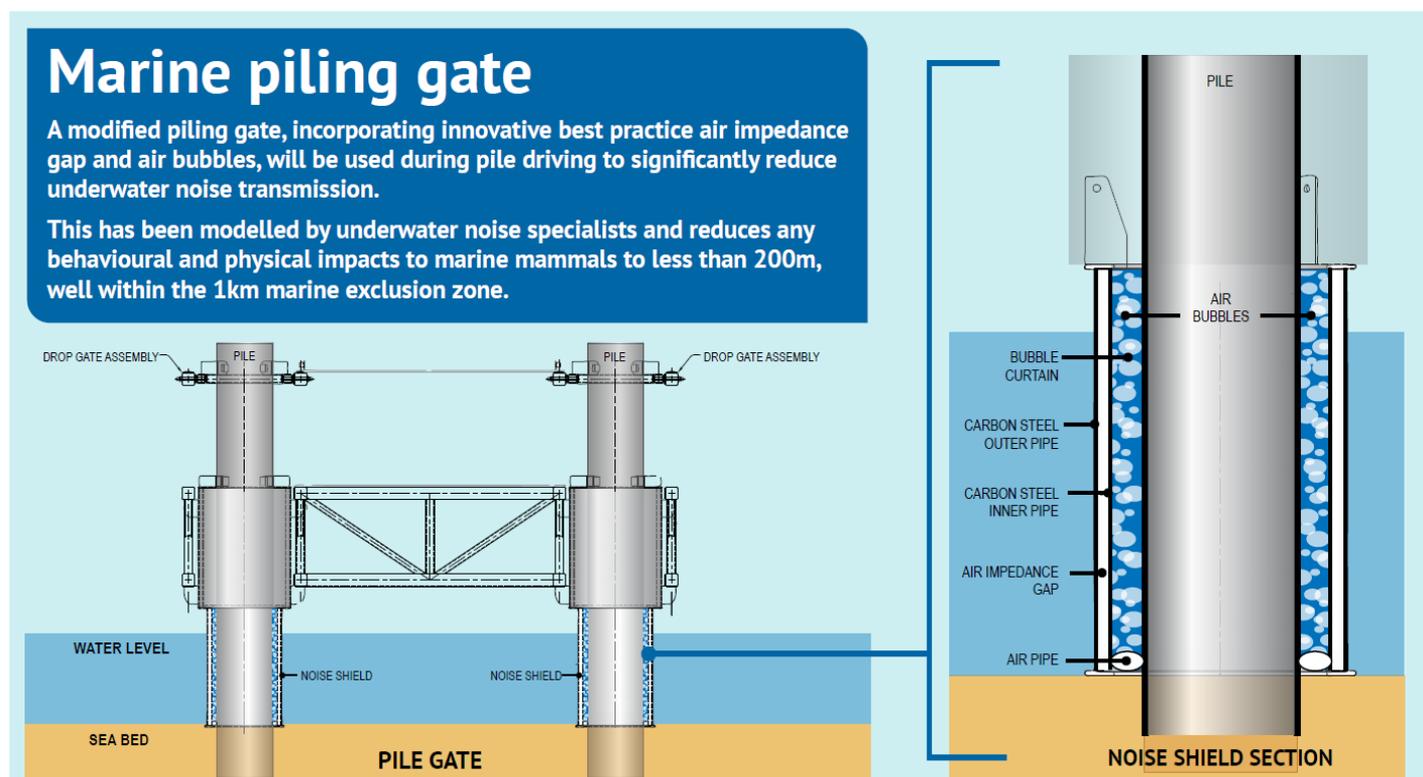
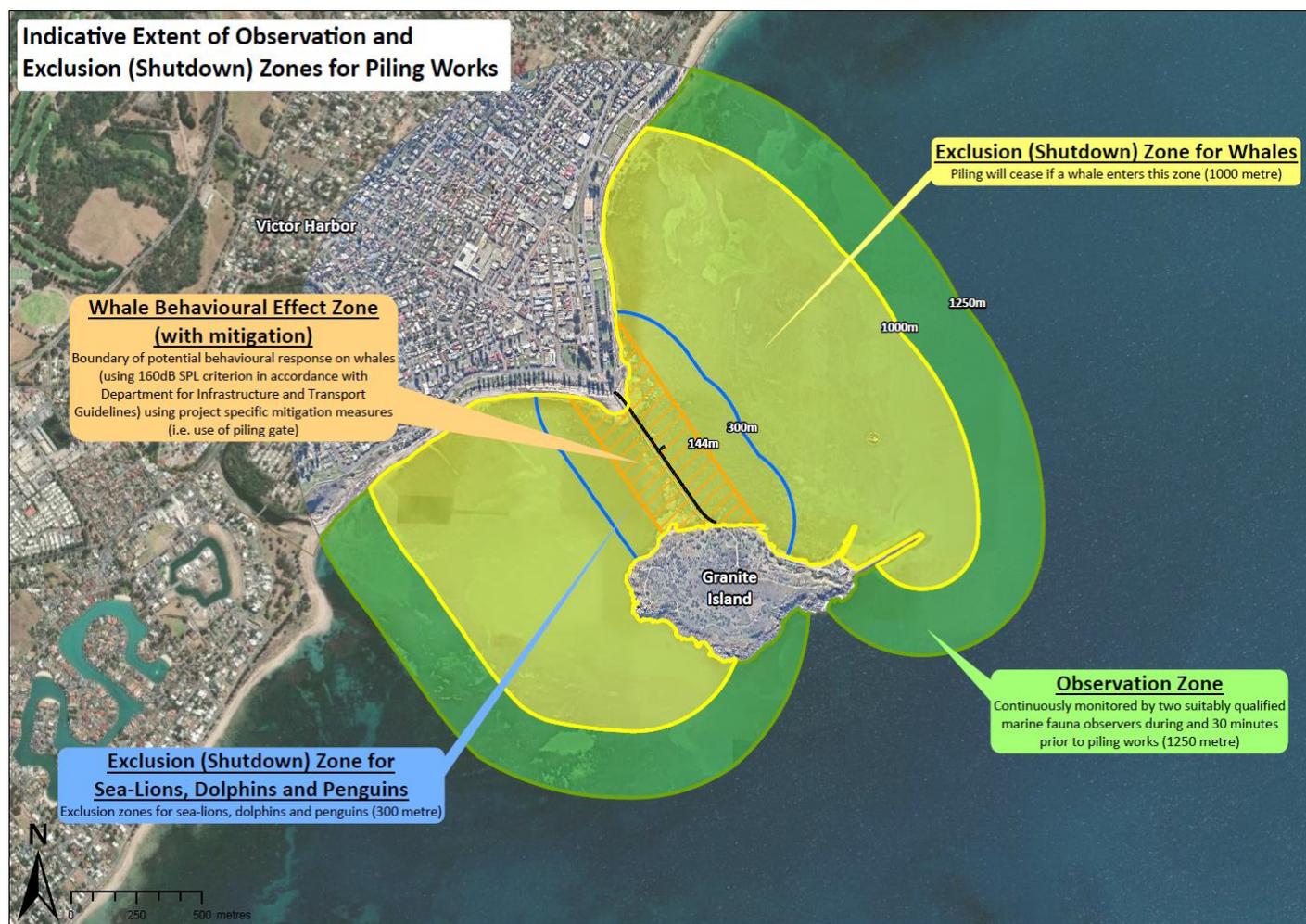


Figure 1 Concept Design for Underwater Noise Mitigation

With the adoption of the detailed mitigation measures, the risk of behavioural disturbance to whales is considered low. Furthermore, the adopted shutdown zone 'exclusion zone' is significantly greater than the modelled noise impact zone which is based on widely accepted physical injury criteria and commonly adopted

behavioural impact criteria. Noise monitoring will be undertaken at the onset of piling works to validate underwater noise predictions and to check background noise levels present in the area. Adaptive environmental management will be adopted depending upon the outcome of the monitoring results.



Note that the actual Observation and Exclusion (Shutdown) Zone extents will be measured in a seaward direction from the active piling location

Figure 2 Indicative Extent of Observation and Exclusions (Shutdown) Zones for Piling Works

The construction of the Causeway will implement all possible mitigation measures to minimise impacts to the Little Penguin population on Granite Island. A recent census undertaken in October 2020 confirmed that the project footprint does not overlap with any active burrows. It is however noted that the status of burrow activity can change and as such, a pre-construction 'active penguin burrow' survey on Granite Island in the immediate vicinity of the project construction activity zone will be undertaken prior to the commencement of works on the island. The Department is working closely with Little Penguin interest groups (such as Save Granite Island Penguin Committee) and will undertake consultation with such groups on the best course of action should an active penguin burrow be identified near the construction activity zone. Access for the penguins to and from their burrows and the marine environment will be maintained and construction activities will be timed to avoid periods of the day when penguins are most active.

During piling works, trained marine fauna observes will be present to keep a look-out for any little penguins within a 300m exclusion zone. Piling will cease if little penguins are observed in water, within 300m of piling operations.

Considering the small number of active nests within the area of the planned development and their location in relation to the development, minimal disturbance to the paths leading to Little Penguin nests is expected. With mitigation measures in place, significant impacts on the Little Penguin population is not expected. The

Department is committed to install fox proof fence on the new causeway and is also investigating opportunities to install interpretive signage as part of the project, to assist with educating users of the new Causeway in how to best care for the valued Little Penguin population.

## Flora, Seagrass and Benthic Habitats

The construction methodology has been designed with consideration of minimising impacts to seagrass and benthic habitats as far as practicable. The driving of piles into the seabed will result in the clearance of only a small amount of benthic flora. Some disturbance to seagrass may occur during construction due to temporary placement of the piling frame on the seabed as well as potential turbidity effects, however, these impacts will be localised and temporary. At Granite Island, there will be no impact to vegetation, as the proposed alignment connects at the existing embankment. On the mainland, it is anticipated that clearance of some vegetation will be required, however, the existing trees will be retained.

## General Environmental Management during Construction

During construction, all works will be undertaken in accordance with a project and task specific Environmental Management Plan. This plan will clearly detail the management measures required for the contractor to meet its environmental duty of not causing environmental harm.

To find out more about the project, provide feedback or register to receive project updates:

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