

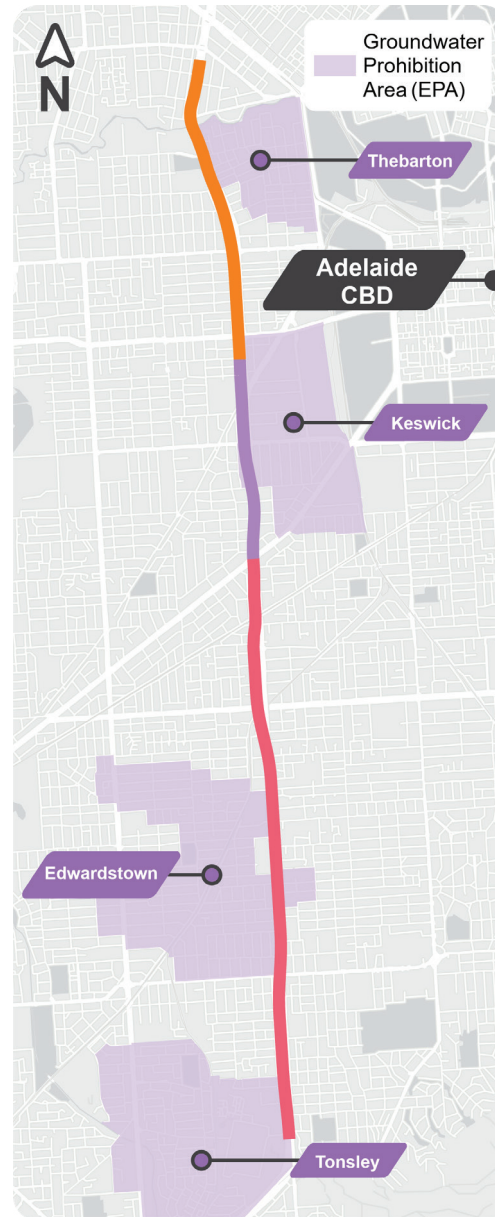
Site contamination

During construction the project is expected to encounter some areas impacted as a result of contamination from the release of chemicals from historical activities undertaken at various commercial and industrial properties along South Road.

Examples of these historical activities include fuel leaks from service stations, spillage of chemicals at industrial facilities or the burial of industrial waste in pits or landfills. The chemicals released from these activities have the potential to affect soil, groundwater, surface water bodies (creeks/ivers) and/or air (vapour).

All identified contaminated areas will be managed to minimise risks to human health and the environment.

It is possible that new areas of site contamination will be discovered during the project construction. Routinely used standard procedures will be put in place to minimise potential exposure of workers and the community to contaminated soils or water during both construction and operation.



Contamination found in locations along the corridor would be a risk to human health if a person had direct contact with soil groundwater or vapours for many years. As the contamination is generally at depth and away from the general public they currently pose no significant risk to human health.

The *Environment Protection Act 1993* (EP Act) provides provisions and regulatory instruments that enables the Environment Protection Authority (EPA) to regulate those responsible for site contamination. The project will comply with the EP Act, regulations and applicable guidance.

Existing environment

A desktop review of the project corridor in 2020 identified more than 350 sites where site contamination is known to, or may, exist. The likelihood of intersecting with many of these sites has been reduced by incorporating tunnels into the project design. As such, approximately 150 of these identified sites will be encountered by the project.

Many of these areas have already been investigated to determine the level of contamination present, but additional work will be required at other sites prior to construction to determine whether site contamination is present and whether remediation works will be required.

The project corridor is also located within or adjacent to four groundwater prohibition areas (GPA). This is where site contamination impacting groundwater has previously been found and reported to the EPA and therefore extraction of groundwater for drinking or irrigation is not allowed.

Potential impacts to existing environment

The site contamination impacts of the project have been assessed for both the construction and operational phases of the T2D Project.

The key potential site contamination impacts found through this assessment process include:

- worker exposure to soil, groundwater and vapour during the construction phase of the project
- potential movement of chemicals into deeper groundwater
- potentially contaminated surface water run-off into adjacent surface water bodies such as River Torrens / Karrawarri Parri, Keswick Creek and Brownhill Creek / Williwilla during construction and operation
- general public exposure to soils and vapour during the excavation of lowered motorways which is highly unlikely
- maintenance worker exposure to soil and groundwater post construction.

The potential impacts identified above are common to large scale construction projects in areas where commercial/industrial properties are located.

Best practice management measures will be put in place to manage these risks. It is expected that the removal of contaminated soil and groundwater during the construction process will also have an overall positive impact on the environment adjacent to the project corridor.

Processes will also be put in place to ensure that site contamination will not occur as a result of the project itself.

Alternatives, mitigation and opportunities

The proposed project alignment will go beneath or will avoid many of the sites where contamination is known to, or may, exist. The depth of the Southern Tunnels in particular has been lowered and moved westwards so that it has limited interaction with the adjacent GPA, as well as some sites where contamination is known to exist.

Where contaminated soils are encountered these will be removed and disposed of at a suitably licenced landfill site away from the project alignment.

Contaminated groundwater, including from the four GPAs, will be extracted to allow for the construction of the tunnels. This water is planned to be treated where required to appropriate standards prior to reuse or release into existing surface water bodies.

The industry has developed many procedures that will be applied to limit potential exposure to human health and the environment during construction. Routine monitoring will be conducted to ensure these procedures are effective.

Approvals, permits and authorisations

All works will comply with the EP Act and its supporting regulations and guidelines (including the National Environment Protection (Assessment of Site Contamination)). Regular interaction with the EPA will ensure the project complies with the EP Act as well as being consistent with current industry best practice.

Scan the QR code to view the suite of assessments included in the PAR or visit T2D.sa.gov.au/PAR.

