Government of South Australia
Department of Planning, Transport and Infrastructure

# *PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT REPORT*

***O-BAHN CITY ACCESS 2014***

## 1 SUMMARY

### 1.1 Project Location

**Road**

| | |
|---|---|
| **Road name and number:** | O-Bahn |
| **Section:** | Grenfell Street tunnel with Rundle Road realignment and Hackney Road at-grade priority bus lanes |
| **File Number:** | 2014/07954/01 |
| **PATCHS Number:** | 201400858 |
| **Direction** | Both |
| **Side of Road:** | Both |

### 1.2 Project Description

The O-Bahn corridor between Gilberton and the City of Adelaide has limited measures to protect public transport services from the effects of road congestion, impacting on journey times and timetable reliability.
The new O-Bahn City Access project design allows for a tunnel commencing on Hackney Road just north of the Botanic Road / North Terrace / Dequetteville Terrace intersection. After passing below that intersection, the tunnel alignment sweeps in a south-westerly direction through Rundle Park, under Rundle Road before portals transition the track back to ground level, connecting into the realigned Grenfell Street / East Terrace intersection. In conjunction with this, bus-only priority lanes are provided on Hackney Road whilst maintaining two traffic lanes and a cycle lane in each direction. The inbound bus lane would commence after Richmond Street and continue all the way to the tunnel entry ramp approach to the Botanic Road / North Terrace intersection. The outbound bus lane extends all the way from the tunnel exit ramp north of the Botanic Road / North Terrace intersection to the O-Bahn's dedicated corridor entry chute on Mann Road. Provision of this lane requires an upgrade of the western bridge structure over the River Torrens, as well as a modification to the layout of the Bundeys Road signalised intersection. A separate pedestrian footbridge crossing of the River Torrens is also provided.
Safety of pedestrians crossing Hackney Road has been identified as a major concern. This option incorporates a pedestrian footbridge over Hackney Road, located within the vicinity of the entrance to St Peters College.

The extension of the O-Bahn is expected to improve the efficiency and reduce the travelling time into the city for O-Bahn users. This will serve a dual purpose of reducing congestion at the capacity intersections and promote the O-Bahn as a favourable travel option thereby reducing on road private vehicular traffic.

This preliminary environment impact assessment is written to inform Project Managers about possible environmental constraints for Hackney road upgrade and the Parklands Tunnel. This assessment has been restricted to a desktop study and further assessment is required during the detailed planning and design phase of the project.

## 1.3 Summary of Impacts and Mitigation Measures

The key environmental impacts are summarised below:

### Legislative Approvals

The nature and extent of construction work required within the Parklands and River Torrens areas invokes the requirements of a number of Acts, including the *Adelaide Parklands Act 2005*, *the Aboriginal Heritage Act 1998*, *the Roads (Opening and Closing) Act 1991*, and the *Development Act 1993*, as well as sections of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC)* and the *Local Government Act 1999*.

### Adelaide Parklands

The Adelaide Parklands are a nationally listed heritage site under the Environment Protection and Biodiversity Act. Encroachment into the parklands could be considered a significant impact at variance with the principles of the heritage listing.

Although the realigned Rundle Rd and the part of the tunnel is an alternate representation of the old tramway embankment there is not an easement in place that covers this use of land, however it represents an historical connection with a previous transport orientated use of the land.

### European Heritage

There are 9 state heritage listed places within close proximity to the proposed concepts. The Hackney Rd bridge and the Adelaide fruit Market Facade are the only state heritage listed sites that are located within the project footprint. The rest of the sites are located outside of the project footprint however further assessments may be required to ascertain the level of management required to ensure that the construction does not have an adverse effect on the Heritage Structures.

The Hackney Rd Bridge will require a detailed assessment during the design phase of the project to determine the appropriate measures to retain the heritage fabric of the structure. The botanical gardens Carriageway Gates are located immediately adjacent to project footprint and will require detailed assessment and management. Detailed heritage assessment and Development approval from the Development Assessment Commission will be required for any construction work required on these structures.

### Groundwater, in particular at the First Creek crossing

Extensive geotechnical testing is underway to assess the full extent of the issue.

### Vegetation

Vegetation removal is required for the project. The department is conducting vegetation survey and will obtain necessary legislative approvals.

### Contamination

Due to the historical land use of the parklands as dumping grounds it is expected that the contaminated soil could be encountered within the parklands. Due to this, disposal and treatment of cut is likely to be costly. The department is currently conducting soil and ground water contamination investigation. Innovative engineering design may offer opportunities for retaining/reducing contaminated material on site and therefore reduce disposal cost. This is to be further explored in construction and design phase.

### Noise, Vibration and Air quality

Detailed Noise and Vibration Impact Assessment, including noise modelling is to be conducted for the operational phase of the project. Air quality Impact Assessment is underway to determine the treatments required to meet the respective air quality targets. The project will also be assessed against Road traffic Noise Guidline (2014) to determine the need for any treatment at sensitive receptors.Noise mitigation and management plans should be prepared for construction phase of the project. This will highlight any actions to reduce the impact on sensitive receptors during construction.

**Aboriginal Heritage**

The department has engaged a heritage consultant to conduct risk assessment and a heritage survey.
Due to the proximity of the development sites to the River Torrens, it is likely that a Section 23 authorisation under the SA Aboriginal Heritage Act 1988 will be required.
In addition, the contractor will need to be inducted to DPTI's Cultural Heritage Guidelines and will be required to follow the 'stop work' provisions (in Master Specification Part 155 and Aboriginal Heritage Survey report for the project) if sites are discovered during construction.

*Refer to the main body of the report for other issues, impacts and mitigation measures associated with this project.*

## 2 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### 2.1 Impacts on the Biological Environment

#### *2.1.1 Flora*

**Impacts**
The following assessment is based on the latest concept designs (February 2015) which shows the proposed tunnel, road realignment alignment and possible road widening .The assesment includes other features that are likely to be relocated or impacted during construction, these include but are not limited to: services, stormwater, footpaths and car parking. A construction footprint 5-m on either side of the alignment has been applied to account for potential impacts in this area.

The department is reviewing a DPTI Vegetation Survey conducted in 2009 (VS 2009/058) and Vegetation Survey 2014/009 (file number 2014/04358/01) to provide final vegetation removal numbers.

**HACKNEY ROAD SECTION**

**Main Vegetation Type and Significance**
The majority of vegetation in the project area comprises of: street trees, areas of shrubs, amenity garden beds and some large mature trees.

It is estimated that up to 20 trees which meet Development Act (DAC) Regulated and Significant size criteria may be impacted. There are no trees within the project footprint which are individually listed on the Significant Tree Register within Adelaide City Council (ACC) Development Plan.

However, the following vegetation is stated of conservation importance within 'Community Land Management Plan Chapter 11', by ACC in 2013, and 'Adelaide Parklands and Squares Cultural Assessment Study', by David Jones in 2007 and 'Botanic Gardens of Adelaide - Master Plan Report', by Taylor Cullity Lethean in 2006):

- River Torrens revegetation and biodiversity plantings,
- A Carob tree planted between 1880's – 1910s near Bundeys Rd (VS 2009/058 - tree 542).
- Plane Trees which line the southern side of Plane Tree Drive and were planted in 1874 (VS 2009/058 - tree 268, 500, 501, 618, 619, 620).
- Botanic Park which dates back to 1874.

Other vegetation in the project area that may have high community value is the Meidiland roses in the Hackney Road median and the single row of Vines which separates Hackney Road from adjacent car parking. Transplanting the vines so a suitable location maybe considered as opposed to removing them

The majority of vegetation impacts will occur in the road median and an area of Parkland near the Wine Centre. Vegetation consists of street trees, low shrubs and ground covers within amenity garden beds. The amenity value of these plants can be relatively easily replaced within 2-10years.

**PARKLAND TUNNEL**

**Main Vegetation Type and Significance**
The vegetation in the project area comprises of large mature trees, street trees and occasional areas of shrubs and garden beds.

It is estimated that up to 10 may meet Development Act (DAC) Regulated and Significant size criteria.

No trees within the project area are individually listed on the Significant Tree Register within Adelaide City

Council Development Plan.

However, the following vegetation is stated of conservation importance within the 'Community Land Management Plan Chapter 14', by ACC in 2013, and 'Adelaide Parklands and Squares Cultural Assessment Study', by David Jones in 2007):

- White Cedar Avenues dating back to the mid 1870s,
- Camphor Laurel circle planting by the Lions Club dating back to the mid 1990s,
- Moreton Bay Fig dating from 1880s (VS 2009/058, tree 348),
- Peace and Friendship – Two garden Memorial stones dating from 1980 and 1996 (VS 2009/058 Vegetation 337 - 346.

Other vegetation in the project area that may have high community value is large Elm Trees (*Ulmus procera*) which line Rundle Road and any large tree within the parklands.

Vegetation impacts will generally occur through Rymill Park and along the western side of Rundle Park. However an area of parkland south of Grenfell Street and west of East Tce is likely to be impacted for road realignment. The majority of vegetation is large mature trees and two sections of low shrubs.

**Alternatives & Mitigation Measures**

To minimise the impact on vegetation being retained construction within the Tree Protection Zone (TPZ) should be avoided where possible. If work within the TPZ is unavoidable low impact construction techniques or materials should be investigated. These can include but are not limited to: further root investigation using hydrovac, directional boring, permeable pavements, raising local levels instead of excavated.

Additionally, vegetation impacts may be reduced within the construction footprint by investigating alternative construction methods, access and egress points and locations of stockpiles etc.

**Landscape Remediation**

The Adelaide City Council and the community is likely to insist that landscaping or on-ground works be conducted to replace the amenity of impacted vegetation. A detailed landscaping plan is to be prepared upon selection of the final design.

### *2.1.2 Fauna*

**Impacts**

Indirect impacts will be caused by the removal of vegetation. Specifically, the removal of a significant number of habitat hollows, which could provide breeding sites for state rated fauna species, including the Vulnerable Yellow-tailed Black-Cockatoo and the Rare rated Common Brushtailed Possum, both recorded on site, or in close proximity to the site will impact on the local fauna community. The Grey Currawong (rated at the subspecies level) and Rare rated Crested Shrike Tit and Australasian Darter have also been recorded. Removal of large numbers of mature trees will impact on habitat availability for these species.

There will be a significant amount of vegetation clearing on both banks of the Torrens for the construction of the bridge. This area is significantly degraded already implying that impacts to fauna will not be significant in this region, but may still occur.

**Alternatives & Mitigation Measures**

An effort should be made to reduce the impact on the surrounding vegetation wherever possible within project constraints.

### *2.1.3 Pest Animals & Plants*

**Impacts**

The project site is in a Nil – Very Low Risk Phytophthora area. No susceptible species are present and no control measures according to TSD Operational Instruction 21.3 are required.

There is a possibility for listed weed species to be present within the construction footprint. Given that the majority of this area is within the parklands, it is unlikely.

**Alternatives & Mitigation Measures**

Vegetation removed (including grubbing and topsoil stripping) that contains weed material shall be disposed of at a licensed waste disposal facility. Vegetation that is free of weed material may be mulched and retained on site to be used for future landscaping.

If listed weed species are present, they will be managed in accordance with the Natural Resources Management Act (2004).

## 2.2 Physical Environment

### *2.2.1 Water*

**Impacts**

The project footprint will intercept the First Creek crossing and will be constructed adjacent to the Botanic creek. Groundwater is of varying depths throughout the site, and as shallow as 2-3 m in some areas. A search of Water Connect (11/12/14) did not result in any groundwater measurements along Hackney Road. The groundwater level ranges from 2.7m to 4.3m in the Botanic Garden wetland region and stands around 6.8m just to the west of the National Wine Centre. A search of Water Connect (11/12/14) showed that the SWL in 1984 at the intersection of Botanic Road and Dequetteville was 5.8m. Just south of Bartels Road within the parklands, the SWL was shown to be 1.7m in 1992. To the east of Dequetteville Terrace, the SWL was 9.1m and to the west of East Terrace was 10.7m in 1934. These may be interpreted such that there is a groundwater mound within the parklands which warrants further investigation and may result in significant groundwater management. Further investigations along the final option are currently underway. Pending these results significant groundwater management may be required.

A new bridge is to be constructed on the western side of the existing bridge over the River Torrens. This will add a 14.4m of footprint width-wise from the edge of the existing bridge. The construction is likely to involve the clearing of topsoil, construction of abutments on the river banks and directional boring for the pile construction.

The existing stormwater along Hackney Rd runs directly into the Torrens. There is a potential that minor realignment and extension of stormwater drainage infrastructure is required. The Stormwater group are to be consulted throughout the design phase. The estimated increase in non-permeable surface area is approximately 0.6ha which is not expected to have a significant impact on the volume of stormwater runoff to the River Torrens or challenge the capacity of existing stormwater infrastructure.
New tunnel, realigned Rundle Rd and East terrace will require development of storm water infrastructure, the Stormwater group are to be consulted.

**Alternatives & Mitigation Measures**

The contractor will be required to develop dewatering strategy during construction.
The contractor should explore sustainable opportunities for re-use of recycled water.
Where mains water is used during construction, the contractor shall adhere to SA Water conservation measures. The contractor is required to store all hazardous materials and complete all refuelling activities away from stormwater inlets.

<u>Hackney Road Section:</u>

Due to the increase in impermeable area of 0.61ha for Option 1 the Stormwater group are to be consulted throughout the design phase to gauge any impacts on stormwater drainage and flooding. The increase in impermeable area is considered to be negligible, the stormwater group are still to be consulted as drainage patterns may change / there may be room for improvement.

A Water Quality Risk Assessment should be conducted due to the proximity of the construction to the River Torrens. This will inform the requirement of a Water Affecting Activities Permit Risk Assessment and a Soil Erosion Risk Assessment and will ensure that the requirements of the EPA Act (1993) are satisfied.

Parklands Tunnels:

Groundwater investigations results will be used to determine construction processes and the potential for future flooding of the tunnels.

A Water Quality Risk Assessment should be conducted due to the proximity of the construction to the First Creek and Botanic Creek and the Rymil Park Lake and the potential of flooding within the tunnel. This will inform the requirement of a Water Affecting Activities Permit Risk Assessment and a Soil Erosion Risk Assessment and will ensure that the requirements of the EPA Act (1993) are satisfied.

Due to the suspected high groundwater level, flooding of the tunnel may become a future issue. If this is found to be the case a stormwater pumping system should be investigated in line with a WQRA.

The Stormwater group are to be consulted throughout the design phase to gauge any impacts on stormwater drainage and flooding.

### *2.2.2 Air Quality*

**Impacts**

Air Quality Impact Assessment, including modelling is currently underway. Impact assessment will report the following:
(1) Determine the existing sources of air pollution and estimate the background Air Quality based on the existing EPA monitoring stations and the local conditions in the vicinity of the proposed project site.
(2) Determine the existing air quality concentrations in National Environment Protection (Ambient Air Quality)Measure for baseline purposes to enable an assessment of changes from the project;
(3) Obtain the local meteorological conditions from the Bureau of Meteorology and prepare a meteorological data file for use in the modelling and to summarise in the report.
(4) Determine the most stable and conservative meteorological conditions that will lead to the highest pollution levels, as well as the typical meteorological conditions.
(5) Outline the Air Quality Criteria to be used during the assessment based on the NEPMs for Ambient Air Quality and Air Toxics, the Environment Protection (Air Quality) Policy 1994 and other relevant jurisdictions. This section of the Report should also include a summary of the Health Impacts of all the Air Pollutants being modelled. Compare the
modelled pollutant levels with the NEPM criteria and any other project specific criteria.
(6) Validate calibration of the model using local conditions.
(7) Estimate existing maximum background concentrations for the following pollutant parameters for the years [2015, 2020, 2035]:Benzene, Formaldehyde, Nitrogen dioxide, Toluene, Carbon monoxide, Xylenes, PAHs (as BaP), Acetaldehyde , Butadiene
(8) Determine the average vehicle fleet composite emission rates for the available traffic modelling years.

Air Quality Model
The department will discuss suitability of the proposed Air Quality model with the EPA.

Consultant proposed to use the GRAL air dispersion model for the assessment of the tunnel portal emissions from the operation of the O-Bahn extension. GRAL is a Lagrangian Particle model developed at the Institute for Internal Combustion Engines and Thermodynamics, Technical University Graz, Austria (Oettl et al 2002, Oettl et al 2003, Oettl et al 2005). GRAL has been extensively evaluated against experimental data from five different tunnel portals both in flat and complex terrain, with high and low traffic volumes, namely the Enrei, Hitachi and Ninomiya tunnels in Japan (Oettl et al 2003), and the Enrentalerbergtunnel in Austria (Oettl et al 2002). GRAL has also been compared to other models (ADMS, LASAT, MUMO) and on the basis of this comparison GRAL was recommended for all tunnel emissions in Austria (Puxbaum et al 2003). GRAL (Oettl et al, 2002) was specifically designed and built for the dispersion of pollutants from roadways and tunnel portal. SF6 tracer experiments performed over two days in the vicinity of a road tunnel portal in Austria showed that there was a strong dependency of the jet stream from the tunnel portals on the ambient wind field. The changing ambient wind field direction (meandering) causes the jet stream of the tunnel portal to change its position on the order of tens of metres, while the characteristic length scale of eddies evolving at the surface between the jet stream and

the ambient wind field are of the order of some meters. This specific effect was found to be more important than the diffusion due to shear stresses along the surface between the jet stream and the ambient wind field. GRAL was developed from these experiments and specifically describes these features in its model. GRAL tracks single particles whose velocities are determined by the prevailing wind field and the features of the tunnel jet stream which include the tunnel exit velocity and temperature difference between the jet stream and the ambient wind field.

There will be some short term impacts to local air quality from vehicle emissions and dust resulting from plant operating during construction works. This will depend on the time year that construction activities take place.

**Alternatives & Mitigation Measures**

Air Quality modelling results will be used to recommend appropriate mitigation measures if required.

The contractor should minimise plant movements within, to and from the CAZ, including turning off plant rather than leaving plant to idle wherever possible. Plant should also be kept in good working order and be maintained regularly to minimise emissions.

The Contractor will be required to manage dust through the use of water carts where necessary.

### *2.2.3 Greenhouse*

**Impacts**

There will be vegetation clearance involved in the delivery of this project (refer to section 2.1.1 for details) as well as the use of fuel, lighting and materials. It is ideal that the impact of these actions are minimised.

The sustainability of the project may be increased with the use of energy efficient lighting, revegetation and the implementation of WSUD principles into landscaping/stormwater management etc.

**Alternatives & Mitigation Measures**

Further investigation is required to determine the level of Greenhouse assessment.

### *2.2.4 Site Contamination*

**Impacts**

The department has engaged a consultant to conduct soil and groundwater contamination investigations. Current testing involves *in situ* sampling to determine the classification of the soil for offsite disposal and re use on site in accordance with Waste Derived Fill Guidelines (SA EPA) and NEPM(site contamination) 2014.

In recent years there have been a number of projects in Adelaide's' parklands. Works in the West End, Adelaide Oval, Adelaide Oval Footbridge, and the Brittania Roundabout have all indicated a presence of contaminated soil. There are two reasons for these elevated levels: 1) the historic use of parklands as dumping grounds and 2) naturally occurring hydrocarbons due to the extended presence of vegetation.

In the parklands it is likely that the most contaminated soil will be in the upper levels and the degree of contamination will reduce as the depth increases. The nearest of the recent works in the parklands is the Brittania Roundabout. At this site, the first 600mm or parkland soil was contaminated.

An old tramway exists through Rymil Park, running from the top of Rundle Road to the embankment adjacent to the Rymil Park Lake. In addition to the potential contamination due to historical dumping, this poses an increased chance of encountering contamination within this former corridor.

**Alternatives & Mitigation Measures**

Contractors should refer to Operational Instruction 21.6 "Recycled Fill Materials for Transport

Infrastructure" for the appropriate re-use and disposal of surplus soil, to ensure that adverse effects on human health and the environment are avoided, and works are carried out in accordance with the Environment Protection Act 1993.

Innovative engineering design may offer opportunities for retaining the contaminated material on site and therefore reduce disposal cost. This is one of the options to be further explored in construction and design phase.

Any asphalt, kerb and gutter that is ripped up may be recycled to be used as RAP.

### 2.2.5 Waste & Resource Use

**Impacts**

At this stage use of recycled materials for this project will extend to balancing cut and fill, recycling of kerb & gutter and other recyclable construction materials and reuse of pavement materials. Further investigation into using recycled products and reusing materials for lighting, urban design, landscaping etc will continue throughout the detailed design phase.

There will be some wastes generated on site such as:

- Cleared vegetation
- General litter
- Waste construction materials
- Excess soil

**Alternatives & Mitigation Measures**

The use of alternative construction materials such as geopolymer concrete should be investigated for low risk items.

Recycled Fill Materials will be used in accordance with Transport Infrastructure Operational Instruction 21.6.

On site waste shall be managed to ensure it is adequately contained and disposed of appropriately to a licensed waste disposal facility.

Vegetation will be mulched for use in new landscaped areas wherever possible

### *2.2.6 Geophysical Factors*

**Impacts**

Hackney Road Section and River Torrens:

The "Adelaide Parklands and Cultural Assessment Study" (2007) identifies topographical form of the River Torrens/Karrawirra Parri riverscape (all land between the river and War memorial Drive) as having 'Some Aesthetic merit' as "This is a sharp diverse undulating landscape precinct with different slopes, aspects, and affording considerable view of the River corridor and over toward the Zoo and Botanic Park."

This view of the riverscape will be somewhat impacted by the construction of a pedestrian bridge over the River Torrens to the west of the existing Hackeny bridge. The bridge will have some impact on the escarpment of the Torrens.

The Parklands

The post-construction landscape is to be significantly improved to pre-construction appearance. Effort should be made to harmonise the design of the tunnel portals with the Parklands. The realignment of Rundle road and East terrace is in line with the former tramline embankment through Rymill Park. This will create opportunities for a new urban landscape design in consultation with the community. The project has the opportunity to contribute back to the Parklands and in consultation with the community and the Adelaide City Council develop a whole new East End precinct.

**Alternatives & Mitigation Measures**

The Adelaide City Council and the community is likely to insist that landscaping or on-ground works be conducted to replace the amenity of impacted vegetation. A detailed landscaping plan is to be prepared upon selection of the final design.

Landscaping options should include some revegetation of the work zone and further along the River Torrens with native species to enhance the natural riverscape.

## 2.3 Social Environment

### *2.3.1 Noise and vibration*

**Impacts**

The department has engaged a consultant to produce Noise and Vibration Impact Assessment which will report the following:

(1) Noise monitoring based on 4 unattended on site monitors over 7 days.

It is confirmed that the noise monitoring will:

- be undertaken at times outside of atypical traffic flow conditions (e.g. public and school holidays)
- be undertaken at a location that is not affected by extraneous noise sources
- be correlated to temperature, atmospheric pressure, relative humidity, wind direction and speed, and precipitation data obtained from the nearest Bureau of Meteorology recording station.

(2) Noise Modelling

- Prepare a 3D noise model of the existing roads and future incorporating the new busway and re-aligned roads. The noise modelling will be undertaken with Sound Plan which implements the UK DoE (1988), *Calculation of Road Traffic Noise* (CoRTN) algorithm.
- Validate the existing roads noise model through comparison with noise measurement data obtained from the
noise monitoring.
- Preparation of noise contour plots for the existing (2015) traffic conditions.
- Noise modelling to assess and predict future noise levels on opening (2017) and 10 years after opening (2027) for each road section
- Prepare noise contour plans for the future (2017 and 2027) with and without acoustic treatments.
- Prepare tabulated data for all noise contour predictions undertaken at each noise sensitive receiver. The tabulated data will present the LAeq,15hr and LAeq,9hr and include supporting documentation for the conversion from the LA10,18hr.

(3) Noise Mitigation Plan

Prepare a Noise Mitigation Plan (NMP) in accordance with DPTI's RTNG 2014.

- Identify any reasonable and practicable noise mitigation measures that are required and the options for implementing such measures. The options will be developed in accordance with the RTNG.
- The NMP will summarise treatment options that were assessed during the modelling and recommend a reasonable and practicable mix of road surface treatments, noise barriers and façade package treatments.
- The NMP will provide justification and transparency into why the specific mix of mitigation options was chosen (e.g. potential dB reduction, priority to achievement of outdoor noise criteria, relative costs etc).
- Advise on which facades on a property may require treatment.
- Note that the NMP outlines conceptual mitigation solutions only and does not provide specific detailed design information suitable for construction.

(4) Vibration

- Investigate potential vibration impacts that may be produced by the construction and operation of the project,
in particular in relation to the tunnel
- Identify reasonable and practicable mitigation measures to address possible vibration impacts
- Investigations and conclusions to be in accordance with DPTI's Operational Instruction OI 21.7 and German Standard DIN 4150 Part 3.

**Alternatives & Mitigation Measures**

Measures outlined in DPTI's Operational instruction 21.7 'Management of Noise and Vibration: Construction and Maintenance Activities' shall be adhered to during design and construction. This

includes the management and restriction of vibration near heritage structures. A full list of which is available at KNet#4019503

Noise mitigation and management plans will highlight any further actions to reduce the impact on sensitive receptors during construction. Noise during construction works, particularly any night works will be minimised in accordance with Road Traffic Noise Guidelines but some construction noise will be unavoidable. If required, the contractor shall prepare a Night Works Management Plan prior to conducting night works to be approved by a DPTI Senior Environmental Management Officer.

The community shall be kept well-informed of works, particularly night works, by DPTI's communication team.

### *2.3.2 Community and Land Use*

**Impacts**

The Adelaide Park Lands is a National Heritage place and considered an important land use in Adelaide and there are number of stakeholders that are sensitive about any impacts. The project will shortly commence community consultation process. The project has considered extensive community events program for this part of the parklands and acknowledges that throughout the construction phase there may be impacts on the community events in the area. Construction program will also take into consideration community events and limit constriction where possible during those times.

Works along Hackney Road will have impacts on Vailima Gardens Aged Care Facility, St Peters College, Botanic Gardens, Wine Centre and a number of other hospitality, commercial venues and residential estates are located on Hackney Road and may be subject to some short term construction work impacts, however, access to and from the properties are unlikely to be impacted.

**Alternatives & Mitigation Measures**

Community consultation for the project will commence shortly. Issues of access impacts, amenity, land use, inequitable impacts on stakeholders, construction noise impacts etc will be addressed through the project's Communication Management Plan driven by the Communications Team.

### *2.3.3 Access*

**Impacts**

There will be significant obstructions to foot, bike, buss and motor vehicular traffic during construction which is likely to result in delays.
There will be some disruption to O-Bahn services and passengers during the construction phase of the project. Construction will be carefully planned to minimise the impact wherever possible and details will be communicated to passengers as they become available.
The majority of commercial businesses are along the eastern stretch of Hackney road and as such, access is not likely to be inhibited (construction is mainly occurring on the western side). Access to the Adelaide Zoo and the Botanic Garden via Plane Tree Drive and Botanic Drive will be maintained during construction.

**Alternatives & Mitigation Measures**
Access to all sites throughout the construction process should be planned to minimise impacts on local businesses.

Alternate city access routes will be promoted during the construction phase.

### *2.3.4 Amenity*

**Impacts**

The Adelaide City Council and the community is likely to insist that landscaping or on-ground works be conducted to replace the amenity of impacted vegetation. A detailed landscaping plan is to be prepared upon selection of the final design.

**Alternatives & Mitigation Measures**

Landscape and urban design will be undertaken to ensure that any amenity sites disturbed during construction are restored. Also, there should be a focus on greening the transit corridors to tie in with the parklands and be used for amenity tree offsets.

WSUD principles and Crime Prevention through Environmental Design principles should be adopted where practical.

Consultation with community members regarding visual/amenity impacts will be part of the planning and design phase. Liaison could include releases of brochure information and opening of a community enquiry line, time for public comment on development applications and community 'Question and Answer' days.

Consultation with council will involve presenting and discussing various options to select the best balance of landscaping/open space opportunities, access, parking and bus-priority.

### *2.3.5 Non Indigenous Heritage and Cultural Impacts*

**Impacts**

The department has engaged a heritage architect to produce Heritage Impact Assessment. Extensive list of heritage places within the project area and in the vicinity is attached in Appendix A.
The following few are immediately within the project site:

National Heritage

- The Adelaide Parklands are a National Heritage Place listed under the Environmental Protection and Biodiversity Conservation Act 1999. Table 2.3.1 is a summary of the encroachment of each option into the parklands.

State Heritage

- The Hackney Bridge is a State Heritage place under the *Heritage Act 1993*. The bridge embodies a number of values making significant at a state level which are outlined in the official Gazette notice
- *Romilly House*
- *Royal Hotel*
- *Marshal and Brougham offices*
- Former Adelaide Fruit and Produce Exchange Facades and Shops

Local Heritage

- The Hackney Hotel is a Local Heritage Place located near the works at 95 Hackney Road.
- The Carriageway Entrance Gates, located at the entrance of Botanic Drive, are a local heritage item of 'City Significance' in the Adelaide City Council Development Plan for which Development Approval is required. Adelaide City Council is the approving authority for development within the Adelaide Parklands. Approval is also required for this activity from the Board of the Botanic Gardens under the *Botanic Gardens and State Herbarium Act 1978.*
- Erected in the 1870s, the Valve House is the last remaining building from the former Kent Town Waterworks, which occupied the north-western corner of Rundle Park/Kadlitpinna. While this is not a heritage site it is of cultural and historic significance. Due to its close proximity to the construction site (<30m) it may be impacted.

**Alternatives & Mitigation Measures**

The construction process is to be mindful of the heritage nature of the surrounding sites. Low vibration machinery and techniques should be used and vibration monitoring may be required. Refer to Section 2.3.1 for further details. A vibration management plan is to be prepared and a dilapidation survey and

vibration monitoring will be required.

### *2.3.6 Aboriginal Heritage*

**Impacts**

The department has engaged an archaeologist to produce a risk assessment and Aboriginal cultural heritage survey for the entire project site.

Parts of the project site were surveyed previously by ACHM in November 2009 (Knet#4274453) from the end of the current O-Bahn on Park terrace, to the Botanic Rd/Hackney Rd/ Dequetteville Tce intersection. The River Torrens is a sacred site for which approval to damage, disturb or interfere with the site is required under Section 23 of the *Aboriginal Heritage Act 1988.*

No archaeological sites were identified during previous the survey but it was determined that there is a high likely hood of revealing sub surface archaeological deposits during earthworks near the River Torrens.

**Alternatives & Mitigation Measures**

Due to the proximity of the development sites to the River Torrens, it is likely that a Section 23 authorisation under the SA Aboriginal Heritage Act 1988 will be required. It is likely that a monitoring agreement will need to be prepared for this project to establish the terms of reference under which monitoring will be conducted by Kaurna monitors.

In addition, the contractor will need to be inducted to DPTI's Cultural Heritage Guidelines and will be required to follow the 'stop work' provisions (in Master Specification Part 155 and the Aboriginal Heritage Survey report for the project) if sites are discovered during construction.

## 2.4 External Approvals and Permits

| | Tick or NA | Comments (e.g. timeframes, approving authority) |
|---|---|---|
| Native Vegetation Approval | ☑ | |
| Crown Development Approval | ☑ | |
| Water Affecting Activities Permit | ☑ | |
| EPA Licences | ☑ | (specify permit) |
| Land acquisition | ☐ | (will trigger contamination site history report) |
| Native Title Notification | ☐ | |
| Local Government Consulted | ☑ | |
| EPBC Referral | ☑ | |
| Aboriginal Heritage | ☑ | |
| Local, State or National Heritage Approval | ☑ | |
| NRM Board Consulted (required if transporting plants declared under Part 175 of NRM Act) | ☑ | |
| Other (please specify) | ☐ | |

**Appendix A: O-Bahn City Access**
**Non-Aboriginal Heritage Inventory**

| Item | Heritage Rating L=Local S=State N=National RNE- Register of the National Estate | Address/Location | Council | Property Details | Advice/Info |
|---|---|---|---|---|---|
| | | | | | |
| Adelaide Parklands and City Layout | N | Adelaide | ACC | NA- ACC boundary | *Impacts required*<br>EPBC Referral being prepared- Impacts required |
| | | | | | |
| **North of Hackney Bridge** | | | | | |
| Mann Tce Olive Plantation (Parks, Garden and trees) | S | Mann Tce, Nth Adelaide | Wville | CR 5452/84 | *May not impact* |
| **Hackney Bridge** | | | | | |
| Hackney Rd Bridge Metal Arch, former New Company) | S | Hackney Rd | Wville, NPStP | Road Reserve<br>CT 0000/0000<br>H105100 S256,<br>CT0000/0000<br>H106100 S475<br>DPLG ID 8422 | *Impacts required*<br>Met with Peter Wells, western side preferable to eastern, new structure preferable to in-filling.<br>Continue consultation. |
| Hackney Bridge (Rd Bridge, western bridge) | RNE | | Wville, NPStP | Road Reserve | *Impacts required* |
| **Western side Hackney Road- Adelaide City Council** | | | | | |
| Carriageway entrance gates | L (City Significance) | Hackney Rd (Botanic Drive) Botanic Park. | ACC | Parcel from DCDB?<br>H0201178 | *Impacts required*<br>Liaison with ACC heritage advisor Liz Caris (8203 7445). Info Sheet received. Development Approval not technically required but council approval required. |
| Former Municipal Tramways trust (MTT) Hackney Tram (later bus) Depot, including the Goodman Building & Tram Barn (now the plant | S | Hackney Rd | ACC | CR5943/441 D66751 A100<br><br>CR 5943/443 D66751 A102 | *Will not impact*<br>Building Footprint- *2 buildings, Code 1524, 1524; Object ID- 10289, 10290; Shr Code 12349, 12349 |

| | | | | | |
|---|---|---|---|---|---|
| Biodiversity centre) Adel. Botanic Garden | | | | | |
| National Wine Centre of Australia Administration Building [Yarrabee House] (former lunatic Asylum Medical Officer's Residence) and Front Fence | S, RNE | Botanic Rd | ACC | CR 5943/441 D66751 A100 | *Impacts unlikely*<br>Building Footprint- This place is associated with Adel Lunatic Asylum that operated for 40 years on a<br>site that is now part of the Adel Botanic Gdns.<br>** Multiple listings for multiple buildings |
| **Eastern Side Hackney Rd- City Norwood, Payneham, St Peters** | | | | | |
| Hackney Hotel | L | 95 Hackney Rd | NPStP | DPLG ID 6391<br><br>CT5107/323, CT5213/742. CT5106/696, CT5107/151 | *Impacts unlikely*<br>Whole of exterior excluding contemporary additions. |
| Dwelling ('Edgerly') | L | 85 Hackney Rd | NPStP | CT5875/32 | *Impacts unlikely*<br>Whole of exterior |
| Former Dwelling ('Park Lodge') | L | 79 | NPStP | CT5800/54 | *Impacts unlikely*<br>Whole of exterior including front fence (excluding additions) |
| Mocatta house | L | 69 Hackney Road | | CT5366/41 | *Impacts unlikely*<br>Whole of exterior including garden. |
| Dwelling | L | 61 Hackney Road | NPStP | CT574/791 | *Impacts unlikely*<br>Whole of exterior |
| Dwelling ('Parkview') and Palm Trees | L | 57 Hackney Rd | NPStP | DPLG ID 6385<br><br>CT5883/874 | *Impacts unlikely*<br>Whole of exterior including two palm trees and front fence. Advice from Kiki Michalos (8366 4509) on 13/10/09 by phone- clearly separate boundary to the St Peters front gates. The Front fence is included between the two corners of the allotment boundary. The St Peters School gates have no formal heritage value. They are not a contributory item. |

| | | | | | |
|---|---|---|---|---|---|
| Old School House, St Peters College | S | Hackney Rd | NPStP | DPLG ID 5607<br><br>CT 0000/0000 H105100 | *Will not impact* |
| St Peters College | L | Hackney Rd | NPStP | DPLG ID 6393<br><br>Plan/Parcel<br>GM 2/71 | *Will not impact*<br>Includes: Big school room, chapel, Shinkfiled bldg, memorial hall, Da Costa Hall, 'Headmasters House', 'Pentreath', Chem bldg, physics bldng, Big Quad classrooms and memorial fountain. |
| Palm House (Former Dwelling), St Peter's College | S | Hackney Rd | NPStP | DPLG ID 5608<br><br>CT 5894/984 F136303 A52 | *Will not impact*<br>Building footprint. |
| Dwelling | C | 25 Hackney Rd | NPStP | CT 5849/110 | *Impacts unlikely*<br>Parcel |
| Dwelling | C | 27 Hackney Rd | NPStP | CT5849/112 | *Impacts unlikely* Parcel |
| Row Dwelling | L | 9 Hackney Rd | NPStP | CT5913/932<br>CT5913/931 | *Impacts unlikely* Whole of exterior |
| Row Dwelling | L | 7 Hackney Rd | NPStP | CT5913/931<br>CT5913/932 | *Impacts unlikely* Whole of exterior |
| Row Dwelling | L | 5 Hackney Rd | NPStP | CT5913/931<br>CT5913/932 | *Impacts unlikely* Whole of exterior |
| Row Dwelling | L | 3 Hackney Rd | NPStP | CT5913/931<br>CT5913/932 | *Impacts unlikely* Whole of exterior |
| **North Terrace** | | | | | |
| Former Romilly House | S | 1 North Tce | NPStP | DPLG ID 5601<br>CT5376/910<br>F136268 A17 | *Impacts unlikely* Building footprint |
| Royal Hotel | S | 2 North Tce | NPStP | DPLG ID 6039<br>CT 5407/163<br>F10782 A100 | *Impacts unlikely* Building footprint |
| Main North Terrace Gates, Adelaide Botanic Garden | S, RNE | North Tce | ACC | CR5943/441<br>D66751 | *Will not impact* Building footprint |
| Botanic Bar (Former Botanic Hotel) | S, RNE | 309 North Tce | ACC | CT 5616/545 S13876 U1<br>CT 5616/546 S13876 U2<br>CT 5616/547 S13876 U3<br>CT 5616/548 S13876 U4<br>CT 5616/549 S13876 U5<br>CT 5616/550 S13876 U6<br>CT 5616/551 S13876 U7<br>CT 5616/552 S13876 U8 | *Impacts unlikely* Building footprint |

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|---|---|---|---|---|---|
| | | | | CT 5616/553 S13876 U9<br>CT 5616/554 S13876 UCP | |
| Botanic Garden of Adelaide | RNE | North Tce | ACC | - | *Impacts unlikely* |
| Botanic Garden Toolshed | RNE | North Tce | ACC | - | *Impacts possible* |
| Museum of Economic Botany | RNE | Park Lands | ACC | - | *Impacts unlikely* |
| **Botanic Road/North Tce** | | | | | |
| East Lodge (former part of Lunatic Asylum) Adelaide Botanic Garden | S & RNE | Botanic Rd, Adelaide | ACC | CR5943/441 D66751 A100<br>CR5943/442 D66751 A101 | *Impacts may be required* Building footprint |
| Stone Wall along Botanic Rd, Botanic Garden Boundary | S | Botanic Rd, Adelaide | ACC | CR 5943/441 D66751 A100<br>CR5943/442 D66751 A101 | *Impacts unlikely* Building footprint |
| **East Terrace** | | | | | |
| Adelaide City (southeast) Conservation Area | RNE | East Tce | | - | *Impacts may be required* |
| War Horse Memorial Trough and Obelisk | L | Cnr East Tce and Botanic Rd | ACC | ID CODE H0201591 | *Impacts unlikely* Building Footprint |
| Office, East End Market Buildings | S | 6-10 East Tce | ACC | CT5859/691 | *Impacts unlikely* Building footprint |
| PJ O'Brien's (Former East End Market Hotel) | S | 10-14 East Tce | ACC | CT 5060/99 | *Impacts unlikely* Building footprint |
| Former East End Market Shops & Offices | L | 17-20 East Tce/300 Rundle St | ACC | CT4388/396 | *Impacts unlikely* Building footprint |
| Shops | L | 296/298 Rundle St | ACC | CT4388/396 | *Impacts unlikely* Building footprint |
| Stag Hotel | S | 299 Rundle St | ACC | CT599/515 D56306A1 | *Impacts unlikely* Building footprint |
| Former Adel Fruit and Produce Exchange Facades and Shops | S | 26-36, 212-248, 275 & 12-22 Eat Tce, Grenfell, Rundle and union St | ACC | CT 5389/533 D45292 A85<br>CT 5314/670 D44306 A81<br>CT 5307/946 S13516 U40<br>CT 5307/945 S13516 U39<br>CT 5307/944 S13516 U38<br>CT 5284/434 D43306 A73<br>CT 5284/433 D43306 A72<br>CT 5315/879 S13704 U40<br>CT 5315/878 S13704 U39<br>CT 5315/877 S13704 U38<br>CT 5271/115 S13337 U18<br>CT 5271/114 S13337 U17<br>CT 5271/113 S13337 U16<br>CT 5271/112 S13337 U15<br>CT 5271/111 S13337 U14<br>CT 5587/107 D44306 A82 | *Impacts unlikely* Building footprint |

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|---|---|---|---|---|---|
| | | | | CT 5587/108 D44306 A83<br>CT 5644/71 D44549 A77<br>CT 5707/704 S13704 UCP<br>CT 5746/979 S14014 UCP<br>CT 5746/980 D42210 A77<br>CT 5843/338 D55792 A116<br>CT 5843/339 D45716 A89<br>CT 5845/845 D48328 A98-100<br>CT 5307/952 S13337 UCP<br>CT 5995/522 D56306 A11 | |
| **Dequetteville Terrace** | | | | | |
| Marshall and Brougham Offices (former Dwelling) | S | 12 Dequetteville Tce | NPStP | CT5409/419 D29952 A200 | *Impacts unlikely* Building Footprint |
| **Rundle Street** | | | | | |
| Former Kent Town Brewery and malthouse | S | Rundle St, Kent Town | NPStP | DPLG ID 6100<br>CT 5870/385 C21197 A1<br>CT 5870/386 C21197 A2<br>CT 5870/387 C21197 A3<br>CT 5870/388 C21197 A4<br>CT 5870/389 C21197 A5<br>CT 5870/390 C21197 A6<br>CT 5870/391 C21197 A7<br>CT 5870/392 C21197 A8<br>CT 5870/393 C21197 A9<br>CT 5870/394 C21197 A10<br>CT 5870/395 C21197 A11<br>CT 5870/396 C21197 A12<br>CT 5870/397 C21197 A13<br>CT 5870/398 C21197 A14<br>CT 5870/399 C21197 A15<br>CT 5870/400 C21197 A16<br>CT 5870/401 C21197 A17<br>CT 5870/402 C21197 A18<br>CT 5870/403 C21197 A19<br>CT 5870/404 C21197 A20<br>CT 5870/405 C21197 A21<br>CT 5870/406 C21197 A22<br>CT 5870/407 C21197 A23<br>CT 5870/408 C21197 A24<br>CT 5870/409 C21197 A25<br>CT 5870/410 C21197 A26<br>CT 5895/860 C21197 UCP<br>CT 5896/266 C21726 L101<br>CT 5896/267 C21726 L102 | *Will not impact* Building Footprint |

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| | | | | CT 5896/268 C21726 L103<br>CT 5896/269 C21726 L104<br>CT 5896/270 C21726 L105<br>CT 5896/271 C21726 L106<br>CT 5896/272 C21726 L107<br>CT 5896/273 C21726 L108<br>CT 5896/274 C21726 L109<br>CT 5896/275 C21726 L110<br>CT 5896/276 C21726 L111<br>CT 5896/277 C21726 L112<br>CT 5896/278 C21726 L113<br>CT 5896/279 C21726 L114<br>CT 5896/280 C21726 L115<br>CT 5896/281 C21726 L116<br>CT 5896/282 C21726 L117<br>CT 5896/283 C21726 L118<br>CT 5896/284 C21726 L119<br>CT 5896/285 C21726 L120<br>CT 5896/286 C21726 L121<br>CT 5896/287 C21726 L122<br>CT 5896/288 C21726 L123<br>CT 5896/289 C21726 L124<br>CT 5896/290 C21726 L125<br>CT 5896/291 C21726 L126<br>CT 5896/292 C21726 L127<br>CT 5896/293 C21726 L128<br>CT 5896/294 C21726 L129<br>CT 5896/295 C21726 L130<br>CT 5896/296 C21726 L131<br>CT 5896/297 C21726 L132<br>CT 5896/298 C21726 L133<br>CT 5896/299 C21726 L134<br>CT 5896/300 C21726 L135<br>CT 5896/301 C21726 L136<br>CT 5896/302 C21726 L137<br>CT 5896/303 C21726 L138<br>CT 5896/304 C21726 L139<br>CT 5896/305 C21726 L140<br>CT 5896/306 C21726 L141<br>CT 5896/307 C21726 L142<br>CT 5896/308 C21726 L143<br>\CT 5896/309 C21726 L144<br>CT 5896/310 C21726 L145<br>CT 5896/311 C21726 L146 | |

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| | | | | CT 5896/312 C21726 L147<br>CT 5896/313 C21726 LCP<br>CT 5870/411 C21197 L27<br>CT 5848/853 C20863 LCP | |
| **Grenfell St – East Tce to King William St** | | | | | |
| Tandanya | S | 243-253 Grenfell St | ACC | CT5689/763 F181806 A154 | *Impacts unlikely* Building footprint |
| (Repeat) Former Adel Fruit and Produce Exchange Facades and Shops | S, RNE | 26-36, 212-248, 275 & 12-22 Eat Tce, Grenfell, Rundle and union St | ACC | (Repeat) | *Impacts unlikely* Building footprint |
| Electric light Hotel (Originally Producers Club Hotel) | S | 233-235 Grenfell St | ACC | CT5528/17 F181802 A150<br>CT5976/63 F102897 A22 | *Impacts unlikely* Building footprint |
| Crown and Anchor Hotel | L | 196-198 Grenfell St/ 35-39 Union St | ACC | CT4376/273 | *Impacts unlikely* Parcel (from DCDB) |
| Griffin's Head Hotel | L | 36-40 Hindmarsh Square | ACC | CT 4197/957 | *Impacts unlikely* Building footprint |
| Producers Hotel (former) | RNE | 233-235 Grenfell St | ACC | - | *Impacts unlikely* |
| Adelaide Electric Supply (former) | RNE | 243-253 Grenfell St | ACC | - | *Impacts unlikely* |
| Hindmarsh Buildings | L | 134-140 Grenfell St | ACC | CT1472/33 | *Impacts unlikely* Parcel (from DCDB), Business House/Offices |
| Adelaide Arcade and Grays Arcade | S, RNE | 111-117 Rundle mall | ACC | Many | *Impacts unlikely* Building footprint |
| Wyatt House | L | 113-119 Grenfell St | ACC | CT4314/356 | *Impacts unlikely* Parcel (from DCDB) |
| Offices (former Mail Exchange, former Warehouse) | S, RNE | 101-107 Grenfell St | ACC | CT5956/741 F181758 A106 | *Impacts unlikely* Building footprint |
| Bertram (sometime Bible) House (former British & Foreign Bible Society Office and upstairs Hall) | S, RNE | 73 Grenfell Street ADELAIDE | ACC | CT 5792/704 F181777 A125 | *Impacts unlikely* Building footprint |
| Wiggs Building | L | 63-69 Grenfell St | ACC | CT4257/465 | *Impacts unlikely* Building footprint |
| Mutual Life Chambers and Widows Fund Building (former) | RNE | 38-44 Grenfell St | ACC | - | *Impacts unlikely* |
| Eagle Star insurance Building (former) | RNE | 28 Grenfell St | ACC | - | *Impacts unlikely* |
| Uniting Church Hall, Classrooms, Store, Cottage, former Manse | RNE | 25, 27, 36 Grenfell St | ACC | - | *Impacts unlikely* |
| Executor Trustee office | S | 22 Grenfell St | ACC | CT5155/76 D25900 A50 | *Impacts unlikely* Building |

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|---|---|---|---|---|---|
| | | | | | footprint |
| Office (former Alliance Assurance Company Building) | S | 18 Grenfell St | ACC | DPLG ID 1287<br>CT 5997/789 C24219 A1<br>CT 5997/790 C24219 A2<br>CT 5997/791 C24219 ACP | *Impacts unlikely* Building footprint |
| Tattersalls Building | S, RNE | 12-14 Grenfell St | ACC | CT5855/334 F31390A4 | *Impacts unlikely* Building footprint |
| Quest on King William (former T&G- Australasian Temperance and General Mutual General Life Assurance Society Ltd ] Building) | S, RNE | 82 King William St | ACC | DPLG ID 1277<br>CT 5791/746 C14273 L1<br>CT 5791/747 C14273 L30<br>CT 5791/748 C14273 L31<br>CT 5791/749 C14273 L32<br>CT 5791/750 C14273 L33<br>CT 5791/751 C14273 L34<br>CT 5791/752 C14273 L35<br>CT 5791/753 C14273 L36<br>CT 5791/754 C14273 L37<br>CT 5791/755 C14273 L38<br>CT 5791/756 C14273 L39<br>CT 5791/757 C14273 L40<br>CT 5791/758 C14273 L41<br>CT 5791/759 C14273 U42<br>CT 5791/760 C14273 U43<br>CT 5791/761 C14273 U44<br>CT 5791/762 C14273 L45<br>CT 5791/763 C14273 L46<br>CT 5791/764 C14273 L47<br>CT 5791/765 C14273 L48<br>CT 5791/766 C14273 L49<br>CT 5791/767 C14273 L50<br>CT 5791/768 C14273 L51<br>CT 5791/769 C14273 A52<br>CT 5791/770 C14273 L53<br>CT 5791/771 C14273 L54<br>CT 5791/772 C14273 L55<br>CT 5791/773 C14273 L56<br>CT 5791/774 C14273 L57<br>CT 5791/775 C14273 U58<br>CT 5791/776 C14273 U59<br>CT 5791/777 C14273 U60<br>CT 5791/778 C14273 L61<br>CT 5791/779 C14273 L62<br>CT 5791/780 C14273 L63<br>CT 5791/781 C14273 L64, | *Impacts unlikely* General Mutual Life Assurance Society Ltd ] Building) |

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|---|---|---|---|---|---|
| | | | | CT 5791/786 C14273 I104<br>CT 5863/335 C14273 A2<br>CT 5863/336 C14273 A3<br>CT 5863/337 C14273 A4<br>CT 5863/338 C14273 A5<br>CT 5863/339 C14273 A6<br>CT 5863/340 C14273 A7<br>CT 5863/341 C14273 U8<br>CT 5863/344 C14273 U73<br>CT 5863/342 C14273 U71<br>CT 5863/343 C14273 A72<br>CT 5900/216 C14273 L9<br>CT 5900/217 C14273 L10<br>CT 5900/218 C14273 L11<br>CT 5900/219 C14273 L12<br>CT 5900/220 C14273 L13<br>CT 5900/221 C14273 L14<br>CT 5900/222 C14273 L15<br>CT 5900/237 C14273 LCP<br>CT 5900/224 C14273 L17<br>CT 5900/225 C14273 L18<br>CT 5900/226 C14273 L19<br>CT 5900/227 C14273 L20<br>CT 5900/228 C14273 L21<br>CT 5900/229 C14273 L22<br>CT 5900/230 C14273 A23<br>CT 5900/223 C14273 L16<br>CT 5900/231 C14273 U24<br>CT 5900/232 C14273 U25<br>CT 5900/233 C14273 U26<br>CT 5900/234 C14273 U27<br>CT 5900/235 C14273 U28<br>CT 5900/236 C14273 U29 | |
| Fitness First (Former Bank of Adelaide Head office) | S | 81 King William St | ACC | CT 6044/501 F181407 A565<br>CT 6044/502 D31102 A103 | *Impacts unlikely* Building footprint |
| **Currie St – King William St to West Terrace** | | | | | |
| Adelaide Steamship Company Building (former0 | RNE | 17 Currie St | ACC | - | Destroyed |
| Former Commonwealth Bank, former Savings Bank of SA Head Office | S, RNE | 23 Currie St | ACC | CT5930/603 D31102 A100<br>CT 5930/604 D31102 A100 | *Impacts unlikely* Building footprint |
| Elder House Offices (2 buildings) | S, RNE | 27-39 Currie St | ACC | CT 5545/297 F181406<br>CT5692/195 F181405 A563 | *Impacts unlikely* Building footprint- extensive notes avail. Describing cultural |

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|---|---|---|---|---|---|
| | | | | | significance. |
| Anglican Church Offices (formerly Bickfords Building) | L | 42-48 Currie St | ACC | CT 5572/507, GM 240/1 | *Impacts unlikely* Building footprint |
| Commerce House | L | 54 Currie St | ACC | CT 5509/940 | *Impacts unlikely* Building footprint |
| Bank of Adelaide (former) | RNE | 81-87 Currie St | ACC | | *Impacts unlikely* Registered |
| Duke of York Hotel | L | 82-86 Currie St | ACC | CT 4349/342 | *Impacts unlikely* Building footprint |
| Colonel William Light's Grave and Monument, Light Square | S | Light Square | ACC | CR 5779/244 F218070 A104 | *Will Not Impact* Building footprint- Also Tarndanyangga has Aboriginal Heritage significance |
| Colonel Light Hotel (sometime heritage hotel) | S | 41 Light Square | ACC | CT 5220/437 D19234 A1 | *Impacts unlikely* Building footprint |
| Adelaide Remand Centre (former Currie St Model School) | S, RNE | 208 Currie St | ACC | CT 5458/337 F7267 A1 | *Impacts unlikely* Building footprint |
| Dwelling and Office (former 'Darnley House & Stables) | S, RNE | 247 Currie St | ACC | CT 5842/178 D18741 A6<br>CT 5842/178 D18741 A7 | *Impacts unlikely* Building footprint |