

River Torrens to Darlington Project – Alterations to a State Heritage Place and tree damaging activity

Planning Report

T2DPAA-T2D-PWS-EN-RPT-200001

River Torrens to Darlington Project

24 August 2026



Australian Government
BUILDING AUSTRALIA



Government
of South Australia
Department for Infrastructure
and Transport

Delivered by
**TORRENS TO
DARLINGTON**
ALLIANCE

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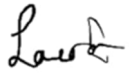
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The River Torrens to Darlington (T2D) Project respectfully acknowledges the Kaurna Peoples as the Traditional Custodians of the T2D Project area and recognises their continuing connection to land and waters.

We pay our respects to the diversity of cultures, significance of contributions and to Elders past, present and emerging.



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Executive Summary

The North-South Corridor, River Torrens to Darlington (T2D) Project, is the most significant road infrastructure project ever undertaken in South Australia. The T2D Project, designed and constructed by the Torrens to Darlington Alliance (the Alliance), will deliver the final 10.5 kilometres (km) of a non-stop South Road through construction of two sections of twin tunnels and new lowered motorway sections, which will connect the tunnels with each other and to the existing motorway to the north and south.

The corridor in the north of the T2D Project is narrow and constrained by State Heritage places to the east (Hindmarsh Cemetery) and west (Former Hoffman Brick Kiln), large commercial premises (including the Brickworks Shopping Centre), residential properties and valued public open space (Langman Reserve) in West Hindmarsh, and the River Torrens / Karrawirra Parri. The alignment of the motorway in this locality is the outcome of a design that has responded to; these constraints, the need to tie into the existing motorway immediately south of Grange Road, engineering considerations and functional requirements, and community feedback received on the 2021 Reference Design.

This results in the proposal to construct a new bridge (Bridge 03) for southbound traffic on South Road surface road above the southwest corner of the Hindmarsh Cemetery and across the River Torrens / Karrawirra Parri.

The works above and adjacent the Hindmarsh Cemetery, which include the new Bridge 03, the abutment and approach road for a new motorway bridge (Bridge 02) immediately west of Bridge 03, and realignment of Adam Street, have been assessed as having a 'material effect' to the heritage value of the cemetery. As such, the works require development approval from the Minister for Planning. This Crown development application by the Alliance is on behalf of the Department for Infrastructure and Transport (the Department) in accordance with section 131 of the *Planning, Development and Infrastructure Act 2016* (PDI Act).

Background

The Department investigated numerous options for the development of the North-South Corridor in the locality of the Hindmarsh Cemetery, including various tunnel and at-grade road alignments. The initial 2021 Reference Design incorporated an alignment west of the Cemetery, with a 'stacked bridge' design comprising a bridge for northbound surface South Road traffic above the northbound motorway lanes over the River Torrens / Karrawirra Parri and continuing as an elevated roadway (viaduct) adjacent to the motorway until returning to ground level south of Grange Road. This resulted in significant community impacts in West Hindmarsh, which included loss of Langman Reserve, acquisition of additional residential properties north of Hindmarsh Avenue and an elevated viaduct within 25 metres (m) of retained residences on Jervois Avenue.

During engagement in late 2021, significant concern was raised by the community regarding the visual impacts to adjacent residential properties via the 9 m high viaduct (height of road level above ground), the loss of the Langman Reserve and acquisition of 16 residential properties on Jervois Avenue north of Hindmarsh Avenue. To address these concerns, the design of the T2D Project was amended in 2022, shifting the alignment east and removing the stacked bridge design.

The revised 2022 Reference Design enabled retention of a majority of Langman Reserve in its final solution, only partial land acquisition of nine residential properties north of Hindmarsh Avenue (rather than full acquisition of 16 homes), and avoided visual impacts associated with the elevated viaduct. To accommodate this change, the alignment required a bridge for the southbound surface South Road traffic to span above the south-west corner of the Hindmarsh Cemetery, which is the most heavily modified section of the cemetery from the original historic character.

The Alliance progressed the design for Bridge 03 based on the 2022 Reference Design and in accordance with the Department's functional and operational requirements for the North-South Corridor and design requirements for the T2D Project, including those outlined in the Urban Design Strategy.

Grieve Gillett Architects (GGA) was engaged to undertake a heritage impact assessment and identify measures to avoid or reduce the 'material effects' of the proposed development upon the heritage values of the Hindmarsh Cemetery.

Pre-lodgement meetings were held with the Department for Housing and Urban Development (DHUD) and representatives of the Cities of Charles Sturt and West Torrens and referral agencies including Heritage SA and the Office of Design and Architecture SA (ODASA) over the period of February to May 2026. The proposed design was also presented to the T2D Project's Urban Design Review Panel (UDRP) in April 2026. As a result of feedback received, considerable changes have been made to the design of Bridge 03 and associated project elements to further mitigate the 'material effects' to Hindmarsh Cemetery.

Proposed Development

The proposed development subject to this Crown development application includes the following:

- Construction of a road bridge (Bridge 03) and associated work above and adjacent the Hindmarsh Cemetery and over the River Torrens / Karrawirra Parri.
- Construction of the abutment for a new road bridge (Bridge 02), including retaining wall, filling of land and road construction for the approach road adjacent to and visible from the cemetery.
- The filling of land and resultant regrading, realignment and re-construction of Adam Street to the north of the cemetery.
- Removal of fencing along the western and (part) southern boundaries of the cemetery.
- Reconstruction of a shared use path (SUP) on the northern bank of the river, being on land comprising a State Heritage place (the Former Goodman Bridge).
- Tree damaging activity comprising:
 - Removal of one Regulated Tree and two Significant Trees within the cemetery.
 - Potential root severance of a Significant Tree on the northern bank of the River Torrens / Karrawirra Parri.

The proposed development, in particular Bridge 03, will have a visual impact upon and change the setting of the Hindmarsh Cemetery that cannot be avoided. It has been concluded by GGA that the impacts have been mitigated by design changes to the bridge form and cladding, and landscape that better respond to the context of the cemetery. There is no infrastructure constructed within the cemetery, no direct impacts to existing headstones and the legibility of the burial layout maintained. There are no impacts to the heritage values of the cemetery from fence and tree removal or changes to ground surface treatments beneath Bridge 03.

The Alliance considers that the proposed development has balanced impacts to the community, businesses and State Heritage Places, mitigates impacts to Hindmarsh Cemetery's heritage value, provides an appropriate urban design response, is consistent with relevant provisions of the Planning and Design Code (the Code) and warrants Development Approval from the Minister for Planning.

1. Introduction

Designed and constructed by the Alliance on behalf of the State Government, the T2D Project is the most significant road infrastructure project ever undertaken in South Australia. It will deliver the final 10.5 km section of a non-stop South Road and complete the 78 km non-stop, traffic light-free motorway between Gawler and Old Noarlunga.

The T2D Project involves construction of two sections of twin tunnels (the 2.2 km long northern tunnels and 4.5 km long southern tunnels) and lowered motorways that connect the tunnels with each other, as well as to the existing motorways at Grange Road, Hindmarsh in the north and Tonsley Boulevard, Tonsley in the south. At the northern end of the Project, the Alliance proposes to demolish the existing Taylors Bridge over River Torrens / Karrawirra Parri and construct three new bridges for northbound South Road surface traffic (Bridge 01), motorway traffic (Bridge 02) and southbound South Road surface traffic (Bridge 03).

The corridor for the T2D Project in this locality is narrow and constrained by State Heritage places to the east (Hindmarsh Cemetery) and west (Former Hoffman Brick Kiln), large commercial premises (including the Brickworks Shopping Centre), residential properties and valued public open space (Langman Reserve) in West Hindmarsh, and the River Torrens / Karrawirra Parri. The alignment of the motorway and location and orientation of the three bridges over the river is the outcome of a design that has responded to these site-specific constraints, the need to tie into the existing motorway south of Grange Road, engineering considerations and functional requirements for 10 lanes of traffic (6 lanes within the motorway and 2 lanes each for northbound and southbound South Road surface traffic), on-road cycle lanes and SUPs, and community feedback received on the 2021 Reference Design.

This results in the current proposal for Bridge 03 to span the south-west corner of the Hindmarsh Cemetery as well as the River Torrens / Karrawirra Parri and for the abutment for Bridge 02 to be built up to the southwestern corner of the cemetery boundary. As part of the works, the Alliance will reconstruct the SUP along the northern bank of the river, of which part is located on City of Charles Sturt land designated as a State Heritage Place (for the Former Goodman Bridge, which is located 800 m east of the SUP works).

The proposal by the Alliance is consistent with the 2022 Reference Design adopted by the Department and State Government. That design was selected following consideration of numerous design options in detail, including longer tunnels and various at-grade and elevated road options. The selected alignment and design was identified as having the most acceptable balance of impacts to existing land uses based on community feedback, construction and traffic management requirements, land acquisition, visual impacts and construction costs.

The Commissioner of Highways (the Commissioner) has acquired the air rights¹ over the southwest corner of the cemetery in accordance with section 20(1) of the *Highways Act 1926* (Highways Act), as well as acquiring numerous land parcels, to facilitate the construction of the T2D Project in the northern

¹ Commissioner has acquired land over the cemetery above 19.64 m Australian Height Datum (AHD), which will be reflected in new plan of division to be lodged with Land Services South Australia.

precinct. The Highways Act exempts roadworks undertaken by or on behalf of the Commissioner on land acquired by the Commissioner from the PDI Act, except where there is a material impact to a State Heritage Place.

The works above and adjacent the Hindmarsh Cemetery, which include the new Bridge 03, the abutment for the new motorway bridge (Bridge 02) immediately west of Bridge 03 and realignment and regrading of Adam Street, have been assessed as having a 'material affect' to the heritage value of the cemetery. Therefore, exemptions from the PDI Act under the Highways Act do not apply to the works.

Under the PDI Act and the *Planning, Development and Infrastructure (General) Regulations 2017* (PDI Regulations), applicable exemptions from the definition of development or from approval requirements for roads constructed by the Crown and other activities do not apply in relation to a State Heritage Place or where there is a material effect to the heritage value of a State Heritage Place. As such, the works proposed by the Alliance to construct roads, bridges and surface treatments that have a material affect to the State Heritage listed Hindmarsh Cemetery, tree damaging activity to Regulated and Significant Trees and reconstruction of a SUP require development approval in accordance with the PDI Act.

This planning report is provided to support a Crown development application by the Alliance on behalf of the Department pursuant to Section 131 of the PDI Act.

The application will require referral to the Cities of Charles Sturt and West Torrens, the Minister for Environment and Water (Minister responsible for the *Heritage Places Act 1993*), the Commissioner and Green Adelaide Landscape Board. As the construction cost exceeds \$10 million, public notification of the application will also be required. The Minister for Planning is the relevant authority, considering advice from the State Planning Commission (the Commission).

2. Subject Land and Locality Analysis

2.1. Description of Subject Land

The subject land, located within the local government areas of the City of Charles Sturt and the City of West Torrens, consists of two road reserves (South Road and Adam Street) and eleven parcels of land. The parcels are listed in Table 1 and shown on Figure 1.

Table 1: Subject land parcel details

Map Ref	Street No.	Lot No.	Street Name, Suburb	Filed Plan / Deposited Plan	Certificate of Title Ref	Existing Land Use	Zoning
Within the City of Charles Sturt							
1	31	Lot 314	Adam Street, Hindmarsh	FP 211100	Volume 6287 Folio 551	Vacant land acquired for T2D Project	Employment
2	31	Lot 718	Adam Street, Hindmarsh	FP 211504	Volume 6287 Folio 552	Vacant land acquired for T2D Project	Employment
3	4-22	Lot 318	South Road, West Hindmarsh	DP 1243	Volume 6297 Folio 216	Vacant land acquired for T2D Project	Suburban Business
4	4-22	Lot 319	South Road, West Hindmarsh	DP 1243	Volume 6297 Folio 216	Vacant land acquired for T2D Project	Suburban Business
5	4-22	Lot 320	South Road, West Hindmarsh	DP 1243	Volume 6297 Folio 216	Vacant land acquired for T2D Project	Suburban Business
6	-	Lot 100	South Road, West Hindmarsh	FP 261292	Volume 6320 Folio 705	Vacant land acquired for T2D Project	General Neighbourhood
7	-	N/A	Adam Street, Hindmarsh	Hundred 106100 ²	N/A	Cemetery (State Heritage Place)	Community Facilities
8	-	Lot 55	Adam Street, Hindmarsh	DP 136272	Volume 6312 Folio 980	Open Space / Shared Use Path (State Heritage Place)	Open Space
9	-	Lot 54	Adam Street, Hindmarsh	DP 136272	Volume 6312 Folio 981	Open Space / Shared Use Path (land acquired for T2D Project)	Open Space
Within the City of West Torrens							
10	-	Lot 56	N/A	DP 136332	Volume 6323 Folio 249	Open Space (land acquired for T2D Project)	Open Space
11		Lot 57	South Road, Thebarton	DP 136332	Volume 6323 Folio 250	Open Space	Open Space
12	1A	Lot 1	South Road, Thebarton	DP 69095	Volume 6299 Folio 701	Vacant land acquired for T2D Project	Strategic Employment

² The Commissioner has acquired portion of the air rights from 19.64 m Australian Height Datum (AHD) for the purposes of the T2D Project. An approved plan for division has not yet been deposited with Land Services SA, nor have separate Certificates of Title been issued for the acquired portion and the balance of the cemetery land. Approved plan of division D139569 (not yet deposited) designates the two parcels as being Lots 5 and 6. Lot 6 is the 'land' acquired by the Commissioner.

South Road is an arterial road under the control of the Commissioner. Nine of the 11 land parcels have been acquired by the Commissioner in accordance with section 20(1) of the Highways Act, as well as the air rights above the Hindmarsh Cemetery.

The Adam Street road reserve was previously under the care, control and management of the City of Charles Sturt. For the construction of the bridge and associated works, the Commissioner has assumed care, control and management of a section of Adam Street in accordance with section s26(3) of the Highways Act. Following completion of the associated civil works, the road will return to the ownership and management of the City of Charles Sturt.

2.1.1. Site of works subject to the development application

The subject land comprises a larger area of land than will be impacted by the works subject to the Crown development application, as illustrated in Figure 1. It includes:

- Adam Street west of Bacon Street and south of the proposed northern kerb alignment for the realigned portion of road over parcels 1 and 2.
- South Road south of Adam Street and proposed new section of South Road over parcels 3, 4, 5, and 6 and including the alignment of Bridge 03 over the Hindmarsh Cemetery (parcel 7) and the River Torrens / Karrawirra Parri (parcels 9 and 10).
- Portion of the southbound carriageway of the motorway between the southern end of the northern abutment for Bridge 02 to a point in line with the northern abutment of Bridge 03 (located entirely within the existing South Road road reserve)
- Portion of the northern (parcel 8) and southern (parcel 11) riverbank east of Bridge 03.
- The northwestern corner of land east of South Road and south of the River Torrens / Karrawirra Parri (parcel 12).

2.1.2. Hindmarsh Cemetery

The Hindmarsh Cemetery was established in 1846, one of the earliest in South Australia, and has operated as a cemetery since that time. In 1986 the City of Charles Sturt, which owns and operates the cemetery, ceased issuing any new internment rights; all existing internment rights (leases and rights of renewal) are to be honoured.

The cemetery is immediately adjacent South Road, comprising three lanes of traffic in each direction and carrying an annual average daily traffic of 67,600 vehicles, around 10% of which are commercial. As a result, road traffic noise forms a dominant and continuous feature of the existing acoustic environment.

The Hindmarsh Cemetery comprises the following elements:

- North-south aligned rows of headstones, with the western-most six rows having a grassed ground surface, with the remainder hard paved or gravel.
- The 1884 Sexton's Cottage at the eastern end of the cemetery.
- The 1854 'Dead House', roughly in the centre of the site.
- Fencing to the western boundary, comprising a brick plinth supporting a wire mesh fence.
- Fencing to the northern boundary, comprising a wire fence with gates located at various points.
- Various plantings including plane trees running along (or adjacent) the southern boundary of the cemetery.

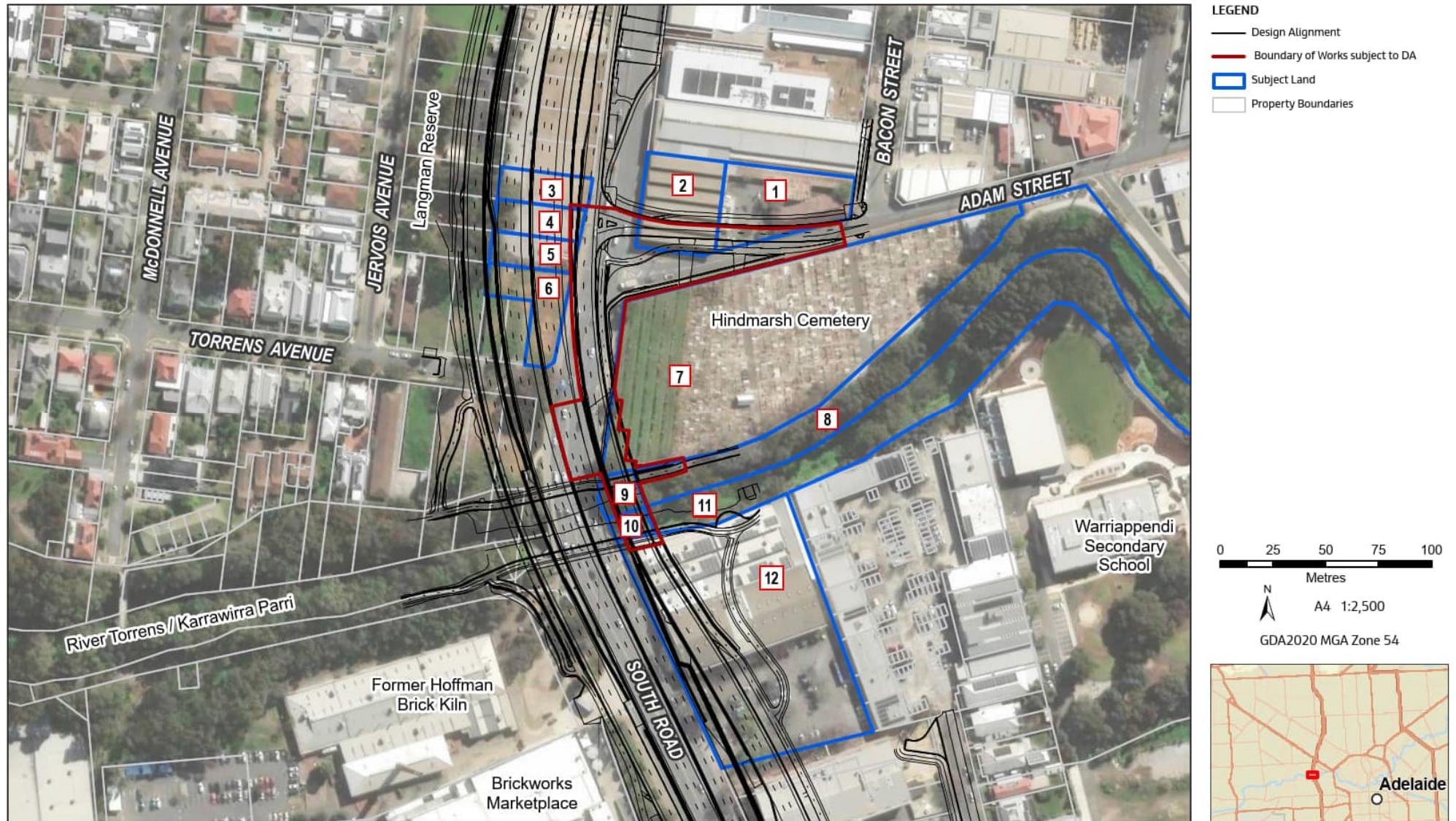


Figure 1: Subject land and boundary of works subject to this development application

As noted in the Heritage Impact Statement by GGA (refer Appendix 3), much of the nineteenth century character of the cemetery was altered in the 1940s and 50s; partly to enable additional plots to be established and partly to gain greater financial benefit from the operation of the cemetery which experienced financial issues since its establishment. These changes included incorporating a strip of land adjacent Adam Street, removal of plane trees, removal of seating, straightening headstones and adding kerbing.

The 1970s redevelopment of Rows A, B, C, H and I in the western portion of the Hindmarsh Cemetery adjacent to South Road saw headstones and kerbing removed and areas of the cemetery grassed over. This resulted in considerable damage, not only to individual monuments but to the overall character of the cemetery, particularly in this location. The area was cleared, ribbons of cement laid and the headstones with current leases and which had not been irretrievably damaged in the move were placed in this new cement bed. Headstones from expired leases were moved near the 'Dead House' or lined up against the river boundary. Some headstones, including ornate and early examples, were lost in the process and those relocated in the newly grassed areas are, in some instances, some distance from the actual grave sites to which their inscriptions refer.

The condition of the grave sites and headstones within the Hindmarsh Cemetery varies, ranging from sites in good condition to very poor condition. Typical damage has occurred from various sources, including:

- Removal of some headstones from their original location through the redevelopment works in the 1970s
- Damage from tree roots.
- Staining from tree sap.
- Lack of maintenance.

The components of the Hindmarsh Cemetery that contribute to its heritage significance include:

- The original curtilage of the cemetery, bound by Adam Street to the north, the current South Road alignment to the west and the River Torrens / Karrawirra Parri to the south.
- The 'Dead House'.
- Sexton's Cottage.
- The alignment of rows of grave sites in a roughly north-south configuration.
- The extensive collection of grave sites and associated memorials, including a range of slate, marble, granite and sandstone headstones and monuments.

The open setting of the cemetery with the natural backdrop of the River Torrens / Karrawirra Parri is also of significance.

Further description of the history, condition and heritage significance of the Hindmarsh Cemetery is provided in the Heritage Impact Statement by GGA in Appendix 3.

2.2. Locality

The locality within which the subject land is located is distinguished by the presence of the River Torrens / Karrawirra Parri running east-west and South Road running generally north-south, at which four suburbs with varying land uses and character converge:

- Low density housing and public open space within West Hindmarsh.
- Industrial and commercial development in Hindmarsh.

- Industrial and commercial development, some housing and community uses in Thebarton.
- Retail development and public open space in Torrensville.

To the immediate north of the subject land are vacant parcels of land (recently acquired by the Commissioner to accommodate the T2D Project). The land on the north-east corner of Adam Street will be developed for open space and a stormwater detention basin (required for the management of stormwater in high rainfall events). Further north and to the north-east, various commercial and industrial land uses, and the Hindmarsh Soccer stadium, are located in the suburb of Hindmarsh.

To the south-east bordering South Road and the River Torrens / Karrawirra Parri, land has been acquired by the Commissioner to enable the T2D Project, part of which will be developed for open space. To the south-east exists commercial buildings, the Warriappendi Secondary School and Torrensville Bowling Club (recently relocated in upgraded and new facilities respectively), and single storey, low density housing along the eastern side of Ware Street.

Immediately south-west of the Project area is the State Heritage listed Former Hoffman Brick Kiln and associated (vacant) building to its north. South of the Brick Kiln is the Brickworks Shopping Centre and car park fronting onto Ashwin Parade. Kings Reserve and Thebarton Oval (currently being redeveloped by the Adelaide Football Club) are located south of Ashwin Parade.

Existing land uses to the west and north-west comprise low density, low scale housing and public open space (Langman Reserve).

South Road generally runs north-south through the locality, curving at River Torrens / Karrawirra Parri. There are currently three southbound and two northbound traffic lanes, on-road cycle lanes in both directions and footpaths on each side of the Taylors Bridge. To the north is the existing North-South Motorway (Torrens to Torrens section), with southbound motorway traffic merging with South Road traffic before Adam Street.

The following figures depict the existing views from South Road to the north and south of the River Torrens / Karrawirra Parri.



Figure 2: View south along South Road towards River Torrens / Karrawirra Parri from near Adam Street



Figure 3: View north along South Road towards River Torrens / Karrawirra Parri from beside Brickworks Shopping Centre

Flowing east-west is the River Torrens / Karrawirra Parri within a steep gully with existing trees, including mature eucalypts and declared weeds. An existing SUP on the northern bank is a key part of the River Torrens Linear Trail connecting the Adelaide Hills to the coast. There is currently no SUP on the southern bank of the river beneath or east of Taylors Bridge. The landscape character of the river is generally poor beneath Taylors Bridge and along the southern bank east of South Road.

Figure 4 provides an aerial image of the locality with the area of works subject to this development application overlayed. The locality for the purposes of this development application is considered to be a relatively small area centred on the bridges over the River Torrens / Karrawirra Parri where there may be direct impacts from the works, largely arising from the visibility of Bridge 03.

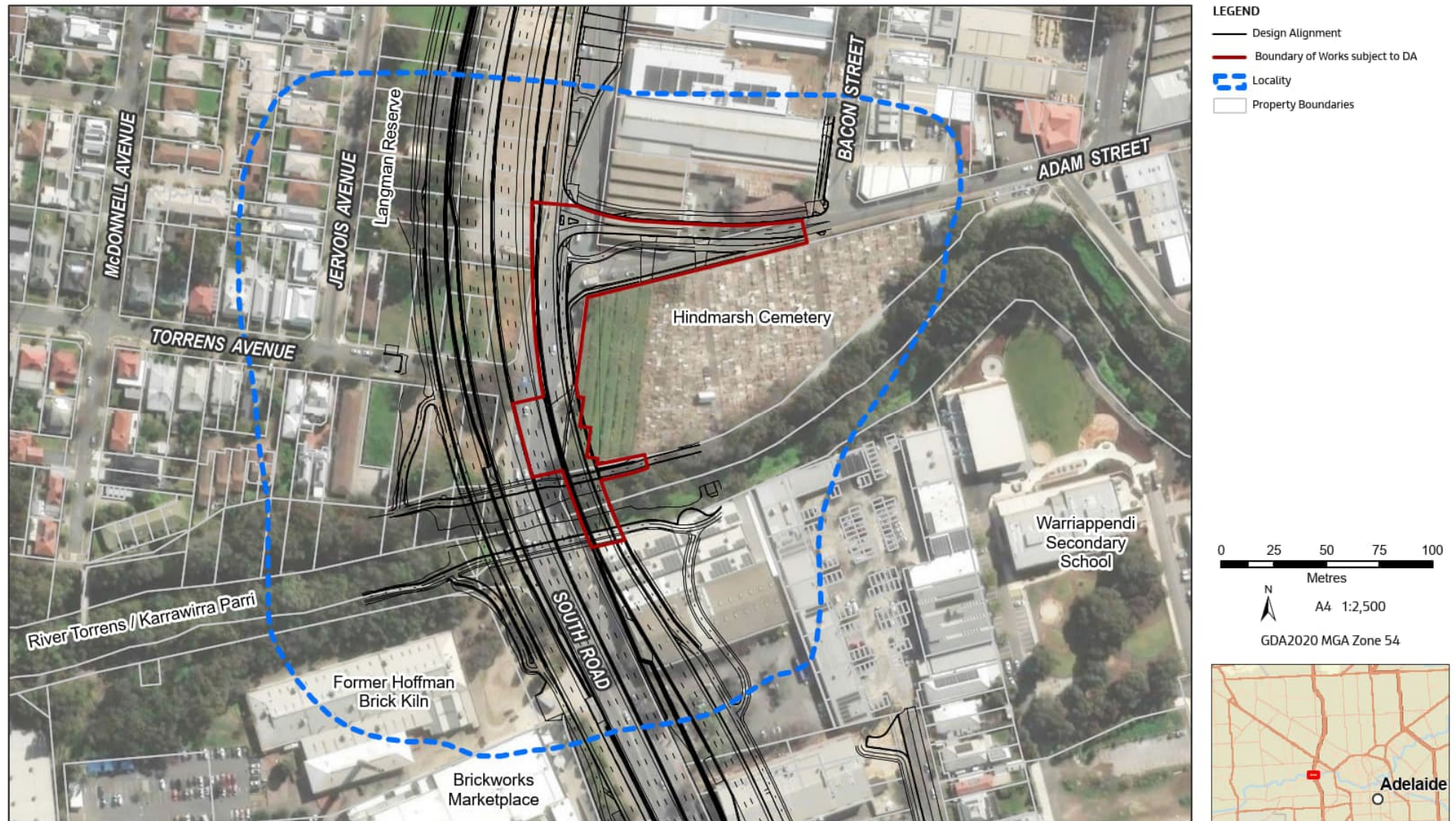


Figure 4: Project locality

3. Development Proposal

3.1. Proposed Development

3.1.1. Scope of development application

The proposed development, subject to approval through the Crown development application, involves construction of new bridges and roads, construction of a retaining wall, reconstruction of a SUP, removal of existing fencing and construction of new fencing, landscaping and tree damaging activity to Regulated and Significant Trees.

Specifically, the proposed development involves the following:

- Works determined to have a 'material affect' to the heritage value of the Hindmarsh Cemetery:
 - Construction of a road bridge (Bridge 03) and associated work above and adjacent the cemetery and to the southern bank of the River Torrens / Karrawirra Parri.
 - Construction of the abutment for a new road bridge (Bridge 02), including retaining wall, filling of land and road construction for the approach road adjacent to and visible from the cemetery.
 - The filling of land and resultant regrading, realignment and re-construction of Adam Street to the north of the cemetery.
- Additional construction activities that do not 'materially effect' the heritage value of the cemetery, but comprise development:
 - Removal of fencing along the western and (part) southern boundaries of the cemetery.
 - Reconstruction of an SUP on the northern bank of the river, being on land comprising a State Heritage place (the Former Goodman Bridge)
 - Tree damaging activity comprising:
 - Removal of one Regulated Tree and (up to) two Significant Trees within the cemetery.
 - (Potential) root severance of a Significant Tree on the northern bank of the river.

The remaining elements of the T2D Project within this area are outside the scope of this development application, including:

- Bridge 01 and northbound South Road surface roadworks north and south of the bridge.
- The balance of Bridge 02 (including span over the River Torrens / Karrawirra Parri) and the connecting sections of the motorway.
- The balance of southbound South Road roadworks north of Adam Street and south of Bridge 03.
- New public open spaces north of Adam Street and south of the river in Thebarton (Ware Street Reserve), including new stormwater detention basins for management of stormwater in high rain fall events.
- Reconstruction of Langman Reserve and construction of new noise walls adjacent the northbound South Road surface road.
- Scour protection works to the banks of the river.
- New drainage infrastructure, including new headwalls on the banks of the river.

- The SUP proposed along the southern bank of the river beneath Bridges 01, 02 and 03
- New SUP and footpath connections below and west Bridge 03, alongside South Road northbound, alongside South Road southbound north of Adam Street and south of Bridge 03, and within the new Ware Street Reserve.

These works are either exempt from the PDI Act in accordance with section 20(5) of the Highways Act, exempt from the definition of development in accordance with section 3(1) of the PDI Act or Schedule 4 of the PDI Regulations, or Crown development exempt from approval pursuant to Schedule 13 of the PDI Regulations.

The following sections describe each of the elements of the proposed development in detail. In some instances, works not subject to the development application are described for context.



Figure 5: Area of works subject to this development application

3.1.2. Bridge 03

Bridge 03 is a new 13.5 m wide road bridge to support southbound traffic for South Road. It comprises:

- A northern approach embankment and abutment located adjacent the western boundary of the Hindmarsh Cemetery that facilitates the rise of South Road to a height of 5.6 m above ground level.
- Bridge span over the south-west corner of the cemetery (with a minimum height clearance of 3 m to the underside of the bridge) and the River Torrens / Karrawirra Parri via six Super-T concrete girders, with concrete bridge deck and integrated concrete barriers on each side.
- A central pier immediately adjacent the southern boundary of the cemetery to support the Super-T concrete girders. The pier sits atop a piled foundation that acts as a retaining wall immediately north of the River Torrens Linear Trail SUP.

- An abutment on the southern bank of the River Torrens / Karrawirra Parri, which provides a landing point for the second span of the bridge and from which South Road then descends towards West Thebarton Road³. The eastern side of the abutment is supported by terraced gabion walling, which provides a transition to the new open space (Ware Street Reserve) to be delivered by the T2D Project.

3.1.2.1. Architectural and Urban Design

The urban design narrative for the T2D Project takes cues from the Kaurna calendar of the six seasons. Situated along the corridor in an area that is intended to have cultural expression of a season of rains, water and winter cold, stillness and reflection, Bridge 03 draws inspiration from the ancient sky world, where the Milky Way stretches across the heavens as a river of light. The stars map the journeys of Ancestral Beings, the River Torrens / Karrawirra Parri carves the journey pathways of memory story, country and time.

The bridge design embodies the meeting of sky and water, mimicking the way the Milky Way is mirrored in the River Torrens / Karrawirra Parri. Perforated aluminium panels with the celestial motifs creates a constellation-like effect above the river, recalling the night sky and bringing the cosmic story down to the riverbanks, uniting river, country and sky in a single cultural expression.

Figure 6 below illustrates Bridge 03 as viewed from the southern bank of the River Torrens / Karrawirra Parri.



Figure 6: Bridge 03 looking north-west from the southern bank of the River Torrens / Karrawirra Parri (render)

³ The southern abutment and continuation of South Road beyond Bridge 03 is located on land acquired by the Commissioner and does not materially affect on the heritage value of the cemetery. It can be constructed independent of Bridge 03, is not considered to require approval and does not form part of the Crown development application.

3.1.2.2. Bridge Span

The bridge spanning the Hindmarsh Cemetery and River Torrens / Karrawirra Parri is formed by six Super-T concrete girders in each of the two spans between the northern and southern abutments (supported by a central pier), with a concrete bridge deck and concrete parapet traffic barriers on each side. The barriers are topped with galvanised twin safety rails to achieve a barrier height of 1.4 m above the road pavement, which assists in reducing the solid vertical height over the river and cemetery.

During the temporary traffic stage (at a time when all southbound traffic is travelling on Bridge 03 while the existing Taylor's Bridge is being demolished and Bridge 02 is constructed), three 3.1 m wide traffic lanes and a 1.8 m wide footpath will be provided. This preserves the existing capacity and function of South Road in this location.

Once the new T2D motorway is operational, Bridge 03 will be converted to two traffic lanes, incorporating a 3.3 m wide outside lane (with 0.5m wide shoulder) and 3.8 m wide inside traffic lane, with a 1.8 m wide on-road cycle lane. In addition, an SUP will be provided, incorporating a minimum clear width of 3.0 m beyond the kerb line and accounting for offsets from the traffic barriers.

3.1.2.3. Northern Abutment

The approach to the northern abutment (as shown in Figure 7 below), adjacent the Hindmarsh Cemetery, is approximately 50 m long from south of the realigned Adam Street junction with South Road to the abutment set 1 m west of the western boundary of the cemetery. At its highest point, the abutment will be approximately 7.0 m above existing ground level (measured to the top of the traffic barrier) and 5.6 m above existing ground level measured to the road level.



Figure 7: Render image showing the Bridge 03 northern abutment as viewed from Adam Street, looking south-west

The approach to the northern abutment incorporates textured pre-cast concrete fascia panels for the retaining wall, consistent with similar panels used for the southern abutment and within the lowered motorway south of the River Torrens / Karrawirra Parri. Details of the fascia panels are shown in Figure 8 below. The 1.4 m high concrete traffic barrier atop the retaining wall will have a separate textured relief pattern. The fascia panels and barrier will be painted in a colour palette comprising earthy tones reflective of the riverbank soils and historic brickmaking heritage of the locality.

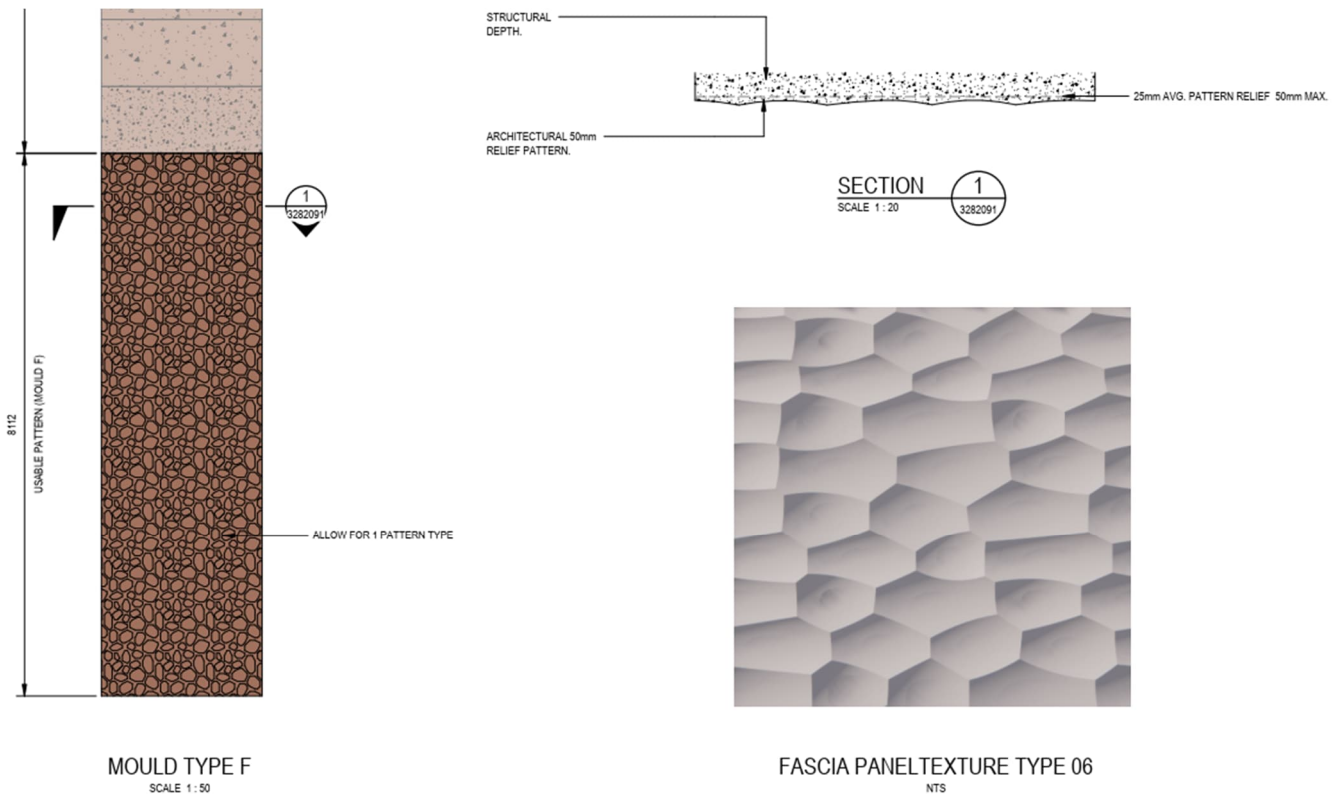


Figure 8: Fascia Panel detail of the approach to the Bridge 03 Northern Abutment

3.1.2.4. Central Pier and Retaining Wall

The central pier comprises three round columns with a 1.9 m diameter and spaced to offer views to/from the southern bank of the River Torrens / Karrawirra Parri, increasing ambient light and airflow through the bridge undercroft and adjacent cemetery and improving opportunities for passive surveillance. The columns will have a textured finish and be painted to complement the fascia panel and barrier treatments for the abutments for Bridge 03 (and Bridge 02).

Above the columns, a headstock will support the Super-T girders. The headstock is 2.0 m in width and 1.55 m in height and will comprise rounded ends, with architectural patterns on the sides and base, offering a softened and integrated appearance to the rest of the bridge structure.

The columns for the central pier will sit atop a capping beam at approximately 200 millimetres (mm) above the cemetery ground level supported by bored piles (below ground level). A retaining wall (constructed in the manner of a 'soldier pile wall') will be located immediately east of the central pier and immediately south of the Hindmarsh Cemetery boundary to support the level difference between the cemetery and the newly constructed River Torrens Linear Trail SUP adjacent.

The bored piles for the central pier and retaining wall will be clad in fascia panels consistent with the northern abutment as shown in Figure 9 below.

Open fencing will be located between the columns and extend east atop the retaining wall to provide fall protection to the newly constructed SUP below.



Figure 9: Render image showing central pier of Bridge 03 and adjacent retaining wall as viewed from the reconstructed SUP on the northern bank of the River Torrens / Karrawirra Parri, looking north-west

3.1.2.5. Cladding

Aluminium architectural cladding is proposed on the eastern face of Bridge 03, which for the southern span over the River Torrens / Karrawirra Parri is consistent with the cladding on the western face of Bridge 01 (for northbound South Road traffic), providing a unified design response. Over the river the cladding has perforations in a design adapted from the constellations of the Milky Way. The cladding transitions at the central pier to peel back and away from the cemetery, with perforations tapering away, as shown in Figure 10. The introduced curve above the cemetery provides a sense of visual relief and more pronounced vertical expression, suggesting an ethereal upward movement.

The cladding adds a visual dimension to the bridge structure and invites interaction with the surrounding landscape, offering a unique experience for those below and adjacent the bridge. This design element encourages a connection with the Hindmarsh Cemetery by inverting the cladding shape to offer a 'visual lifting' above the cemetery.



Figure 10: Render image showing Bridge 03 cladding at dusk as viewed from the reconstructed SUP on the northern bank of the River Torrens / Karrawirra Parri, looking north-west

3.1.2.6. Functional Lighting

Functional lighting on Bridge 03 includes street lighting along the roadway on the bridge (maximum total height of 12 m above road surface (circa 35.3 m Australian Height Datum (AHD)), with two light poles mounted on the back of the western bridge parapet adjacent to the motorway. This will reduce their visibility from, and light spill into, the Hindmarsh Cemetery.

To assist in addressing safety concerns under the bridge outside of the cemetery boundary, two lights are proposed to be fixed to the northern abutment. Consideration has been given to additional lighting on the central pier; however, this would result in a portion of the cemetery and headstones being lit at night, which is not the preferred solution from the City of Charles Sturt.

3.1.2.7. Undercroft landscaping

The landscaping within and adjacent the cemetery has been informed by engagement with GGA, Heritage SA, ODASA and the City of Charles Sturt.

The landscape design for the undercroft of Bridge 03 takes cues from the River Torrens / Karrawirra Parri and water which naturally has calming, nurturing and reflective qualities. Material selection is natural and rock used will be sourced from local Country. Recycled brick has also been selected as the edging material and represents the brick manufacturing history of the local area.

Within the triangular space outside of the Hindmarsh Cemetery, rocks and brick edging are arranged organically, resembling a path or a journey which is simple and restrained to provide a complementary and peaceful backdrop to the headstones. Gentle ground mounding will be provided – offering a visual

distinction from the flat plane of the cemetery and creating a respectful and contemplative setting that complements the surrounding headstones.

Plant species have been selected for their shade tolerance and robustness. Whilst they will be irrigated, their light source will be low throughout the day and the mixture of architectural and lush green shade tolerant ferns, strap leafed and groundcover species mix will create year-round interest when plants with more light availability will flower. Figure 11 illustrates the established planting and surface treatments below Bridge 03.



Figure 11: Render of Bridge 03 undercroft landscaping

Within the aisles of the cemetery, generally below the bridge alignment, the brick edging is provided perpendicular to the headstone alignment. Contrasting gravel colours are used to create a pattern where light is minimal and the existing grass can no longer grow. No planting is proposed within this space.

Maintenance access to the northern abutment and bridge girder bearings has been accommodated with a 3 m wide maintenance access path adjacent to the abutment in coloured exposed aggregate to complement the gravel colour selected. A 1 m wide path adjacent to the retaining wall on the approach to the abutment provides access from Adam Street.

3.1.3. Bridge 02 Abutment

Bridge 02 is an approximately 30 m wide road bridge that will replace the existing Taylor's Bridge and comprise three lanes of traffic in both directions for motorway traffic. The bridge over the River Torrens / Karrawirra Parri is not within the scope of this development application. However, the eastern side of the approach to the northern abutment of Bridge 02 will be visible below the Bridge 03 undercroft when

viewed from the Hindmarsh Cemetery and be constructed immediately adjacent the south-western point of the cemetery boundary. Therefore, it is considered that the eastern portion of the northern abutment and road (accommodating the southbound lanes of the motorway), from the retaining wall adjacent the River Torrens / Karrawirra Parri to a point in line with the northern abutment of Bridge 03, is development requiring approval.

At this location, the approach to the abutment for Bridge 02 is constructed on fill and presents a 2.4 m high wall to the cemetery, comprising a retaining wall (of which only 1.2 m is visible above the finished surface level of the Bridge 03 undercroft) and 1.2 m high concrete traffic barrier (see Figure 12). The retaining wall will incorporate a sculptured fascia panel, consistent with the northern abutment of the adjacent Bridge 03. The traffic barrier will have a pattern finish, complementary to the adjacent columns of the central pier and the traffic barriers for Bridge 03.

Along the top of the traffic barrier adjacent to the Bridge 03 undercroft a series of undulating acrylic screens - graduating from semi-opaque adjacent to the cemetery to clear - modulates the outlook visibility for road users as they travel on the motorway approaching the bridge. The screens progressively transition to full transparency above the river corridor, ensuring unobstructed views over the waterway. This treatment is designed to provide an effective visual and acoustic barrier to the adjacent Bridge 03 undercroft area while maintaining natural light penetration.

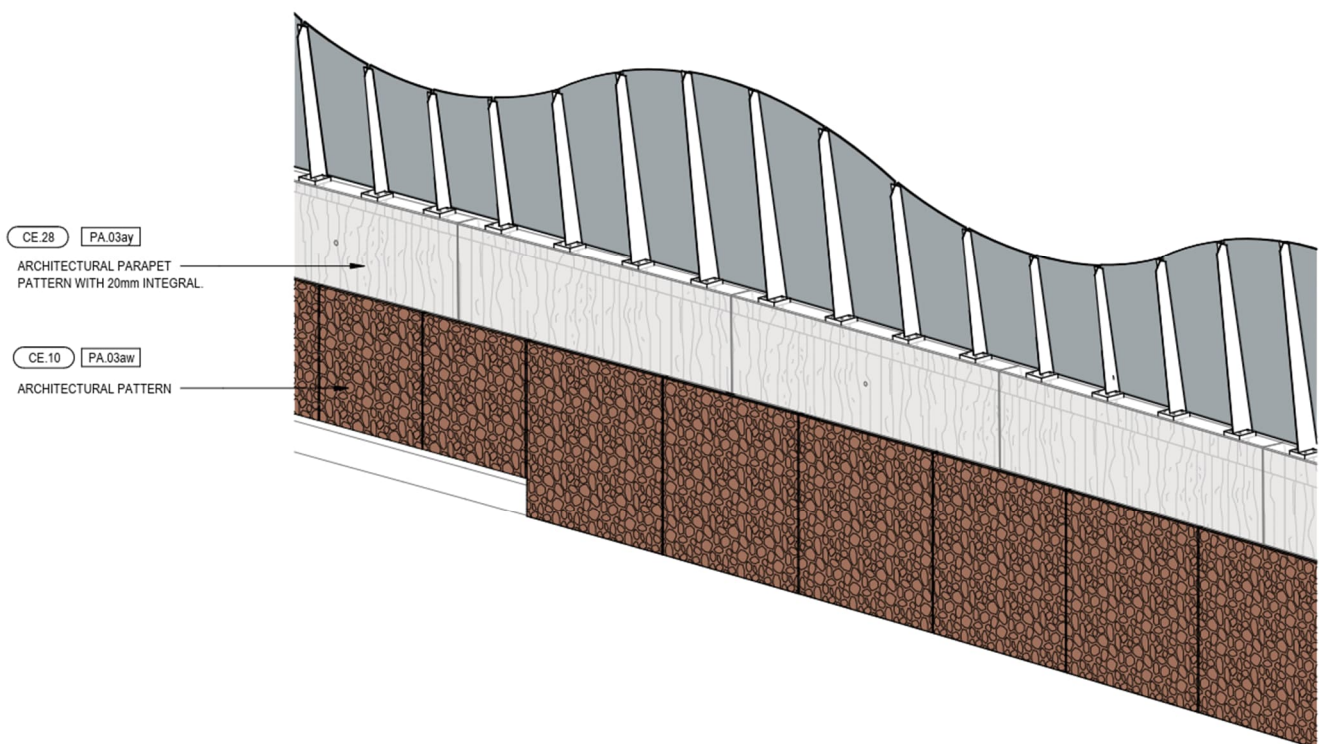


Figure 12: Axonometric view of the Bridge 02 eastern abutment wall

3.1.4. Realignment of Adam Street

To accommodate the level changes to South Road on the approach to Bridge 03 and provide a safer intersection, Adam Street west of Bacon Street will be realigned to the north to meet South Road at the perpendicular. The realignment of the intersection will be approximately 30 m north of the current junction with South Road, with the road increasing in distance from the Hindmarsh Cemetery and height

as it travels west. At the intersection with South Road, Adam Street will be approximately 3.1 m above existing ground level.

The realignment of Adam Street and change to the gradient of the road, requiring landscaped batters and changes to the access driveways to the Hindmarsh Cemetery, changes the context of the cemetery and has a material effect to the heritage value.

A 3.0 m wide footpath will be provided along the southern side of Adam Street, connecting the existing footpath east of Bacon Street with the new SUP on Bridge 03. A maintenance access path will be provided along the northern side of the cemetery (in the position of the current footpath) and extend beside the retaining wall to the undercroft of Bridge 03.

The batter for Adam Street and the ground level adjacent to the Bridge 03 abutment outside of the cemetery boundary will be landscaped with 25 large trees (comprising a mix of River Red Gums, Spotted Gums, SA Blue Gums and Mallee Box) and mixture of shrubs and ground covers.

3.1.5. River Torrens Shared Use Path

A portion of the SUP on the northern bank of the River Torrens / Karrawirra Parri requires reconstruction and minor realignment for a length of approximately 125 m to accommodate the construction footprint of, and clearances to, Bridges 01, 02 and 03. East of Bridge 03 these works will occur on Lot 55 (identified as parcel 8 in Table 1 and Figure 1), which is an identified State Heritage Place. As such, this section of the SUP requires approval as part of this development application.

The SUP east of Bridge 03 will be reconstructed by replacing the existing decking and handrails. As the existing superstructure has been found to be in good condition, new steel columns will be fixed to the existing boardwalk foundations (concrete pad and piles). Beneath Bridge 03, where the existing SUP is located on a concrete slab at ground level, a new concrete slab will be constructed in a slightly revised alignment. Along the reconstructed SUP, lighting will be provided for user safety during non-daylight hours.

To accommodate the footprint of Bridge 03 and supporting works, the existing branch of the SUP that provides access to South Road adjacent to the existing Taylor's Bridge will be removed. Given the height of Bridge 03 above the ground level of the Hindmarsh Cemetery, there is no possibility of the existing connection being replaced in situ without significant impacts to the cemetery.

Users on the River Torrens Linear Trail seeking to cross the river to access the southern bank, east of South Road, will be able to utilise three different options (see Figure 13) depending on which direction they are travelling and their intended destination:

- Utilise the existing Adam Street footpath connection east of the Hindmarsh Cemetery (or existing north-south paths through the cemetery) to the new realigned footpath adjacent Adam Street that connects to the SUP on Bridge 03 and extends to West Thebarton Road.
- Utilise the connection west of South Road to the SUP on Bridge 01, cross that bridge and then connect down to the new SUP under Bridges 01, 02 and 03 on the southern bank, which connects to new paths through the Ware Street Reserve being delivered by the T2D Project.
- Utilise the proposed new footbridge to be constructed by the Department (separate from the T2D Project) east of Hindmarsh Cemetery, which will connect the northern bank near the intersection of Adam and River Streets to the southern bank near Warriappendi Secondary School.

Whilst these options may add some travel time, there will be multiple safe and convenient options for pedestrians and cyclists.



Figure 13: Active travel network within the locality and beyond after the proposed development

3.1.6. Tree Damaging Activity

3.1.6.1. Tree Removal within this Development Application

To accommodate construction of Bridge 03 and associated infrastructure for the T2D Project, up to eight trees (including one Regulated tree and two Significant trees) within the Hindmarsh Cemetery along its western boundary may require removal. The trees (from north to south) are:

- *Callistemon 'Harkness'* (Gawler Hybrid Bottlebrush) (possible removal) - Significant
- *Melaleuca styphelioides* (Prickly Paperbark) (possible removal) - Exempt species
- *Callistemon 'Harkness'* (Gawler Hybrid Bottlebrush) (possible removal) - Unregulated
- *Eucalyptus torquata* (Coral Gum) (removal required) - Regulated
- *Callistemon 'Harkness'* (Gawler Hybrid Bottlebrush) (removal required) - Unregulated
- *Melaleuca styphelioides* (Prickly Paperbark) (removal required) - Exempt species
- *Corymbia maculata* (Spotted Gum) (removal required) - Unregulated
- *Angophora costata* (Smooth Bark Apple) (removal required) - Significant.

The trees nominated as 'possible removal' incorporate canopies that overhang the road reserve. Pruning the canopies to provide a clear and safe working environment may compromise the appearance and/or

stability of the trees such that removal would be necessitated. Whilst every endeavour will be made to retain the trees, this development application seeks removal should it be required.

Notwithstanding their location within a State Heritage Place, the trees proposed for removal that are not Regulated trees under the PDI Act do not require approval as the removal has been assessed by GGA as not affecting the heritage value of the Hindmarsh Cemetery. Approval is only required for the removal of the one Regulated tree and two Significant trees.

The location of the trees to be impacted by the Project are identified in Figure 14 below.

An assessment of the condition of the impacted trees, and impact of the removal, pruning and root impacts has been undertaken by a qualified arborist. The arborist's report is discussed in Section 4.4 and included in Appendix 4.

3.1.6.2. Root Severance

Construction of the retaining wall along the SUP east of the Bridge 03 central pier may require severance of roots from a nearby *Platanus digitata* (Cut-Leaf Plane Tree).

The existing ground level in this location incorporates a steep (circa 1:3) grade down towards the River Torrens / Karrawirra Parri, and as such, minor to moderate earthworks are anticipated to accommodate the new retaining wall.

An arboricultural impact assessment has been undertaken and concludes that it is unlikely the proposed works will impact on tree viability, subject to mitigation measures being implemented. Further information can be found in the arborist's report in Appendix 4.

3.1.6.3. Vegetation Removal not within this Development Application

To accommodate Bridge 03, three *Eucalyptus camaldulensis* (River Red Gum) will require removal on the northern bank of the River Torrens / Karrawirra Parri. These trees are within land where the *Native Vegetation Act 1991* (NV Act) applies and are classified as native vegetation. Approval for removal has been granted by the Native Vegetation Council separate to this development application as part of a broader application for works along the northern bank of the river by the Alliance. As such, these trees are not identified in Figure 14 or within the supporting plans and reports.

Vegetation to be cleared to facilitate the bridge's construction on the southern bank of the river, which is not within the auspices of the NV Act, includes exotic species and environmental weeds such as *Ricinus communis* (Castor Oil plant). No approval is required under the NV Act or PDI Act for their removal.

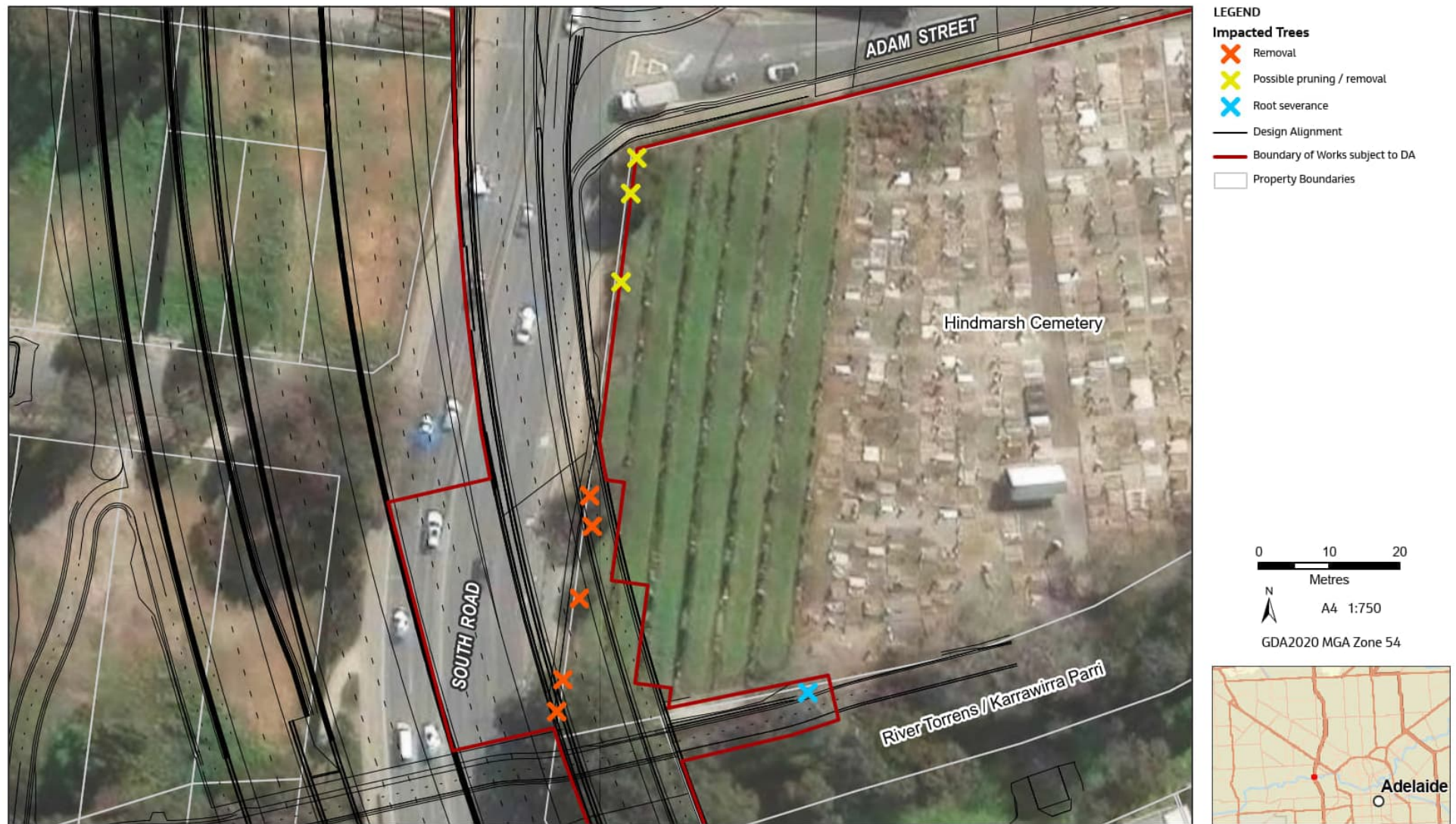


Figure 14: Location and proposed impact to trees

3.1.7. Cemetery Fencing

In response to feedback received during the pre-lodgement process for the development application, the following sections of fencing along the boundaries of the Hindmarsh Cemetery are proposed to be removed:

- The entirety of fencing along the western boundary (with retention of the brick plinth beneath).
- A 33 m-long section along the southern boundary (from the corner at the western boundary).

The fencing is to be removed in lieu of the following project elements adjacent the cemetery that offer security and safety:

- Eastern face of the abutment of Bridge 02 and Bridge 03 northern abutment.
- Fencing between and adjacent the Bridge 03 central pier.
- Fencing above the retaining wall east of the Bridge 03 central pier.

An additional section of fence is proposed to be constructed that effectively extends the cemetery's northern boundary fencing to the retaining wall on approach to the Bridge 03 northern abutment. It will include a gate to facilitate maintenance access to the undercoft of Bridge 03. The fence type, material and colour will match the proposed new cemetery fencing to be installed by the City of Charles Sturt in accordance with a separate Development Approval (ID: 26016396), which Council has advised through ongoing engagement is a 1.5 m high Galvabond steel fence as shown in Figure 15.

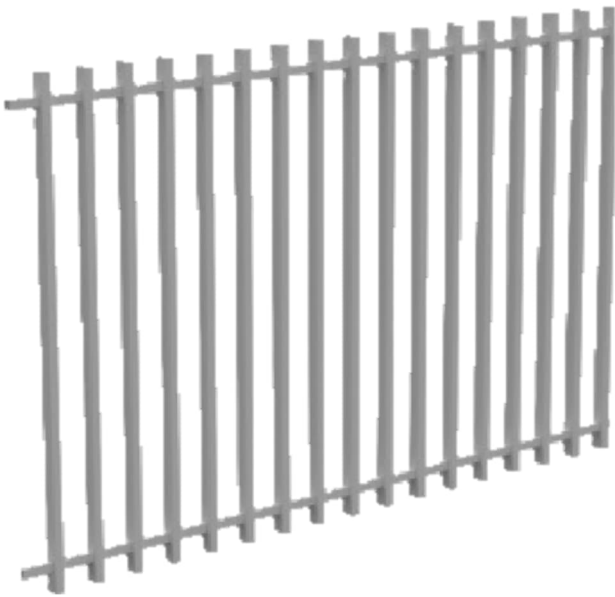


Figure 15: Indicative style of proposed cemetery boundary fence

Demolition of the existing fence requires approval, noting relevant exemptions from the definition of development or approval do not apply in relation to a State Heritage Place. However, the new section of fencing is outside of the cemetery grounds, does not materially affect the heritage value of the cemetery and considered to be exempt from the definition of development in accordance with clause 4(1)(d) of Schedule 4 of the PDI Regulations.

3.1.8. Construction Staging

A general summary of the proposed construction staging of works subject to (or to support) this development application is provided below:

1. Bridge BR01 over River Torrens / Karrawirra Parri on South Road northbound is constructed (not subject to development application and approval not required). Existing Taylors Bridge to remain open for traffic.
2. Pedestrian and cyclist diversions put in place. Closure of Adam Street west of Bacon Street.
3. Piling platforms erected (outside cemetery boundary) and pile installation (abutments, pier, and soldier piles).
4. Abutment blade wall, headstock, pier pile cap and columns, and abutment wingwalls and abutment approach retaining walls to be cast and backfilled.
5. Apply shotcrete and strip drains between pier piles, southern abutment piles, and soldier piles.
6. Construct the River Torrens Linear Trail SUP and maintenance path adjacent to the Bridge 03 northern abutment.
7. Lift in precast concrete girders for Bridge 03
8. Form and pour concrete deck, approach slabs and backfill up to road level
9. Earthworks for realignment of Adam Street, including drainage and services relocation, and new kerbing.
10. Install bridge barriers and architectural claddings on Bridge 03.
11. Construct concrete footpath on Bridge 03 (for temporary arrangement) and new footpath along Adam Street.
12. Place asphalt road surfacing on Bridge 03, South Road and Adam Street.
13. Accommodate temporary traffic switch for southbound traffic onto Bridge 03 - three southbound lanes.
14. Existing Taylors Bridge demolished.
15. Construction of Bridge 02 in a similar manner as Bridge 03
16. Remove temporary asphalt on Bridge 03 and complete third pour of SUP on the bridge.
17. Landscaping to the undercroft of Bridge 03, road reserves (South Road and Adam Street) and River Torrens / Karrawirra Parri.

3.1.9. Construction Approach

Whilst the construction of Bridge 02 and Bridge 03 are not within the Hindmarsh Cemetery land parcel, construction of these elements has the potential to damage or compromise elements (primarily headstones and memorials) within the cemetery that contribute to its heritage value.

Detailed investigations have been undertaken by the Alliance to ensure the construction of Bridge 02 and Bridge 03 do not have material impacts to the cemetery via vibration, machinery movement, lifting studies and temporary structures including construction personnel accessways.

To mitigate potential construction works impacting the heritage values of the Hindmarsh Cemetery, and to ensure the safety of cemetery visitors and users of the River Torrens Linear Trail SUP, the construction approach for the proposed development includes the following:

- Establishing fencing around the perimeter of the works within and over the cemetery for the duration of construction.

- Constructing a piling platform clear of the cemetery boundary to minimise ground disturbance within the cemetery.
- Temporary removal of the top 1.1 m (approx.) of soil at the site of the central pier piling to minimise the extent and magnitude of surface vibration.
- Use of a flydrill with permanent steel casing to minimise soil displacement and the transmission of construction-induced ground vibration (compared with more conventional impact-driven piles).
- Avoiding establishing temporary working platforms (scaffolding or similar) within the cemetery.

3.1.9.1. Cemetery access and pedestrian movements during construction

Space-proofing and safety protocols associated with construction activities will require restricting access to specific areas of the cemetery, existing footpaths and the River Torrens Linear Trail SUP. This includes overhead lifts or works above the cemetery and public spaces. To mitigate the impact, three levels of restrictions will be implemented:

Level 1 – Short closure or exclusion: similar to a traffic stop, access to be restricted for a few minutes to remove risk to the public. Suitable for short lifts, plant movement across or close to a public area. Applicable to pedestrian movement only (not vehicles) and includes cemetery visitors.

Level 2 – Overnight or week-end diversion: this will be required for complex activities for which the restriction cannot be quickly lifted. Suitable for main bridge girders delivery and installation. Applicable to vehicles and pedestrians (including cemetery visitors).

Level 3 – Long term diversion (one week or more): required for extended works within public spaces, such as reconstructing the River Torrens Linear Trail SUP, which requires dismantling of the existing structure, excavation and construction of the new path. Applicable to users of the River Torrens Linear Trail SUP only.

The Alliance will work closely with the City of Charles Sturt, City of West Torrens and other key stakeholders (e.g. cycling groups) to consult and communicate any temporary access restrictions associated with construction activities and to minimise disruption for visitors. It is expected that any planned restrictions will be reviewed as part of the monthly coordination meeting between the Alliance and the councils.

Advance notification of planned closures, diversions and changes to access arrangements will be provided through agreed communication channels, which may include council websites, council and Alliance social media platforms, on-site signage and community notifications where appropriate. During periods of restricted access, clear wayfinding and traffic management measures will be implemented to guide pedestrians, cyclists and motorists safely through or around the work area.

The Alliance will maintain regular liaison with Council representatives to address emerging issues, coordinate messaging, and ensure visitors are informed of available alternative routes and access options throughout the duration of the works.

3.1.10. Environmental Protection and Sustainability Measures

A Contractor's Environmental Management Plan (CEMP) has been prepared for the T2D Project (and is being implemented by the Alliance across the existing roadworks occurring within the locality), which addresses environmental matters associated with construction in accordance with the Department's Master Specification and relevant environmental legislation and guidelines.

The CEMP includes subplans that address noise and vibration, Aboriginal and non-Aboriginal heritage and air quality (dust) - noting that some construction-related impacts to sensitive receivers are unavoidable. The proposed development will be constructed in accordance with the CEMP.

3.2. Need for the Bridges

The T2D Project is the last 10.5 km of the 78 km North-South Corridor between Gawler and Old Noarlunga. It will result in a non-stop South Road and provides non-stop motorway traffic (3 lanes in each direction) supported by the adjacent arterial South Road with two lanes in each direction providing local connectivity.

To support the functional operation of the North-South Corridor and growth in traffic in the future, ten lanes of traffic are required through this section of the corridor: six lanes to connect motorists between the northern tunnels, to commence just south of the River Torrens / Karrawirra Parri, and the existing section of the North-South Motorway; and four lanes (two in each direction) for the new South Road surface roads located on either side of the motorway. This is an increase from the five traffic lanes currently provided at this location.

The North-South Motorway is generally three lanes in each direction for its existing sections to the north and south of the T2D Project, and will be three lanes in each direction within the T2D Project. The South Road surface roads require two lanes in each direction to support local traffic and traffic unable to use the motorway (including during maintenance closures). In addition, active transport infrastructure in the form of SUPs, footpaths and on-road cycle lanes, are proposed to encourage active transport, provide for community connectivity and reduce reliance on motor vehicle use.

The existing Taylors Bridge crossing of the River Torrens / Karrawirra Parri is insufficient to cater for these elements and needs to be replaced. Construction of three bridges spanning the river is proposed to provide breaks between the bridges and allow light to filter to the SUPs along River Torrens / Karrawirra Parri. Bridge 02 will support the motorway carriageways, with Bridges 01 and 03 supporting the northbound and southbound carriageways of South Road respectively. Bridges 01 and 03 will each incorporate an on-road cycle lane and SUP.

The existing South Road corridor within the project locality is narrow and constrained. The design of the T2D Project has been iteratively refined to respond to site constraints, stakeholder feedback, and broader transport, urban and environmental objectives.

The following key features make it challenging to accommodate the ten lanes of traffic, plus active transport provisions, needed for functional traffic flow in the vicinity of the River Torrens / Karrawirra Parri crossing:

- The existing road alignment, including horizontal and vertical curves, is provided for a 60 kilometres per hour (km/h) posted speed limit on South Road. The new motorway carriageways must be posted for 80 km/h but designed for 90 km/h, requiring larger curves.
- Minimising impacts on River Torrens / Karrawirra Parri and its banks.
- Narrow width between the Brickworks Shopping Centre and State Heritage listed Former Hoffman Brick Kiln (Brickworks) on the western side of South Road and the State Heritage listed Hindmarsh Cemetery on the eastern side.
- Langman Reserve.
- Residential properties near Jervois Avenue and Langman Reserve.

In addition to the above, there are vertical geometry constraints that the motorway and road design needs to meet, including:

- Vertical clearance requirements for Bridge 03 above the State Heritage listed Hindmarsh Cemetery - the Commissioner has acquired air rights above 3 m above existing ground level.
- Grading limits for the traffic lanes and SUP across the bridge - a maximum grade of 5% is required.
- Vertical clearances to the Linear Trail SUPs along the north and south banks of the River Torrens / Karrawirra Parri - a desirable vertical clearance of 3 m under the bridges.
- Vertical tie-in requirements at the realigned Adam Street to the north and West Thebarton Road to the south.
- Vehicle connection to the northern entries to the Hindmarsh Cemetery from Adam Street.
- Minimum bridge levels for flooding considerations in the River Torrens / Karrawirra Parri.

3.3. Design Development

Various tunnel, at-grade and elevated road options were considered during the design development optioneering phase of the T2D Project between 2021 and 2022.

The development of the initial 2021 Reference Design assessed a range of options that sought to avoid direct impacts on the Hindmarsh Cemetery on the eastern side of the corridor and the Former Hoffman Brick Kiln on the western side. Options included:

- At-grade road options, with compliant and narrow lane widths, requiring corridor widening west of South Road into West Hindmarsh.
- Alternative tunnel portal locations, including extending the tunnels below the Brickworks Shopping Centre and the River Torrens / Karrawirra Parri.
- 'Stacked bridge' (viaduct) options, with one of the South Road carriageways elevated on a viaduct above the motorway carriageways.
- An elevated motorway, with the motorway carriageways on a viaduct above the South Road carriageways.

A multi-criteria analysis (MCA) of the options undertaken by the Department considered various impacts including community and stakeholder interests, environment and heritage matters, technical and operational requirements, constructability and cost. Key differentiators identified in the assessment included:

- The at-grade options required the partial or complete acquisition of the Brickworks Shopping Centre.
- All options except the elevated motorway would impact numerous residential properties north of the River Torrens / Karrawirra Parri and result in the loss of Langman Reserve.
- Tunnelling below the River Torrens / Karrawirra Parri was discounted due to significant construction impacts to traffic, risk of flooding, the challenging environment within and adjacent to the river and potential impacts to the cultural heritage value of the river.
- An elevated motorway, between Grange Road and Ashwin Parade, avoided impacts on the Brickworks Shopping Centre and reduced the need for considerable land acquisition, but resulted in significant constructability challenges and impacts, as well as major visual impacts to adjacent residential properties and users of the river corridor.

3.3.1. Initial 2021 Reference Design - Stacked Bridge

Following the MCA, the preferred alignment selected for the 2021 Reference Design was a 'stacked bridge' arrangement with at-grade and elevated road lanes as shown in Figure 16. The horizontal geometry for the motorway carriageways required a larger radius that pushed the alignment to the west after crossing the river. The corner of the Hindmarsh Cemetery set the control for the corridor, avoiding encroachment on the eastern side of South Road and required all widening to occur on the western side within West Hindmarsh.

The northbound carriageway for South Road was proposed to be elevated above the northbound motorway carriageway to reduce the extent of the corridor widening and avoid impact on the Brickworks Shopping Centre. The South Road viaduct needed to maintain vertical clearance over the motorway until it could shift laterally clear of the motorway, which was achieved just south of Hindmarsh Avenue. At that point the carriageway could begin to descend from around 9 m (road level) above ground level. The viaduct was located as close as 22 m from the front of homes on the western side of Jervois Avenue (refer to Figure 17).

Compared to the current design, the 2021 Reference Design alignment would have resulted in acquisition of one additional residential property on Torrens Avenue, the complete acquisition and loss of Langman Reserve, full acquisition of 16 additional residential properties on the eastern side of Jervois Avenue north of Hindmarsh Avenue and provision of a 9 m tall viaduct (plus a 3 m high acoustic barrier) adjacent Jervois Avenue. The outlook from remaining residential properties along Jervois Avenue would have then been to the viaduct and noise walls adjacent the motorway where they were previously facing residential properties or Langman Reserve.

During community and stakeholder engagement on the 2021 Reference Design, significant concern was raised by the community regarding the visual impacts caused by the stacked bridge, the acquisition and removal of Langman Reserve and the extent of acquisition of residential properties north of Langman Reserve. The project design was subsequently reviewed to address community concerns, as described in Section 3.3.2.

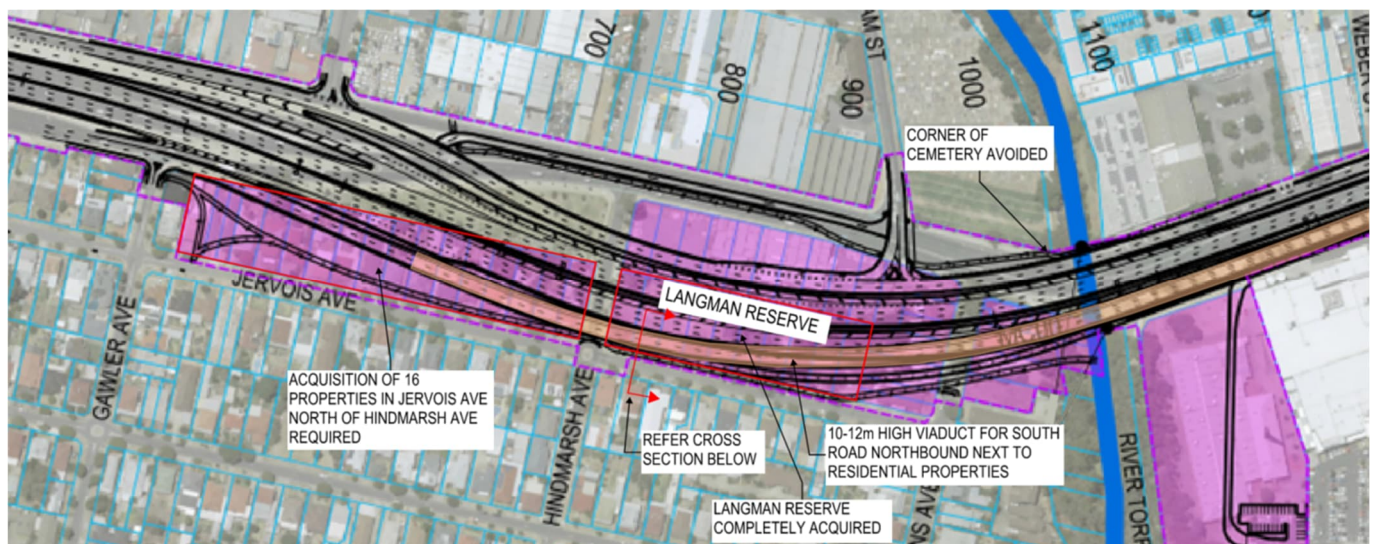


Figure 16: Initial 2021 Reference Design showing significant land use impacts north of River Torrens / Karrawirra Parri

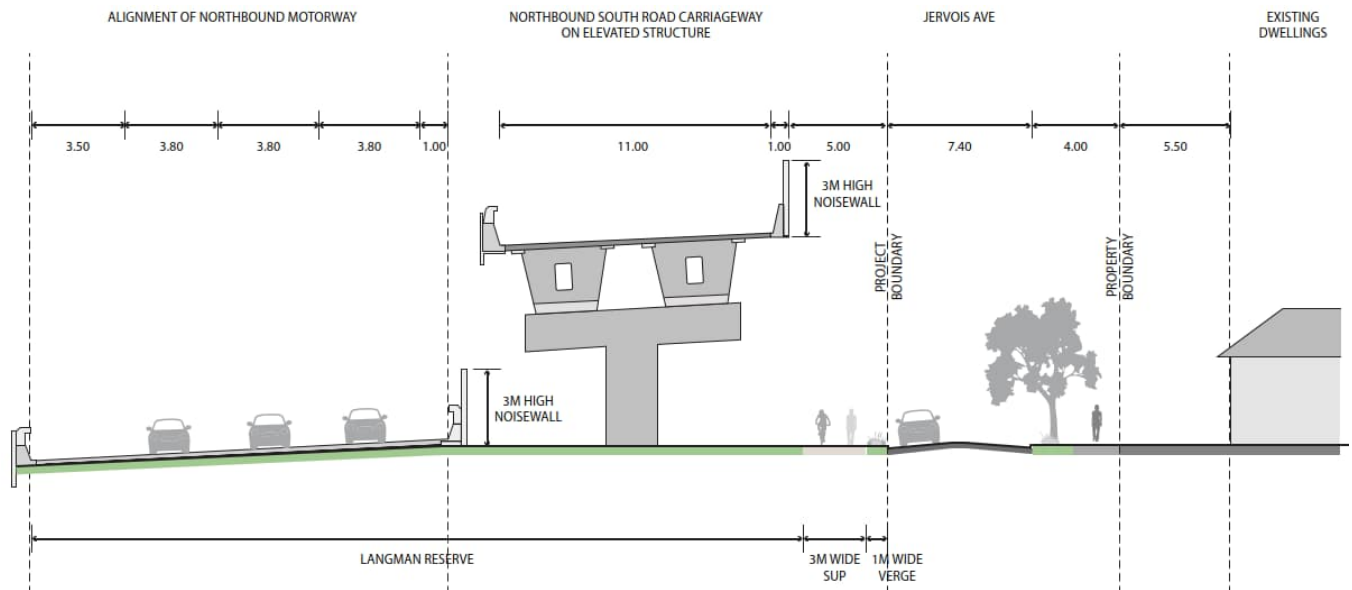


Figure 17: Initial 2021 Reference Design - indicative cross section near Jervois Avenue / Hindmarsh Avenue

3.3.2. Updated 2022 Reference Design - Low Bridge over Hindmarsh Cemetery

The 2022 reassessment and refinement of the T2D Project design removed the control of avoiding the Hindmarsh Cemetery. This enabled consideration of alignments that could potentially significantly reduce impacts on community facilities and residential properties, balanced against a small encroachment on the cemetery.

Options for the extension of the tunnel to the north of the River Torrens / Karrawirra Parri were also extensively reassessed to test whether property impacts could be reduced. However, this confirmed the earlier assessment that construction complexities and property and environmental impacts were prohibitive.

The updated assessment concluded that a revised design with a small aerial encroachment over the southwest corner of the Hindmarsh Cemetery offered an improved balance of impacts. The 2022 Reference Design moved the road alignment east, accommodating the southbound lanes of South Road on a low bridge over the southwest corner of the cemetery, which in turn allowed the motorway and South Road northbound to be realigned as far east as possible adjacent to the corner of the cemetery. The motorway and South Road lanes were generally at ground level. This allowed the western extent of the roadway footprint to be minimised as much as possible, thus minimising impacts on properties to the west of the corridor.

The updated 2022 Reference Design resulted in:

- Avoiding the need to acquire seven properties in Jervois Avenue.
- Partial acquisition only along the rear of nine properties in Jervois Avenue north of Hindmarsh Avenue (previously proposed for full acquisition).
- Partial acquisition of Langman Reserve, allowing the balance of the reserve to be reconfigured and reinstated to remain as a community facility.
- Avoiding the 9 m high viaduct adjacent to residential properties and its associated visual impacts.

- Encroachment and associated land acquisition of commercial land uses east of South Road in Thebarton, allowing for a new area of public open space to be created (Ware Street Reserve).

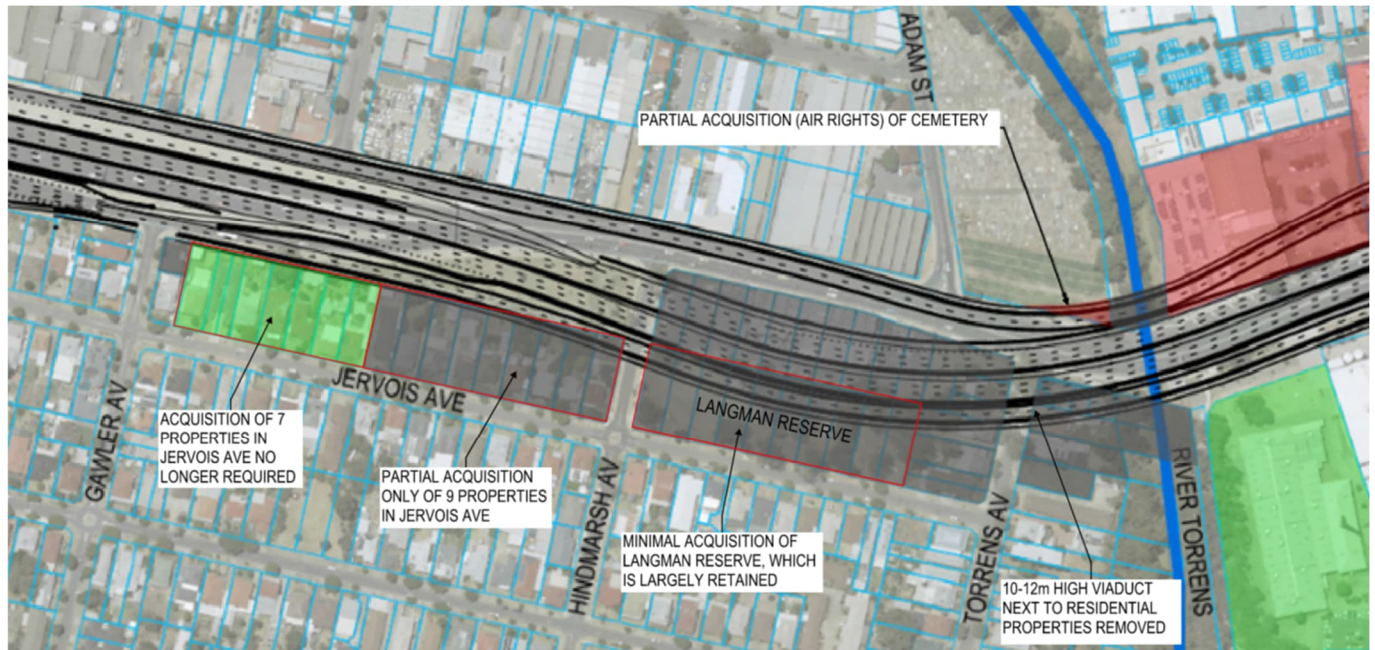


Figure 18: Updated 2022 Reference Design showing reduced land use impacts north of River Torrens / Karrawirra Parri

3.3.3. Detailed Design

The Alliance developed its Tender Design in 2023/2024 using the 2022 Reference Design. For the alignment at and crossing of the River Torrens / Karrawirra Parri, the Tender Design remained largely consistent with the 2022 Reference Design, with the main changes relating to refinements of the Bridge 03 structural form to reduce its depth and associated visual bulk. The changes to the design of Bridge 03 also improved its constructability, removing the need for temporary support structures within the cemetery that would have been required for a long-span steel bridge.

The cross section of the Bridge 03 carriageway was developed in greater detail during the tender phase to address the Project's functional requirements, including accommodating separation between the traffic lanes and the SUP, and to include an on-road cycle lane for continuity with the adjacent sections of the North-South Corridor. The horizontal alignment was refined to minimise the encroachment on the cemetery.

The vertical geometry of the southbound South Road carriageway over Bridge 03 was optimised to maintain the minimum 3 m clearance over the cemetery while reducing the bulk of the retaining wall on the northern approach and enabling suitable grading for the connection to the proposed realignment of Adam Street.

The Alliance was successful in being awarded the Main Works contract for the design and construction of the T2D Project in September 2024. Progression of the design continued during the Detailed Design phase, which included minor refinements to the alignment and cross section of Bridge 03 to achieve design compliance with the Project's requirements. As plans for Bridge 03 and surrounding works progressed towards Detailed Design, two pre-lodgement meetings were held with DHUD and representatives of key stakeholders, including Heritage SA, ODASA, City of Charles Sturt and City of

West Torrens. The evolving design of Bridge 03 was also presented to the UDRP through this pre-lodgement period, with feedback considered by the Alliance in further design refinement and investigation of options for the bridge form, width and height and landscaping beneath the bridge.

Throughout the design development and pre-lodgement engagement process, amendments to the Bridge 03 design have been investigated, considered, consulted on, advanced and, where possible, adopted by the Alliance to minimise the impact of the development. This is reflected in the Detailed Design, which is represented in the plans submitted with this Crown development application.

3.3.3.1. Bridge width investigations

During pre-lodgement meetings and design review by the UDRP, key stakeholders queried whether the width of Bridge 03 could be narrowed to reduce the extent of overhang over the Hindmarsh Cemetery, or the form of construction of the eastern part of the bridge be altered to reduce the physical imposition on the cemetery and increase the amount of natural light available to the undercroft space.

The 13.15 m width of Bridge 03 (between barriers) has been determined by two different functional requirements:

- Temporary traffic arrangements to maintain three lanes of southbound traffic and a footpath while the existing Taylors Bridge is demolished and replaced with the new motorway bridge (Bridge 02). The bridge needs to be engineered to support heavy vehicles in the left-hand lane and traffic barriers capable of withstanding impact from a heavy vehicle that may mount the kerb. Figure 19 shows the minimum acceptable bridge width to accommodate the required temporary traffic arrangement. Although the full constructed Bridge 03 width will be available, the temporary lanes are located on the east side of the bridge to maximise clearances to the Bridge 02 work zone.
- Permanent arrangement of two southbound traffic lanes and an on-road cycle lane for South Road, plus a 3 m wide SUP (plus clearances either side) for north-south pedestrian and cyclist movements.

The engineering requirements for the temporary traffic arrangement mean that alternative, light weight structural design approaches for the portion of the bridge supporting the SUP are not feasible. Reducing the capacity of southbound traffic to two lanes during the temporary traffic period would also have a significant negative impact on the existing transport network, noting this locality is where existing North-South Motorway and South Road traffic merge. Reducing the capacity of the road may see traffic back up into the motorway north of the exit ramp to Port Road, creating safety issues for motorists and increasing delays to motorists.

Notwithstanding temporary traffic requirements, potential adjustments to the bridge width for the permanent solution were explored by the Alliance. Figure 19 illustrates the minimum width for various options and shows that if the on-road cycle lane was removed (option 1), or the SUP was narrowed to a footpath width only (from 3 m to 1.8 m) (option 2), a reduction in the width of the bridge between 1.2 m and 1.8 m could be gained, which is approximately a 10% reduction in width. This reduced width of the bridge would be at the expense of one of the active transport functional requirements for the permanent arrangement and would also compromise the ability to implement the minimum cross section width needed for the temporary traffic arrangement. Accordingly, these width reduction options have not been adopted, as described further below.

Following review of the active transport network (Figure 13) in the locality, and the broader improvements being provided by the T2D Project, the Alliance and the Department considered that downgrading the active transport infrastructure on Bridge 03 would significantly diminish safety, comfort

and usability for vulnerable road users by forcing greater mixing of incompatible user groups within a constrained space.

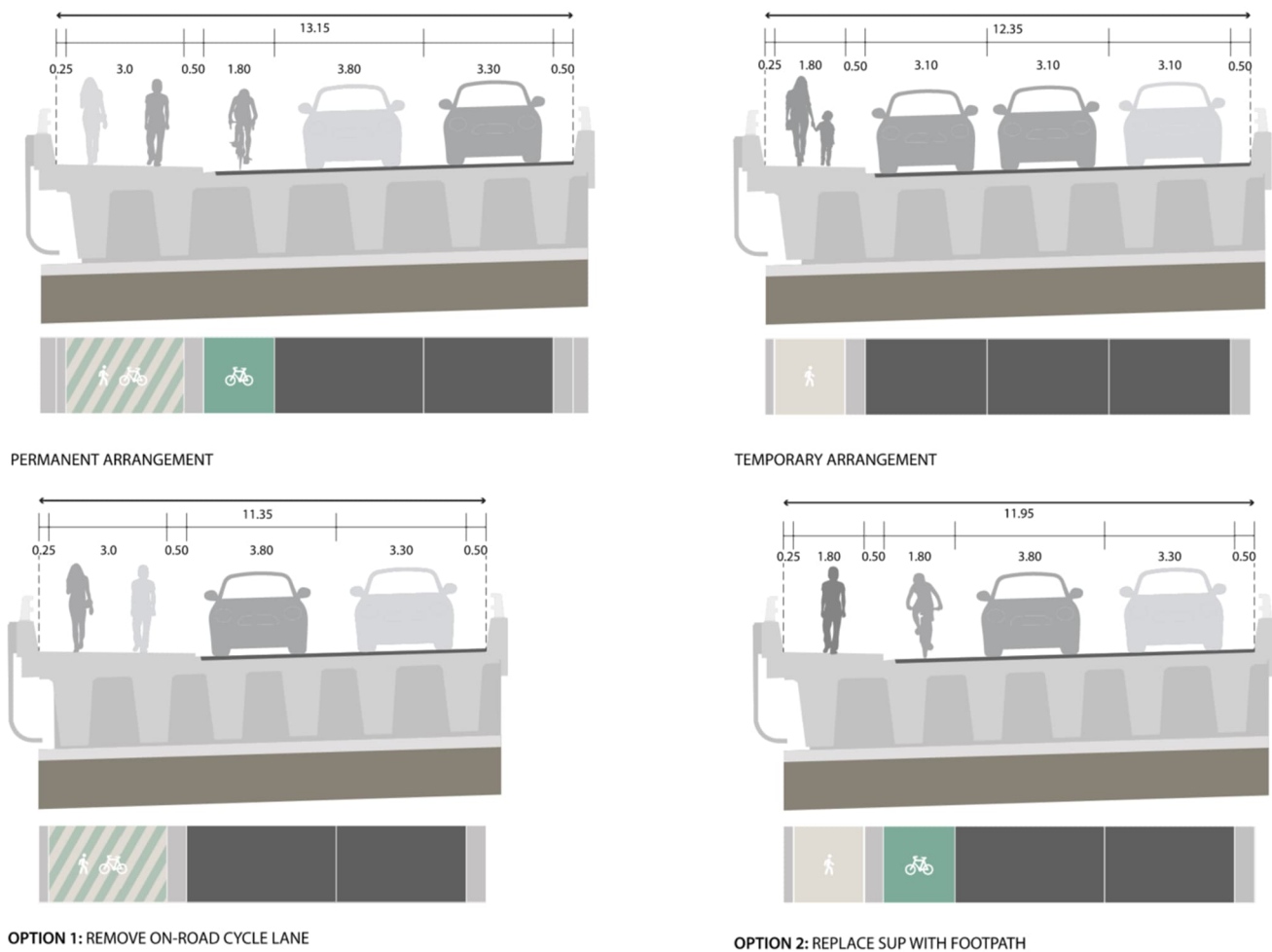


Figure 19: Illustrating Bridge 03 temporary and permanent transport infrastructure with options considered to reduce the width of the bridge

For option 1, the removal of the on-road bike lane would break a strategically important continuous cycling corridor along South Road that has been progressively delivered through prior North-South Corridor projects . A discontinuity over the bridge would force cyclists to either share traffic lanes with heavy vehicles, share the SUP (where they would need to navigate among other users and move through/across opposing pedestrian flows) or undertake indirect detours on local roads, SUPs and pedestrian paths, all of which would add distance and travel time while increasing safety risks.

This break in continuity would undermine the value of existing and planned cycling infrastructure north and south of Bridge 03, with the potential to result in the loss of up to 760 m of connected bike lanes and discourage future network extensions. Given the gap would occur on a bridge structure, the likelihood of reinstating connectivity in the future is low, making this a long-term constraint on the strategic cycling network.

For option 2, reducing the width of the SUP would create a constrained environment; increasing conflict between users (cyclists, pedestrians and e-scooter riders) that have differing speeds, behaviours and comfort levels. Without adequate separation and space provision, these interactions would become unsafe and unpleasant. This would result in an unattractive and functionally compromised facility that discourages use, particularly for less confident or more vulnerable users.

The reduction in bridge width of approximately 1.2 - 1.8 m provides a negligible improvement to the overall visual and light-related impacts to the Hindmarsh Cemetery and undercroft space.

From a visual perspective, the marginal narrowing would be expected to result in only a minor change to the perceived bulk, scale, or overall visual presence of the structure when viewed from within the cemetery, as the primary driver of visual impact remains the length and proximity of the overhanging deck.

Similarly, in relation to natural light penetration, the minor reduction in width would result in only a very limited increase in sky visibility and solar access beneath the structure, with overshadowing effects remaining largely unchanged due to the overhang and structural depth of the bridge. Consequently, the potential width reduction would not meaningfully influence user experience, amenity or the character of the cemetery environment.

The Alliance considers that the relatively minor gain achieved by reducing the bridge width (approximately 10% overhang reduction) would be outweighed by substantial negative impacts to the functional performance of the road network during the temporary traffic arrangement and/or on the temporary and permanent active transport network and user experience. The loss of dedicated cycling infrastructure or adequate SUP widths would lead to increased user conflict, reduced safety and a degraded level of service, ultimately discouraging active transport uptake. This runs counter to broader objectives of the T2D Project and the Department of promoting increased active transport use, and risks creating infrastructure that is ineffective, unattractive, and inconsistent with established corridor standards.

Having regard to the limited extent of improvement to visual amenity and natural light outcomes, the reduction in bridge width was not pursued as it would not deliver a commensurate benefit to justify the consequential impact to the active transport network and users. Instead, the Alliance focused efforts on changes that could be achieved in the design of the bridge and the treatment of the undercroft space.

3.3.3.2. Changes made in response to stakeholder feedback

The Alliance has undertaken significant engagement with key stakeholders to address feedback and improve outcomes for cemetery visitors and users of the River Torrens Linear Trail SUP.

A summary of the design changes made to Bridge 03 and associated works in response to stakeholder feedback includes:

- Changes to the design of the Bridge 03 aluminium cladding, particularly above the Hindmarsh Cemetery, to better reflect the different cultural aspects of the River Torrens / Karrawirra Parri (Aboriginal heritage and Kaurra cultural significance) and cemetery (State Heritage listed and place of commemoration, ceremony reflection). Changes included limiting the perforated cladding to the section above the river, reducing the vertical height of the cladding, adjusting the curve of the cladding to follow the shape of the eastern Super-T bridge girder and providing a tapered end at the northern abutment.
- Removing pre-cast concrete cladding surrounding the central pier of Bridge 03 (located adjacent to the southern boundary of Hindmarsh Cemetery) and replacing the initial six columns with three to improve ambient light entry into the space below the bridge, provide direct views to/from the southern bank of the river and increase passive surveillance.
- Softening the columns and headstock design of the central pier by texture-treating the concrete columns and incorporating rounded edges to the headstock.

- Adjusting the structural form of the northern abutment to remove the cantilevered section of retaining wall protruding towards the cemetery and adjusting the headstock for the bridge girders to have a similar form to the central pier.
- Removing proposed 2.4 m high fencing directly below the bridge, which had been included to prevent access to undercroft areas outside of the cemetery boundary. As a result, the Bridge 03 undercroft will be open, allowing additional afternoon light into the cemetery and providing opportunity to improve the appearance of the undercroft as viewed from the cemetery.
- Providing lighting underneath the bridge adjacent to the northern abutment to address crime prevention through environmental design (CPTED) concerns while avoiding direct lighting of the cemetery areas of the undercroft.
- Replacing grouted rock below the bridge with hard and soft landscaping, including shade tolerant plant species.
- Replacing existing turf below the bridge alignment within the Hindmarsh Cemetery with gravel / pebbles and brick slips (edging), which will comprise reclaimed brick to reflect the brick-making history of the area.
- Removal of existing fencing along the western and (part) southern boundaries of the Hindmarsh Cemetery to avoid duplicate fencing, allow adjacent landscape spaces to 'merge' with the cemetery grounds whilst retaining the existing brick plinth along the western boundary to maintain delineation of the original cemetery boundary.
- Extending the existing northern cemetery fencing west to terminate at the retaining wall on the approach to the Bridge 03 abutment.
- Increasing planting of trees along the northern and southern banks of the river to compensate for the loss of established vegetation and trees within and adjacent to the cemetery.

4. Stakeholder Engagement and Background Investigations

4.1. Stakeholder engagement

4.1.1. Key Stakeholder Engagement

Throughout the design development and overall T2D Project development, key stakeholders have been regularly engaged on the Project design and potential impacts. Key stakeholders have provided input into the design at various stages for the proposed development, including through pre-lodgement meetings, and their feedback has informed improvements to the design. Key stakeholders that have been engaged on the proposed development include:

- Kurna Yerta Aboriginal Corporation (KYAC), which has endorsed the expression of Kurna culture in the northern precinct, including the design approach for the cladding of Bridge 03 (also refer Appendix 5).
- T2D Project Kurna Urban Design Working Group, which contributed to the consideration of the landscape approach for the River Torrens / Karrawirra Parri (also refer Appendix 5).
- City of Charles Sturt, which is the landowner for the Hindmarsh Cemetery and the northern bank of the river east of Bridge 03.
- City of West Torrens.
- Department for Environment and Water - Heritage SA
- Green Adelaide, including in relation to water affecting activities outside of the scope of this development application.
- ODASA, which also supports the Department in the review of design packages for the T2D Project.
- UDRP, which held a dedicated session for Bridge 03 and associated works as part of the pre-lodgement process coordinated by DHUD.

4.1.2. Community Engagement

Over the period of December 2022 to February 2023, the Department undertook a community engagement program to present to the community the revised 2022 Reference Design. To address the significant concerns raised by the community on earlier designs, the revised 2022 Reference Design showed alignment through this section of the corridor had been shifted to the east resulting in a bridge span above the south-west corner of the Hindmarsh Cemetery.

Following the procurement process and awarding of the Main Works contract to the Alliance in September 2024, the Alliance created a T2D Project website that provides publicly available information on the tender design and the general project alignment. Since this time, and to improve community and stakeholder understanding of the T2D Project, the Alliance has been undertaking coordinated community information sessions and also meeting with community members and stakeholders with specific interest or queries on the T2D Project and its alignment.

More recently, the Alliance initiated a project-wide community engagement program in late 2025 to seek feedback on the design intent and delivery of open spaces along the 10.5 km corridor. The engagement principally focused on the provision of ten dedicated open spaces, including two directly adjacent to Bridge 03 in Langman Reserve and Ware Street Reserve; however, feedback was also sought on motorway-wide aspects, including on perceived values of and outcomes for open space generally.

It is noted that the engagement process did not seek specific feedback relating to the scope of the proposed development subject to this development application.

Engagement methods provided for a community survey (277 respondents) and written feedback, with approximately 20% of all survey respondents residing in residential areas immediately south of the River Torrens / Karrawirra Parri (defined within postcode area 5031).

Survey responses clearly defined that quality useable open spaces along the motorway are highly valued. Respondents are wanting open spaces to provide a range of community benefits, including:

- Greening, trees and landscaping
- Visual and/or noise buffer to motorway
- Good connections and access from surrounding areas to and through open spaces
- Biodiversity and habitat
- Open spaces for passive recreation.

The results of this engagement program demonstrate significant alignment with and support for stated designs. The provision of the on-road cycle lane and SUP achieves the desired enhanced connectivity, while meaningful greening and biodiversity outcomes can be achieved within the River Torrens / Karrawirra Parri corridor, including proposed:

- planting of replacement River Red Gum trees and other indigenous plant species along the northern and southern banks.
- pocket planting between the ungrouted rock scour protection to contribute to the re-establishment of riparian vegetation, enhancing bank stability and promoting ecological connectivity along the watercourse.

4.2. Notification to Internment Right Holders

The Alliance is working closely with the City of Charles Sturt to implement a community engagement process focused on the families and friends of individuals interred at Hindmarsh Cemetery. The engagement process includes three primary actions.

1. Distribution of letters to registered contacts

A letter has been mailed/emailed to registered contacts for interment leases at Hindmarsh Cemetery, which provides introductory information regarding the proposed development and prompts recipients to make contact with the Alliance to discuss key matters further (should they elect to do so).

The City of Charles Sturt, as cemetery owner, facilitated the distribution of letters in early August 2026. This has met the Alliance's intention to distribute letters well in advance of the commencement of the development application's formal public notification period, and thus maximising the opportunity for stakeholder participation in the development assessment process.

2. Signage at Hindmarsh Cemetery

Signage has been installed at seven locations in Hindmarsh Cemetery to increase awareness of the proposed Bridge 03 development and provide opportunities for stakeholders to engage with Alliance representatives. The signage is in addition to public notice requirements for the development application, and was installed in early August 2026 – ahead of the formal public notification period for this development application and in parallel to the distribution of letters to registered contacts for internment leases.

The signage will remain in place for 3-6 months at locations agreed with the City of Charles Sturt.

3. Direct briefings

Those receiving letters from the Alliance or stakeholders that present through the engagement period are being offered the opportunity of a direct briefing. Alliance representatives will be available to meet face-to-face with interested people/groups to step through the proposed development and management approaches during construction.

Briefings, to be held when and as required, are proposed to be held in the T2D Project Community Information Centre on South Road at Hilton, or an alternative Alliance facility, where suitable.

Other engagement approaches may be considered subject to the reach and interim outcomes of the above actions.

4.3. Heritage impact assessment

GGA were engaged to prepare a Heritage Impact Statement relevant to the potential impacts of the T2D Project to the State Heritage-listed Hindmarsh Cemetery. The report notes the following elements of the Hindmarsh Cemetery contribute to its significance:

- *The original curtilage of the cemetery, bounded by Adam Street to the north, the current South Road alignment to the west, and the River Torrens to the south;*
- *The 1854 'Dead House';*
- *The 1884 Sexton's Cottage;*
- *The alignment of rows of grave sites in a roughly north – south alignment;*
- *The extensive collection of grave sites and associated memorials, including a range of slate, marble, granite, and sandstone headstones and monuments.*

The open setting of the Hindmarsh Cemetery with the natural backdrop of the Torrens River is also of significance.

The report concludes that there is a 'material effect' to the heritage values of the cemetery arising from certain works, with advice regarding mitigation measures to reduce or avoid impacts. The Heritage Impact Statement is contained within Appendix 3.

4.4. Arboriculture assessment

Assessment of the proposed tree damaging activities was undertaken by Arborman Tree Solutions. The assessment considered nine trees (see section 3.1.6 and Figure 14) which are identified as a mix of various native, indigenous and exotic species. These trees are not naturally occurring vegetation and

appear to have been planted as part of the landscaping of the area. The majority of trees are considered to be in Good (7) or Fair (2) overall condition and have extended useful life expectancies. The growing environment includes lawn area, maintained garden beds and sealed surfaces such as pathways and roadways.

Two trees were identified as Significant trees and one as a Regulated tree as defined in the PDI Act. The remaining trees are either exempt species or unregulated. The arborist notes that Significant and Regulated trees should be preserved if they meet aesthetic and/or environmental criteria as described in the Regulated and Significant Tree Overlay of the Code. However, when assessed against the relevant Performance Outcomes of that overlay, none of the trees are considered to provide 'important' aesthetic and/or environmental benefit.

The Arboricultural Impact Assessment determined that removal of one Regulated tree, (up to) two Significant trees, four unregulated trees and one exempt tree is reasonable as they do not display attributes that indicate they should be protected.

Additionally, there is one Significant tree (Cut-Leaf Plane Tree) where potential root severance is not expected to negatively impact the tree. The encroachment to the root zone is greater than 20% of the nominal root zone area; however, there are factors that indicate the proposed works are not expected to negatively impact the viability or stability of the tree. Whilst the viability of the tree to be retained is unlikely to be impacted by the proposed works, there is potential for incidental damage and as such, tree protection is recommended as part of the construction of the retaining wall adjacent the southern boundary of Hindmarsh Cemetery.

The Arboricultural Impact Assessment is provided in Appendix 4.

4.5. Condition assessment

The Alliance procured a condition assessment by AusDilaps of the entirety of the Hindmarsh Cemetery. This assessment comprised a visual inspection to record the condition of the items inspected and includes a photographic record of the main defects visible at the time of the inspection.

The assessment will be used to determine if change has occurred post-construction and if so, to what extent.

4.6. Archival recording

The Alliance procured an archival recording by Independent Heritage Consultants for headstones and memorials within approximately 15 m of proposed works. The document has recorded the physical condition, principal features, inscriptions, materials, and historical characteristics of approximately 300 headstones and associated cemetery elements.

The archival recording, along with the condition assessment described above, provides a suitable archive should unexpected damage occur to elements within the cemetery.

4.7. Construction vibration and impacts

Construction of Bridge 02 and Bridge 03 has the potential to damage or compromise elements (primarily headstones and memorials) within the Hindmarsh Cemetery that contribute to its heritage value. This could be caused by vibration, machinery movement and temporary structures.

Detailed investigations and design refinements (described, in part, in section 3.1.9) have been undertaken to identify and mitigate potential construction-related risks to the cemetery, including site-specific vibration modelling, geotechnical assessments, and construction methodology trials, to ensure that heritage elements are protected from disturbance.

As described in Section 3.1.10, all construction activities will be undertaken in accordance with the Alliance's CEMP and its associated sub-plans, which establish environmental, heritage and construction management measures. These documents provide a robust framework for identifying, managing and monitoring potential risks to adjacent sensitive receivers, including the heritage-listed cemetery, and require works to be implemented in a manner that avoids or minimises impacts to its heritage significance, setting and ongoing operation.

In addition, construction-specific documentation, including Activity Method Statements, Task Risk Assessments and Environmental Site Plans, will be prepared and reviewed prior to the commencement of works. These documents will identify the particular constraints, risks and mitigation measures relevant to each work activity and location, ensuring that site personnel are aware of, and comply with, the requirements applicable to works undertaken in the vicinity of the cemetery.

Through the implementation of these management and approval processes, construction activities will be carefully planned, supervised and monitored to ensure the heritage values of the cemetery are protected and the risk of adverse impacts are minimised to the extent possible.

5. Statutory Context

5.1. Crown Development Application Process

As the proposed development is essential infrastructure being undertaken by a State agency, namely the Alliance on behalf of the Department, the application is being lodged with the State Planning Commission (the Commission) as a Crown development pursuant to Section 131(2)(b) of the PDI Act.

The development application will be referred to the City of Charles Sturt, City of West Torrens and relevant State agencies in accordance with sections 131(6) and 131(10) of the PDI Act. As the total development cost of the works requiring approval is greater than \$10 million, the development application requires public notification in accordance with section 131(13) of the PDI Act.

The Minister for Planning is the relevant authority, taking advice from the Commission.

5.2. Elements Requiring Development Approval

There are two key components of the proposed works that require development approval:

1. Works determined to have a 'material affect' to the heritage value of the Hindmarsh Cemetery.
2. Additional construction activities associated with the T2D Project that do not have a 'material affect' to the heritage value of the cemetery but comprise 'development' under the PDI Act.

A summary of the elements of the project requiring development approval are detailed in Table 2.

Table 2: Elements requiring Development Approval

Project Element	Discussion
Construction of a road (South Road) and bridge (Bridge 03)	Construction of a realigned section of South Road and a new road bridge (Bridge 03) and associated work above and adjacent the Hindmarsh Cemetery and to the southern bank of the River Torrens / Karrawirra Parri. Works requiring approval extend from south of the junction with Adam Street to immediately north of the southern abutment on the southern banks of the river. The southern abutment and continuation of South Road towards West Thebarton Road, as well as the realignment of South Road north of Adam Street, are not within the scope of this development application as they will be located on/over land acquired by the Commissioner in accordance with section 20(1) of the Highways Act, will not have a material affect to a State Heritage place and are therefore exempt from the PDI Act.
Construction of a road (North-South Motorway) and bridge abutment (Bridge 02)	Construction of a portion of the southbound carriageway of the North-South Motorway and the northern abutment of a road bridge (Bridge 02) and associated work adjacent the Hindmarsh Cemetery require approval. The extent of works requiring approval is largely limited to parts that are directly adjacent to and visible from the Hindmarsh Cemetery and includes an area from the southern face of the northern abutment adjacent to the River Torrens / Karrawirra Parri to a point equal to the northern abutment of Bridge 03. The span of Bridge 02 over the River Torrens / Karrawirra Parri is comparative to the existing Taylor's Bridge and the remainder of the motorway in the locality is not visible directly from the cemetery; therefore it has been determined that these works do not have a material affect to the Hindmarsh Cemetery.
Adam Street works	The original Adam Street curtilage of the cemetery contributes to the heritage significance of the Hindmarsh Cemetery. Therefore, filling of land and resultant regrading, realignment and

Project Element	Discussion
	reconstruction of Adam Street to the north of the cemetery is assessed as having a material impact on its heritage value. The works, including footpath and landscaping within the southern verge, for the realigned section of Adam Street west of Bacon Street is within the scope of the development application.
Shared Use Path	Reconstruction of the SUP on a State Heritage place (being the land parcel comprising the Sir William Goodman Bridge, which is located approximately 800 m to the east of the works).
Tree Damaging Activity	Removal of one Regulated Tree and (up to) two Significant Trees and within the Hindmarsh Cemetery to accommodate construction of Bridge 03. Tree damaging activity (root severance) of one significant tree within Lot 55 Adam Street, Hindmarsh to accommodate construction of a retaining wall east of the Bridge 03 central pier.
Fencing	Removal of fencing along the western (in full) and southern (partial) boundaries of the Hindmarsh Cemetery requires approval as no relevant exemption exists. Construction of fencing adjacent the northwest corner of the Hindmarsh Cemetery to effectively extend the northern cemetery fencing to the northern abutment of Bridge 03 northern abutment is exempt from the definition of development.

5.3. Statutory Referrals

Due to the nature of the proposed development and the Code Overlays that apply to the subject land, it is anticipated that the following referrals may be required in accordance with the provisions of the PDI Act.

Table 3: Referral bodies

Referral Body	Overlay / Referral Trigger	Purpose of Referral
City of Charles Sturt	Relevant Local Government Authority under Section 131(6) of the PDI Act Owner of land to which an application for tree-damaging activity to a regulated tree relates, who is not a party to the application (Regulation 48 of the PDI Regulations)	Report on any particulars of the development Relevant authority to give due consideration in its assessment of the application to any submission made by the owner
City of West Torrens	Relevant Local Government Authority under Section 131(6) of the PDI Act	Report on any particulars of the development
Minister responsible for the Administration of the <i>Heritage Places Act 1993</i>	State Heritage Place Overlay Heritage Adjacency Overlay	To provide expert assessment and direction to the relevant authority on the potential impacts of development as it relates to (non-Aboriginal) heritage places
Green Adelaide Landscape Board	Prescribed Watercourses Overlay	Relevant authority under the Landscape South Australia Act that would, if it were not for the operation of section 106(1)(e) of that Act, have the authority under that Act to grant or refuse a permit to undertake a particular development. However, it is noted that the scour protection works within the River Torrens / Karrawirra Parri do not require development approval and

Referral Body	Overlay / Referral Trigger	Purpose of Referral
		may be subject to a Water Affecting Activities permit under the Landscape South Australia Act.
Native Vegetation Council	Native Vegetation Overlay	To provide expert assessment and direction to the relevant authority on the potential impacts of development as it relates to impacts to native vegetation. However, it is noted that approval in accordance with the NV Act has previously been granted for the removal of native vegetation to facilitate the works.
Commissioner of Highways	Major Urban Transport Routes Overlay Non-Stop Corridors Overlay Development that changes the nature of vehicular movements or increases the number or frequency of movements through an existing access (except where deemed to be minor in the opinion of the relevant authority).	To provide expert technical assessment and direction to the Relevant Authority on the safe and efficient operation and management of all roads relevant to the Commissioner as described in the Code. However, it is noted that the application is for roadworks on behalf of the Commissioner to implement the T2D Project, which as part of the North-South Corridor is the express purpose for which some of the Overlays have been included in the Code.
Government Architect	None applicable	As a major State infrastructure project, it is anticipated that the application will be referred to the Government Architect for advice on design matters.

6. Planning Assessment

6.1. Code Version

At the time of lodgement, the relevant version of the Code against which the proposed development is to be assessed is Version 2026.14, published 30 July 2026.

6.2. Approach to Assessment

The project works that are the subject of this development application (outlined in red in Figure 20) are located within portion of several zones, including the Community Facilities Zone, Employment Zone, Suburban Business Zone⁴, Open Space Zone, General Neighbourhood Zone and Strategic Employment Zone⁵. The zones do not tend to anticipate road infrastructure, as this is not a 'land use' as defined in the Code and often does not require development approval. Instead, Overlays often contemplate the known or anticipated need for road (and other) infrastructure, in particular the Major Urban Transport Routes and Non-Stop Corridors Overlays.

The assessment of the proposed development against the Code has focused on the key planning and design issues arising from the construction of a major road and bridge adjacent to and partially over the Hindmarsh Cemetery. This section of the report has been approached with due regard to the above in mind and provides an assessment referencing the relevant Code policies, including the relevant zones, Overlays and General Development Policies (GDPs).

For brevity, only the identifying number of the relevant Desired Outcome (DO) and Performance Outcome (PO) is listed in this section. The policies appear in full in Appendix 1 with an assessment provided to demonstrate the general consistency of the proposed development with all relevant Code policies.

The assessment considers the relevant POs, noting that recent decisions of the Environment, Resources and Development Court and the Supreme Court have determined that DOs are designed to aid interpretation but are not assessment provisions in their own right, and that Designated Performance Features (DPFs) are a guide to assist in interpreting POs and one way of meeting a PO.

As a Crown Development, while a performance assessment is undertaken, the Minister may still grant approval despite inconsistency with the Code. Broader strategic considerations also come into play, including the economic, social and environmental impacts associated with this State-significant and city shaping infrastructure project. This has also influenced the assessment approach, noting that the type and scale of development proposed is generally contemplated by the Code.

⁴ The entirety of the Suburban Business Zone has been acquired by the Commissioner to facilitate the T2D Project. As such, an assessment against the provisions of this zone is considered not necessary.

⁵ Given the limited extent of intrusion of the proposed development into the Strategic Employment Zone, an assessment against the provisions of this zone is not considered necessary.

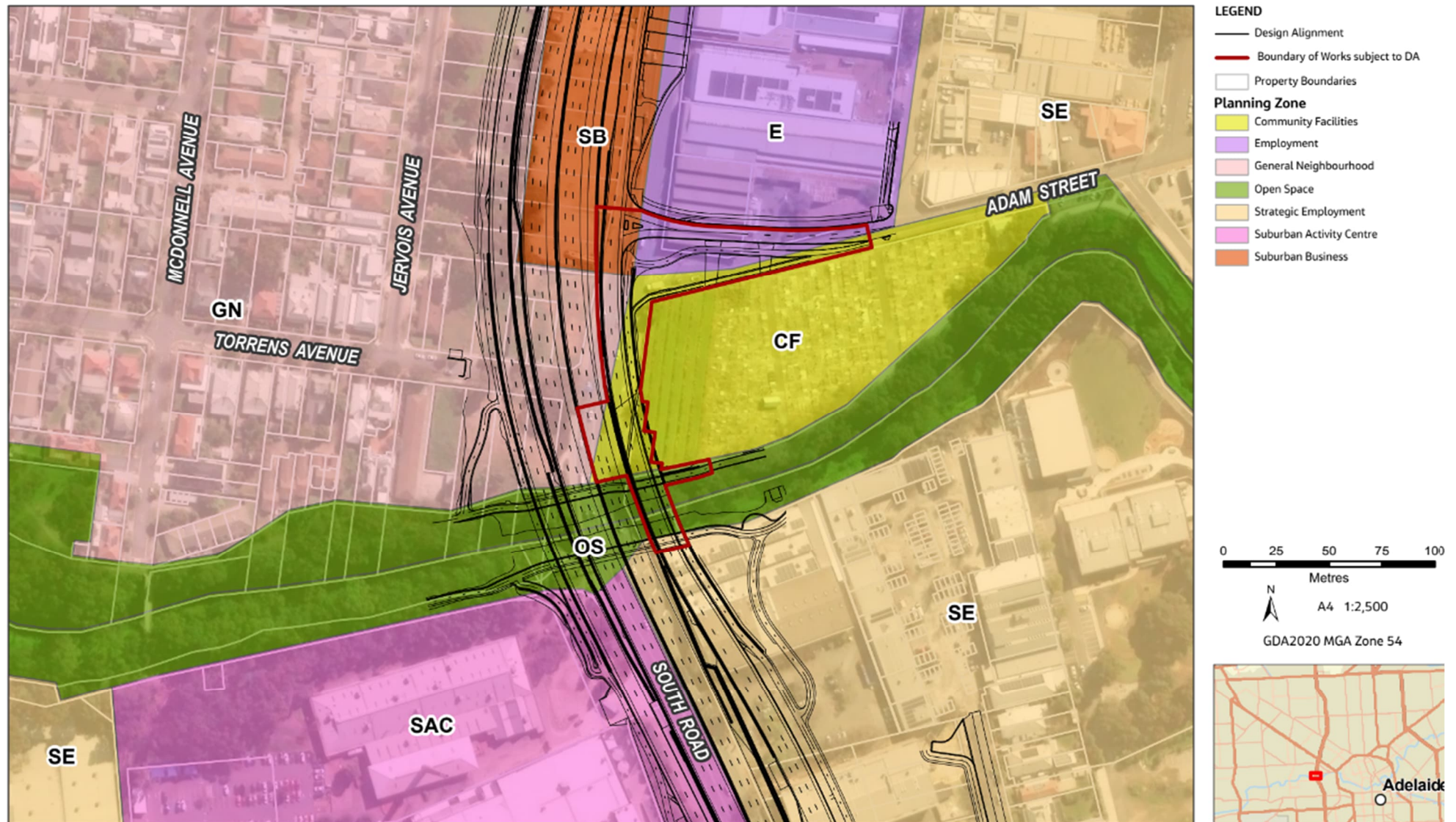


Figure 20. Zone map depicting boundary of works subject to the development application

6.3. Setting for the Hindmarsh Cemetery

Relevant policies

Table 4: Relevant policies

State Heritage Place Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 3.4
Heritage Adjacency Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1
Major Urban Transport Routes Overlay	
Desired Outcomes	DO 1, 2
Performance Outcomes	PO 8.1, 9.1
Non-Stop Corridors Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1

The proposed development is located within, above and adjacent to the State Heritage-listed Hindmarsh Cemetery and fundamentally changes its setting. The original curtilage of the cemetery contributes to its heritage significance but will necessarily change as a result of the T2D Project more broadly and the proposed development more specifically. However, this location has been deemed to be important for the North-South Corridor as demonstrated through the implementation of the Non-Stop Corridors Overlay in the Code, which is consistent with the designation of South Road within the *Greater Adelaide Regional Plan* (and previous iterations of *The 30-Year Plan for Greater Adelaide* and *Planning Strategy for Metropolitan Adelaide*).

The existing Taylors Bridge over the River Torrens / Karrawirra Parri is not wide enough to meet the functional and operational requirements of the North-South Corridor, which will be completed by the T2D Project. Construction of three bridges spanning the river is proposed to provide the road capacity for the North-South Motorway (three traffic lanes in each direction) and South Road surface roads (two traffic lanes, on-road cycle lane and SUP in each direction), while providing breaks between the bridges to allow light to filter to the SUPs alongside the river, below.

The existing South Road corridor within the locality is narrow and constrained by State Heritage places, residential and commercial properties, public open space and the existing location of the motorway north of Adam Street. This means there are limited design options to accommodate the required number of road lanes and meet necessary engineering requirements for road geometry and design speeds (that influence the curve radius for the motorway) and sightlines for motorists and gradients for pedestrians and cyclists (that influence the height of bridges, road crest locations and road steepness).

As outlined in section 3.3, the Department investigated several options for the design of the T2D Project in the subject locality in an effort to limit impacts to residential properties, open space, the Hindmarsh Cemetery, Former Hoffman Brick Kiln, the Brickworks Marketplace shopping centre and the River Torrens / Karrawirra Parri. The initial 2021 Reference Design avoided direct impacts to the Hindmarsh Cemetery at the cost of increased acquisition of homes and Langman Reserve in West Hindmarsh and increased visual impact from an 12 m high viaduct adjacent to homes 'untouched' by the proposed design. However, following community consultation on that design and the receipt of significant negative feedback, it was determined that the social and environmental impacts of that design were unacceptable.

The Department then reviewed several options for alternative designs to reduce land acquisition and community impacts, before determining that a bridge over the southwest corner of the Hindmarsh Cemetery may provide an appropriate balance of impacts (economic, social and environmental). In part, the adoption of the 2022 Reference Design considered the compromised historic character of the western portion of the cemetery, which was fundamentally altered through redevelopment in the 1970s.

The scale of the T2D Project is such that the setting of the Hindmarsh Cemetery would necessarily be altered regardless of the design solution being considered, noting an increase from a five-lane arterial road to a combination of motorway and surface roads with 10 lanes of traffic. Accommodating SUPs alongside and potential flood levels for the River Torrens / Karrawirra Parri also means that the height of the roads and bridges adjacent to the cemetery would need to increase in any event, as demonstrated by the proposed height of Bridge 02 relative to the existing ground level.

By bridging the southwestern corner of Hindmarsh Cemetery, the T2D Project avoids significant direct impacts to the cemetery at the cost of a new bridge and abutments and realignment of Adam Street changing the setting and visual outlook to the west and northwest from within the cemetery. Existing headstones, gravesites and layout of the cemetery are maintained, but approximately 150 gravesites will be located beneath Bridge 03 and shaded for most of the day.

Whilst the Hindmarsh Cemetery was established in 1846 and has operated as a cemetery since that time, the nineteenth century heritage has been altered, and partly lost, over time; most notably in the 1940s, 1950s and 1970s when unsympathetic works were undertaken to increase capacity at the western portion of the cemetery most affected by the proposed development.

The Heritage Impact Statement (Appendix 3) considers the mass, scale and siting of Bridge 03 over the Hindmarsh Cemetery, concluding that the bridge will have a "moderate" visual impact on the western end of the cemetery. It is noted that the majority of the cemetery is not directly affected by the development, and the further east one moves from the bridge, the lesser the impact on the cemetery setting. It is noted that there will be a negligible impact on the two buildings within the cemetery (being Sexton's cottage and the Dead House).

Realignment and regrading of Adam Street change the existing curtilage of Hindmarsh Cemetery, but provides space for landscaping and trees that will improve the outlook to the northwest from within the cemetery grounds. This will, in part, replicate the valued natural backdrop of the River Torrens / Karrawirra Parri along the southern boundary of the cemetery and assist in offsetting the loss of trees along its western boundary. Importantly, fencing along the northern boundary of the cemetery will remain (and may be replaced by the City of Charles Sturt); maintaining the original boundary of the cemetery and diluting the effect of the realigned Adam Street upon the perceived curtilage of the cemetery.

While it is arguable that the proposed development is inconsistent with DO 1 and PO 1.1, 1.2 and 1.4 of the State Heritage Places Overlay and DO 1 and PO 1.1 of the Heritage Adjacency Overlay, the impacts are considered acceptable when balanced against the strategic importance of the T2D Project and considering DO 1 of the Non-Stop Corridors Overlay and DO 1 and PO 1.1, 1.3 of the General Neighbourhood Zone, which would be most affected by alternative designs for the T2D Project.

Therefore, on balance the Alliance considers that the siting and layout of the proposed development is appropriate having regard to the Code and the broader considerations required for State-significant infrastructure.

6.4. Land Use and Interfaces

Relevant policies

Table 5: Relevant Policies

Community Facilities Zone	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4
Employment Zone	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1
General Neighbourhood Zone	
Desired Outcomes	DO 1, 2
Performance Outcomes	PO 1.1, 1.2, 1.3
Open Space Zone	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 1.2, 2.1, 2.3
Future Road Widening Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1
Major Urban Transport Routes Overlay	
Desired Outcomes	DO 1, 2
Performance Outcomes	PO 8.1, 9.1, 10.1
Non-Stop Corridors Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1

Design in Urban Areas GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 3.1, 4.1
Infrastructure and Renewable Energy Facilities GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 2.1
Interface Between Land Uses GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.2, 2.1, 2.2, 4.1, 5.1, 6.1, 7.1
Open Space and Recreation GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1

6.4.1. Land Use Considerations

The subject land intersects with six separate zones⁶, the policies for which do not anticipate road infrastructure, particularly of the scale proposed by the T2D Project. Infrastructure, such as the proposed roads, motorway and bridges, is a type of development that will naturally cross zones and is somewhat 'neutral' in terms of appropriateness of land use.

Instead, Overlays speak to the known or anticipated need for major road (and other) infrastructure in a given locality. In this regard, the proposed development is consistent with the strategic intent of the Major Urban Transport Routes Overlay and Non-Stop Corridor Overlay, which seek to facilitate the safe and efficient movement of traffic along key transport corridors and implementation of the North-South Corridor. The Future Road Widening Overlay expressly envisages the long-term expansion, widening and upgrade of key transport corridors, including South Road. Importantly, Part 1 – Rules of Interpretation of the Planning and Design Code acknowledges that the provisions of an Overlay prevail over all other policies, including Zone and Subzone policies. As such, the proposed development is strongly supported by the prevailing policy intent of a number of applicable overlays.

The siting of Bridge 03 over the Hindmarsh Cemetery maintains the continued use of that land as an operating cemetery, consistent with the Community Facilities Zone, albeit with changes to the context and outlook. There is limited impact to the River Torrens / Karrawirra Parri and the reconstruction of the

⁶ As noted in section 6.2, consideration of the policies of the Strategic Employment Zone and Suburban Business Zone is not considered warranted.

SUP on the northern riverbank and new SUP on the southern bank beneath the new bridges will support the desired outcome and POs of the Open Space Zone.

Outside of the immediate impacts from the loss of developable land through acquisition, including the entirety of developable land within the Suburban Business Zone (in this locality), the proposed development does not compromise, and in many ways supports, the future development of other land within the locality in line with the desired outcomes of applicable zones. The impacts from the broader T2D Project to land uses and businesses from acquisition is not a consideration for this development application and were considered by the Department in decision-making on the implementation of the North-South Corridor generally and the 2022 Reference Design specifically, including through the Project Assessment Report in 2023.

The bridge design responds sensitively to adjacent land uses and the environment through a low-profile form, incorporation of landscape treatments, and retention of visual permeability, thereby achieving a balance between strategic infrastructure delivery and zone interface considerations consistent with the intent of the Code. The highest element of the proposed development is Bridge 03, which is positioned as far as possible from housing within West Hindmarsh, minimising its visual impact to and overlooking of these sensitive uses.

6.4.2. Noise Impacts

Bridge 02 incorporates acrylic noise screens to reduce the extent of noise from motorway traffic experienced by nearby sensitive receivers and visitors to the cemetery and River Torrens Linear Park. The elevated position of Bridge 03 and 1.2 m high concrete traffic barrier also contributes to a lessening of noise levels experienced by persons at ground level near the bridge, particularly with the future distribution of traffic from South Road to the motorway reducing traffic volumes on South Road.

When compared to the existing South Road alignment, which does not have any noise walls or screens, and based on the estimated traffic volumes and vehicle mix forecast at the year 2031, the proposed development will result in an improved acoustic outcome for visitors of the Hindmarsh Cemetery. This is illustrated in the comparison between Figure 21 and Figure 22 below, which shows a notable reduction in noise levels experienced in the western part of the cemetery.



Figure 21: Noise levels without T2D Project and future traffic volumes in 2031



Figure 22: Noise levels with T2D Project and future traffic volumes in 2031

A five decibel (dB) change, which will be observed across parts of the cemetery close to South Road, is a distinct and clearly noticeable change in volume to the average human ear (perceived drop of roughly 25-30%). A 10 dB reduction is perceived as roughly half as loud. Therefore, the proposed development is expected to deliver an improved acoustic environment for visitors of much of the Hindmarsh Cemetery relative to the existing conditions.

6.5. Built Form and Design

Relevant policies

Table 6: Relevant Policies

Community Facilities Zone	
Desired Outcomes	DO 1
Performance Outcomes	PO 2.1, 2.2, 2.3, 2.4
Employment Zone	
Desired Outcomes	DO 2
Performance Outcomes	PO 2.1, 3.5, 3.6, 3.7, 5.1, 5.2
General Neighbourhood Zone	
Desired Outcomes	DO 1
Performance Outcomes	PO 4.1
Open Space Zone	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.2, 2.1, 2.3
State Heritage Place Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 1.2, 1.3, 1.4, 1.5, 1.7, 2.1, 3.4
Heritage Adjacency Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1
Design in Urban Areas GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 2.1, 2.4, 3.1, 4.1, 4.3, 5.1, 8.1, 9.1, 9.2, 13.1, 13.3
Infrastructure and Renewable Energy Facilities GDPs	
Desired Outcomes	DO 1

Performance Outcomes	PO 2.1
Open Space and Recreation GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.2, 2.1, 2.2, 2.3, 3.1, 5.3, 5.5, 5.6, 7.3, 8.1, 8.2, 8.3, 8.4

6.5.1. Bridge 03 Structural and Urban Design

Bridge 03 will be positioned at least 3 m above the ground level of the Hindmarsh Cemetery, with the northern abutment of the bridge adjacent to and offset 1 m from the western boundary of the cemetery. The bridge will span over the south-west corner of the cemetery (extending a maximum of 15.1 m into the cemetery land along the southern boundary) utilising six Super-T concrete girders. The incorporation of an open central pier adjacent to the southern boundary of the cemetery will enable views to the River Torrens / Karrawirra Parri, and ambient light and airflow to the cemetery and bridge undercroft.

Importantly, no physical components or supporting structures of Bridge 03 will be located within the cemetery land parcel. By using the Super-T construction method instead of a steel box girder, there will be no requirement for temporary supports within the cemetery during construction. A steel box girder bridge may have allowed for a longer bridge span and omission of the central pier, but significant temporary support structures would be likely to have been required within the cemetery, obstructing access to grave sites and causing significant disruption to visitors. Similar support structures would also be likely to have been required on the banks of the River Torrens / Karrawirra Parri.

At 7.0 m in height (measured from ground level of the Hindmarsh Cemetery to the top of the traffic barrier), the scale of Bridge 03 is inconsistent with the height and mass of other buildings within the cemetery; being low rise structures and headstones. For those visiting the cemetery, the experience will differ considerably from that of today. To this end, the disparity in scale and elevation reinforces the bridge as a visually dominant element within the cemetery setting and is not consistent with the policies of the State Heritage Place and Heritage Adjacency Overlays.



Figure 23: View of Bridge 03 from within the Hindmarsh Cemetery looking south-west

However, this impact is somewhat moderated to an extent by the siting of Bridge 03 adjacent the periphery of the cemetery allotment and incorporation of design measures that seek to reduce visual bulk and maintain partial views into and across the cemetery and towards the River Torrens / Karrawirra Parri. Notably, the bridge's external cladding seeks to 'lift' and 'lighten' the bridge above the cemetery space, whilst the open central pier offers continued view to the southern banks of the river. The visual connection between the cemetery and river has been identified as a long-standing characteristic and a value of the cemetery, which the proposed development has sought to retain where possible through the central pier design.

The design of the Bridge 03 cladding responds to its context over two separate and defined spaces – the River Torrens / Karrawirra Parri and the Hindmarsh Cemetery. The adoption of a constellation-inspired aesthetic - derived from reflections on the River Torrens / Karrawirra Parri - provides a place-based narrative that is linked to the site's natural and cultural setting.

The bridge's abutments incorporate muted colour palettes and sculptured / textured fascia panels, creating a subdued environment, referencing the clays of the nearby river and offering an uneven surface less attractive to graffiti and vandalism.

6.5.2. Bridge 03 Undercroft

6.5.2.1. Landscape and Surface Treatments

The proposed surface treatments beneath Bridge 03 within and immediately adjacent the cemetery have been selected in consideration of the T2D Urban Design Strategy requirements for bridges and in

response to feedback from key stakeholders including Heritage SA, the City of Charles Sturt and ODASA, as well as GGA. The surface treatment 'theme' is river - taking cues from the adjacent River Torrens / Karrawirra Parri.

The design responds to the reduced solar access available below the bridge, by replacing the existing turf with durable, low-maintenance surface materials and hardy plant species that are tolerant of low light levels. The incorporation of screenings within the cemetery space, comprising a mix of blue/grey and brown/grey stone defined by brick edges, is sympathetic to the river context whilst enabling safety and ease of maintenance. This is complemented by larger rock boulder elements, planting and an undulating form immediately adjacent, but outside the cemetery boundary. This establishes a visual and material connection to the riverine setting, reinforcing local character and supporting a strong sense of place. The arrangement of these materials in flowing forms further reflects the geomorphology of the river, contributing to a legible and meaningful experience.

Importantly, the landscape forms outside the cemetery provide a deliberate contrast to the cemetery's formal and orderly character, reinforcing the distinction between the heritage setting and the adjoining riverine landscape while maintaining a respectful and complementary visual relationship.

Further, the alignment of the screening rows and brick edges are perpendicular to the axis of the cemetery headstones - maintaining the legibility of the historic burial layout - a recognised and valued characteristic of the cemetery, while integrating the new surface treatments in a manner that does not disrupt the cemetery's orderly form.

The screenings will reduce the likelihood of vegetation and weed growth, whilst maintaining a stable surface for visitors. The choice of materials, too, offers reasonable ease of maintenance or replacement, should the need arise. The use of recycled brick edging reflects the historical identity of the locality, acknowledging its association with brickmaking industries, and consistent with the use of brick for the plinth of the perimeter fencing of the cemetery. This brick plinth will be retained (despite removal of the fence above) to demarcate the boundary of the cemetery.

Existing irrigation infrastructure within the cemetery will be extended to service the proposed landscaping works, ensuring that all new plantings are provided with a reliable and ongoing water source to support establishment and long-term viability.

The resultant surface treatment design represents a contextually-responsive and carefully integrated landscape outcome that aligns with the intent of the Design in Urban Areas Performance Outcomes, particularly those relating to contextual design, public realm quality, and functional adaptability.

The proposed treatments create a visually coherent and contemplative setting appropriate to the cemetery context. The design balances visual interest with simplicity and order, avoiding excessive complexity or concealed spaces, whilst having regard to the generally open nature of the site and maintaining views of the riverine landscape.

Having regard to the above, the proposed development responds to the desired outcomes of the Design in Urban Areas and Open Space Zone policies.

6.5.2.2. Safety and Security

The Bridge 03 design has been developed with consideration of CPTED principles to support a safe, legible and well-utilised public realm, particularly within the bridge undercroft. Whereas original design considerations included using hostile architecture in the form of rock beaching and fencing off the undercroft outside of the cemetery boundary, in response to stakeholder feedback, a more considered

landscape response has been sought within the current design. It provides an improved backdrop to the cemetery and allows greater light penetration to the undercroft, improving the space for cemetery visitors beneath the bridge span.

The design responds strongly to the CPTED principle of natural / passive surveillance through measures that enhance openness and sightlines within the undercroft. Fencing has been removed, low-level planting is proposed, and the central pier 'opened' to minimise visual obstruction and enabling views to/from the undercroft and the cemetery and the River Torrens / Karrawirra Parri.

These interventions improve visibility through and across the space, supporting passive surveillance from adjacent areas and reinforcing user awareness, whilst promoting visibility, user comfort and a perception of safety for cemetery visitors. The design is therefore consistent with the Performance Outcomes that seek to avoid concealed or isolated spaces.



Figure 24: View of the Bridge 03 undercroft at dusk, looking southwest

To further reinforce safety during non-daylight hours, two lights are proposed to be installed within the Bridge 03 undercroft. This will improve visibility, and enhance user perception of safety during night-time conditions. In combination with the provision of multiple access and egress points that reduce the potential for entrapment, the design minimises vulnerability and supports safe, continuous movement through the space.

The design of the Bridge 03 undercroft appropriately balances safety with aesthetic responses and landscaping treatments, consistent with the intent of relevant provisions of the Code.

6.5.3. Bridge 02 Design

The eastern side of the approach to the northern abutment for Bridge 02 is located adjacent the Bridge 03 undercroft and visible from the Hindmarsh Cemetery. A retaining wall incorporates a sculptured fascia panel (consistent with the northern abutment of Bridge 03), with the concrete traffic barrier above comprising a pattern finish (see Figure 12).

Above this wall are undulating acrylic screens - enabling afternoon light into the Bridge 03 undercroft and partially obscuring view of passing vehicles. The Heritage Impact Statement notes that these elements provide a suitable 'backdrop' to the soft and hard landscaping of the Bridge 03 undercroft space, offering visual interest via the patterned panels and undulation of the screens.

The design of Bridge 02 is considered appropriate in the context of the Hindmarsh Cemetery and the existing Taylors Bridge form and provides a consistent but muted design aesthetic to Bridge 03. It is consistent with the relevant provisions of the Code.

6.5.4. Landscaping

The landscaping proposed adopts a layered and naturalistic composition of planting, ground treatments and landscape elements that collectively soften the visual impact of built form and associated infrastructure, consistent with numerous zone policies and the Design in Urban Areas GDPs. The integration of extensive planted areas adjacent to paths, bridges and streets ensures that engineered components are visually recessive within a predominantly vegetated setting. New landscaping within and around the bridge approaches further softens the built elements and maintains a green outlook from adjacent areas.

The tree planting proposed contributes to the existing canopy character of the river corridor through the provision of regularly spaced trees along the SUPs on both banks of the river. Tree planting in the open spaces adjacent the Bridge 03 abutment and new Adam Street road reserve will soften the appearance of the bridge from within the cemetery site and from Adam Street. It will create a new green backdrop to the cemetery that complements the existing green backdrop to the south provided by the River Torrens / Karrawirra Parri.

Root barriers, appropriate planting setbacks and the protection of retained trees are incorporated to support long-term canopy establishment without compromising infrastructure, or the integrity of headstones and memorials within the adjacent cemetery. This ensures the proposed development contributes positively to the broader vegetated corridor, avoids damage to headstones and memorials from vegetation growth, aligns with POs for maintaining urban tree canopy cover and meets the T2D Project's green canopy cover targets.

The proposed landscaping will contribute positively to the biodiversity of the local area and environmental outcomes through the use of permeable surfaces, soil preparation measures and structurally diverse planting. Subgrade ripping, topsoiling and soil amelioration will improve soil conditions and support healthy vegetation growth, while mulch application and weed management reduce maintenance requirements and enhance habitat quality. The inclusion of varied planting areas, integration with drainage elements and retention of existing vegetation wherever possible collectively contribute to habitat connectivity within the river corridor.

These measures support ecological function, urban cooling and stormwater infiltration, aligning with the objectives of the Open Space Zone and GDPs for Open Space and Recreation that seek to enhance

environmental values and biodiversity within urban landscapes. The planting of River Red Gum trees along the banks of the River Torrens / Karrawirra Parri in areas of deep soil will, over time, go some way to compensate for the loss of established trees and contribute to the canopy cover within the river corridor.

Overall, the landscaping and green spaces implemented by the T2D Project will do much to improve the amenity of the locality, notwithstanding the extent of hardscape required for the North-South Motorway and surface roads for South Road traffic. In comparison to the existing interface of Hindmarsh Cemetery with South Road and Adam Street, the proposed new landscaped areas will provide visual relief from the road infrastructure, notwithstanding the introduction of Bridge 03.

6.5.4.1. Safety and Wayfinding

Legibility and wayfinding are also enhanced through access to natural light and improved visual connectivity between the River Torrens Linear Trail SUP and surrounding open space areas through the proposed design. The clear delineation of movement corridors assists users in navigating the space safely and confidently, while measures such as low planting, defined edges and anti-climb treatments further reinforce territorial definition and discourage encroachment or inappropriate use.

Sightlines through the open space network are maintained through the arrangement of planting, use of low-level groundcovers and avoidance of dense understorey vegetation to ensure clear visibility while achieving landscape diversity and visual amenity. This approach minimises opportunities for concealment, supports passive surveillance and enhances user safety.

Materials and finishes have been selected to deter vandalism and facilitate upkeep, including textured surfaces and low-maintenance landscaping treatments, meeting relevant provisions of the Design in Urban Areas GDPs.

6.5.4.2. Fencing

The entirety of the fencing along the western boundary of the Hindmarsh Cemetery will be removed as part of the proposed development, as well as a length of fencing of approximately 33 m along the southern boundary (western extent). The existing fencing is in poor condition, not of heritage value and does not contribute to the heritage significance of the cemetery. The City of Charles Sturt has recently obtained development approval to replace the existing fencing. Fencing, consistent with the council's proposal, will be utilised to extend the northern boundary fence west to the northern abutment of Bridge 03 and between and east of the central pier.

Removal of the fencing allows for a merging of the cemetery into the adjacent spaces associated with the proposed development, comprising landscaped areas that complement the setting of the cemetery and offers an overall improved user experience. It also avoids the duplication of fencing or structures in proximity to each other, reducing visual clutter.

Upon the recommendations of GGA, the brick plinth below the western boundary fencing will be retained. Whilst the brick plinth is not part of the cemetery's statement of significance and is anticipated to have been erected sometime in the early 20th century (decades after the establishment of the cemetery), retention of the plinth is important as it provides a reminder of the original and in-tact western boundary of the cemetery.

This approach to fencing is considered to be an appropriate response and consistent with the relevant provisions of the Code, including those relating to heritage.

6.6. Removal of Trees and Vegetation

Relevant policies

Table 7: Relevant Policies

Regulated and Significant Trees Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 1.2, 1.4, 2.1
Native Vegetation Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 1.2, 1.4

6.6.1. Regulated and Significant Trees

There are a number of existing mature trees within the cemetery site, including Significant and Regulated Trees. To accommodate construction of Bridge 03 and associated infrastructure for the T2D Project, one regulated tree and up to two significant trees, located within the cemetery along its western boundary require removal.

The trees within the Hindmarsh Cemetery have been assessed by GGA and found their removal will not affect the heritage value of the cemetery as they do not make a contribution to its historic significance - most having been planted in the last 40 years.

The trees impacted by the proposed development are shown in Figure 14 and documented within the Aborigicultural Assessment Report (Appendix 4). The Regulated / Significant trees to be removed from the western boundary of the Hindmarsh Cemetery (from north to south) are:

- *Callistemon 'Harkness'* (Gawler Hybrid Bottlebrush) - Significant (Tree 75 within Aborigicultural Assessment Report) (possible removal)
- *Eucalyptus torquata* (Coral Gum) Regulated (Tree 77) (removal required)
- *Angophora costata* (Smooth Bark Apple) - Significant (Tree 79) (removal required)

One tree immediately adjacent the cemetery, and forming part of the cemetery's setting, may experience root severance, being:

- *Platanus orientalis digitata* (Cut-Leaf Plane) - Significant (Tree 26)

The applicable Regulated and Significant Tree Overlay policies seek for trees to be retained where they:

- make an important visual contribution to local character and amenity
- are indigenous to the local area and listed under the *National Parks and Wildlife Act 1972* (NPW Act) as a rare or endangered native species
- provide an important habitat for native fauna.

The following are additional POs relevant to the assessment of Significant trees:

- are part of a wildlife corridor of a remnant area of native vegetation
- are important to the maintenance of biodiversity in the local environment

- form a notable visual element to the landscape of the local area.

The Gawler Hybrid Bottlebrush and Coral Gum are between 5-10 m in height. They do not make an important visual contribution to local character and amenity, nor do they form a notable visual element to the local landscape, as noted in the Arboricultural Assessment Report.

The Smooth Bark Apple has a height of circa 10-12 metres and is visible for approximately 150 m from the northeast to northwest. From the south, the tree is screened by other trees (native vegetation to be removed in accordance with approval under the NV Act) on the northern banks of the River Torrens / Karrawirra Parri. The Smooth Bark Apple contributes to the character and amenity of the local area and forms a notable element to the local landscape - in part due to its proximity to the well-treed river corridor.

Only one of the trees (Gawler Hybrid Bottlebrush) is indigenous to the local area. The other two (Coral Gum and Smooth Bark Apple) are indigenous to eastern Australia. None of the species are listed under the NPW Act as a rare or endangered species.

The trees offer roosting and nesting opportunities for birds, and a source of nectar for the Grey Headed Flying Fox (which contribute to pollination) - a species listed as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). However, the trees do not incorporate hollows, do not provide an "important" habitat for native fauna and are not important for the maintenance of biodiversity.

The trees are not part of a wildlife corridor of a remnant area of native vegetation; the area was cleared of vegetation following European settlement, as evidenced in Figure 25 below taken in 1938. As such, the impacted trees are not within a "remnant area of native vegetation".

Regulated and Significant Tree Overlay PO 1.4 seeks for tree-damaging activity in connection with other development to satisfy both (a) and (b) below:

(a) it accommodates the reasonable development of land in accordance with the relevant zone or subzone where such development might not otherwise be possible.

(b) in the case of a significant tree, all reasonable development options and design solutions have been considered to prevent substantial tree-damaging activity occurring.

Removal of the trees within the cemetery are to enable the safe construction of Bridge 03 and infrastructure associated with the T2D Project. Whilst the T2D Project is not anticipated within the relevant zones, it is explicitly anticipated via various transport overlays within the Code. As discussed in Section 3.3, various design options have been pursued to accommodate the North-South Corridor within the locality, with the adopted alignment determined to have the least impact on existing land uses and the environment. In this regard, the removal of the trees is required to accommodate reasonable and expected development and options have been considered to avoid tree damaging activities occurring.

Construction of the retaining wall east of the Bridge 03 central pier may sever roots from a nearby Cut-Leaf Plane Tree. This tree is immediately outside the boundary of the Hindmarsh Cemetery and is one of a few remaining trees of this species planted along or adjacent the southern boundary of the cemetery.

The existing ground level in this location incorporates a steep (circa 1:3) grade down towards the River Torrens / Karrawirra Parri, and as such, minor to moderate earthworks are anticipated to accommodate the new retaining wall. The arboricultural assessment concludes it is unlikely the proposed works will impact on tree viability, subject to mitigation measures being implemented.



Figure 25: 1938 aerial image, looking north-west, showing the cleared banks of the River Torrens / Karrawirra Parri (source: State Library of South Australia)

6.6.2. Native Vegetation

Three *Eucalyptus camaldulensis* (River Red Gum) trees within the northern banks of the River Torrens / Karrawirra Parri that are subject to the NV Act, are required to be removed to accommodate Bridge 03, and have been granted approval for clearance by the Native Vegetation Council. Notwithstanding this existing approval, the merits of the removal is discussed below in reference to the Native Vegetation Overlay.

The trees are not remnant native vegetation and are not located in a wetland environment. A majority of the riverbank in the locality was cleared following European settlement. The largest tree to be removed is estimated to be approximately 50-70 years of age, the other two trees are approximately 30 years old. The trees are not of a species that are listed under the NPW Act as a rare or endangered species.

The River Red Gum trees are located within a wildlife movement corridor given the extensive canopy cover over much of the River Torrens / Karrawirra Parri. However, given the limited understorey and presence of exotic plant species, the river corridor is not considered "significant" as described in PO 1.2 of the Overlay.

The River Red Gum trees offer roosting and nesting opportunities for birds, and a source of nectar for the Grey Headed Flying Fox (which contribute to pollination) - a species listed as vulnerable under the EPBC Act. However, the trees do not incorporate hollows, limiting their contribution to fauna habitat.

There are many River Red Gums planted or self-sown in the locality. As such, whilst the trees provide habitat, the lack of hollows present and substantial number of the same species of like size in the locality, means these trees do not provide an important habitat for native fauna and their removal is warranted to enable the proposed development to occur in support of the T2D Project.

The T2D Project seeks to compensate for the removal of this native vegetation by proposing the planting of replacement River Red Gum trees and other indigenous plant species along the northern and southern banks of the River Torrens / Karrawirra Parri - as sought by Native Vegetation Overlay policy PO 1.4.

6.7. Flooding

Relevant policies

Table 8: Relevant Policies

Hazards (Flooding - General)	
Desired Outcomes	DO 1
Performance Outcomes	PO 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.2, 5.1, 5.2, 6.1
Hazards (Flooding - Evidence Required)	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1
Water Resources Overlay	
Desired Outcomes	DO 2
Performance Outcomes	PO 1.6
Design in Urban Areas	
Desired Outcomes	DO 1
Performance Outcomes	PO 5.1

The T2D Project has been sited and designed having regard to the nature and extent of flood risk associated with the River Torrens / Karrawirra Parri, such that it minimises risk to people, property and the environment and does not unreasonably impede the flow of floodwaters.

Detailed flood modelling has been undertaken to define flood behaviour, including flood levels, velocities and inundation extents for a range of design events (including climate change), and these parameters have directly informed the structural design and height of the bridges.

Bridge 03 achieves a minimum freeboard of approximately 4 m above the 1% Annual Exceedance Probability (AEP) flood level, ensuring that the structure is not subject to inundation during major flood events and maintains the hydraulic capacity of the River Torrens / Karrawirra Parri corridor. Accordingly, the development is considered to satisfy the outcome that development is appropriately located and designed to avoid or minimise the likelihood and impact of flooding.

The design maintains the flood capacity of the river and will not increase flood risk elsewhere by introducing obstructions that would adversely alter flood behaviour. The bridges are structurally resilient to flooding hazards, consistent with the relevant POs. Flood-related loads, including hydraulic forces, debris loading and scour, have been considered in accordance with relevant engineering standards.

The SUP has been designed to achieve the required level of flood immunity to the 20% AEP flood level, supporting safe and functional infrastructure outcomes during more frequent flood events. In major flooding events the SUP beneath Bridges 01, 02 and 03 is designed to be flooded.

6.8. Water Resources

Relevant policies

Table 9: Relevant Policies

Water Resources Overlay	
Desired Outcomes	DO 1, 2
Performance Outcomes	PO 1.1, 1.4, 1.5, 1.6, 1.7, 1.8
Design in Urban Areas	
Desired Outcomes	DO 1
Performance Outcomes	PO 5.1, 42.1, 42.2, 42.3

The T2D Project has been designed to respond to the hydrological and ecological functions of the River Torrens / Karrawirra Parri through integrated erosion control, water quality management and riparian enhancement measures.

The incorporation of sediment basins within adjacent open space areas will capture and treat surface runoff prior to discharge, reducing sediment loads and improving the quality of water entering the River Torrens / Karrawirra Parri - supporting the maintenance of natural hydrological processes and contributing to improved downstream water quality outcomes.

The provision of ungrouted rock scour protection around bridge piers and abutments allows for energy dissipation while maintaining some degree of natural sediment movement, thereby reducing the risk of bank destabilisation and excessive sediment mobilisation. The use of ungrouted rock scour protection avoids the introduction of rigid, fully impervious structures at the water interface, thereby enabling a more natural interaction between the watercourse and its margins. Pocket planting between the ungrouted rock scour protection contributes to the re-establishment of riparian vegetation in disturbed areas outside the bridge drip line - supporting incremental habitat restoration, enhances bank stability through root reinforcement, and promotes ecological connectivity along the watercourse.

By incorporating sediment control infrastructure and stabilised bank treatments, the development minimises the export of sediments and associated pollutants downstream. This reduces the potential for cumulative impacts on water quality, aquatic habitat and channel morphology beyond the immediate Project area.

Collectively, the proposed erosion control, riparian revegetation and water quality treatment measures demonstrate consistency with the intent of the Water Resources Overlay (and relevant provisions of the Design in Urban Areas GDPs), by delivering a context-responsive, environmentally integrated and resilient design that protects water quality, stabilises riverbanks and enhances the ecological and visual quality of the River Torrens / Karrawirra Parri corridor.

7. Conclusion

In summary, the proposed development is considered appropriate and consistent with the relevant provisions of the Code for the following reasons:

- The proposal aligns with the strategic intent of relevant transport overlays (including the Major Urban Transport Routes, Non-Stop Corridor and Future Road Widening Overlays), facilitating efficient transport connectivity as a logical extension of the North–South Corridor.
- Bridge 03 will introduce a moderate visual impact on the Hindmarsh Cemetery setting due to its scale, elevation and visual dominance relative to the low-rise character of the cemetery; however, this impact is partially mitigated by its careful design that reduces visual bulk and maintains key views, including the valued visual connection to the River Torrens / Karrawirra Parri.
- Bridge 03 introduces a substantial built form within the cemetery setting, but its scale is moderated through refined proportions, articulated cladding and maintained clearance, resulting in a visually permeable and integrated structure that responds sensitively to its context and achieves a high standard of design.
- The Bridge 03 design incorporates a strong place-based architectural response, including a constellation-inspired cladding theme, muted materials and textured finishes, contributing to visual interest while reducing perceived bulk, deterring vandalism, and reinforcing the cultural and landscape setting.
- Proposed surface treatments provide a contextually responsive and durable landscape outcome beneath Bridge 03, drawing on a riverine theme through screenings, brick edging and planting to reinforce local character, maintain cemetery legibility, and support a coherent and contemplative setting.
- The design of Bridge 02 and realignment of Adam Street alters the curtilage of the cemetery, but provides an appropriate backdrop to the cemetery through muted form, consistent materiality and increased landscaping that mirrors the green backdrop of the River Torrens / Karrawirra Parri.
- Through grade separation, maintained connectivity, and incorporation of landscaping and low-profile design elements, the proposed development achieves its transport function while appropriately responding to its environmental and zone interface context; with the reconstructed SUP representing an envisaged and like-for-like use within the Open Space Zone.
- The Bridge 03 and River Torrens Linear Trail SUP designs enable natural surveillance, visibility and user safety through open sightlines, passive oversight, lighting, and integration of potential CCTV coverage.
- Clear wayfinding, low-level landscaping, anti-climb treatments, and durable materials support a legible, well-defined and maintainable built form that discourages graffiti and vandalism.
- The design balances visual integration, low maintenance, and respect for heritage values through material selection, alignment cognisant of burial patterns, and complementary landscaping, achieving an appropriate interface with the cemetery.
- The removal of non-heritage fencing will avoid duplication, reduce visual clutter, and maintain an appropriate, non-intrusive interface with the cemetery setting, whilst proposed fencing will align with the City of Charles Sturt's planned perimeter treatment - ensuring a cohesive outcome.
- Retention of the western brick plinth will preserve a tangible reference to the original cemetery boundary, supporting the conservation of heritage values.

- Vegetation to be removed does not contribute to the heritage values of the cemetery and found to offer limited contribution to the character and amenity of the local area.
- The T2D Project has been designed to appropriately manage flood risk through detailed hydraulic modelling and design, including significant freeboard, resilience to flood loads, and maintenance of waterway capacity, ensuring no increase in flood risk on-site or to surrounding areas and achieving compliance with relevant flood-related performance outcomes.
- Integrated erosion control, water quality treatment and riparian enhancement measures support the protection and improvement of the River Torrens / Karrawirra Parri corridor, delivering an environmentally-responsive outcome that maintains natural processes, stabilises banks, and enhances ecological and visual values.
- The management of environment and heritage impacts associated with construction of the Project will be undertaken in accordance with the Alliance's CEMP and subplans.

Accordingly, the proposed development warrants Development Approval from the Minister.

Appendices

Appendix 1. Assessment Against Relevant Planning & Design Code Policies

Appendix 2. Project Plans and Drawings

Appendix 3. Heritage Impact Statement

Appendix 4. Arborist Report

Appendix 5. Stakeholder meetings

Appendix 1. Assessment Against Relevant Planning & Design Code Policies

Zoning

Community Facilities

Desired Outcome

DO 1	Provision of a range of community, educational, recreational and health care facilities.

Performance Outcomes

Land Use and Intensity		
PO 1.1	Development is associated with or ancillary to the provision of community, educational, recreational and / or health care services.	Partially Consistent Transport infrastructure is not a typical community facility use; however, it is strategically necessary and co-located due to corridor constraints.
PO 1.4	Integration and coordination of land uses to enhance the accessibility and efficiency of service delivery.	Consistent This proposal integrates the motorway, local roads and shared use path within an established corridor, improving connectivity and access. It enhances regional movement efficiency while maintaining the cemetery's function, representing a coordinated infrastructure outcome in a constrained urban setting.
PO 1.5	Development avoids inhibiting or prejudicing future delivery of community, educational, recreational or health care services.	Consistent The proposal maintains the operational function of Hindmarsh Cemetery, with no physical impacts to graves, burial layout or heritage structures. The HIS confirms there are no direct impacts within the cemetery land parcel, and access (including Adam Street connections) is maintained. Construction and design measures ensure the cemetery continues to operate without disruption.
PO 1.6	Community facilities are designed to encourage flexible and adaptable use of open space and facilities for a range of uses over time.	Consistent The proposal maintains the cemetery's primary function with no changes to use or layout, while enhancing surrounding open space through integrated SUP and landscaping. The HIS confirms works are limited to interface areas and do not constrain ongoing or future use of the cemetery.

Building Height and Setback		
PO 2.1	Building height is consistent with the maximum height expressed in any relevant Maximum Building Height (Levels) Technical and Numeric Variation layer and the Maximum Building Height (Metres) Technical and Numeric Variation layer or is generally consistent with the prevailing character of the locality and height of nearby buildings.	Inconsistent Bridge 03 introduces a scale and height well above that envisaged for the zone and is identified as a visually dominant element within the cemetery setting. However, impacts are reduced through siting at the periphery, refined structural form, articulated and lifted cladding, open pier design to maintain light and views, and landscaping to soften the interface. The adopted design reflects the least-impact outcome following iterative options assessment.
PO 2.2	Buildings mitigate the visual impacts of massing on residential development within a neighbourhood-type zone.	Partially Consistent The bridge introduces substantial massing visible from nearby residential areas and does not achieve a built form response typically envisaged by this policy. However, this report confirms mitigation through refined structural form, reduced visual bulk, articulated cladding, open pier design, and landscaping, which collectively reduce perceived mass and soften the interface. Notwithstanding these measures, residual visual prominence remains.
PO 2.3	Buildings mitigate overshadowing of residential development within a neighbourhood-type zone.	Consistent The bridge structure is elevated and linear, with limited potential to generate significant or prolonged overshadowing of adjacent residential areas. This report identifies no material overshadowing impacts on nearby dwellings (due to separation distance), and the open structural form (including gaps between elements and undercroft space) reduces the extent and duration of shadowing.
PO 2.4	Buildings are set back from all boundaries (other than street boundaries) to minimise impacts on neighbouring residential properties, including access to natural light and ventilation	Partially Consistent The bridge does not provide conventional setbacks, extending across the transport corridor and over adjoining land. However, the nearest residential receivers are located approximately 50–100 m to the west, providing substantial separation. Combined with the elevated and open structural form, this distance ensures minimal impacts on access to natural light and ventilation. While the design achieves the intent of minimising interface impacts, the absence of traditional setbacks results in only partial consistency.

Open Space

Desired Outcome

DO 1	Areas of natural and landscaped open space provide for biodiversity, tree canopy cover, urban cooling and visual relief to the built environment for the health and enjoyment of the community.
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Performance Outcomes

Land Use and Intensity		
PO 1.1	Development is associated with or ancillary to the provision of unstructured outdoor passive and active recreation facilities.	Partially Consistent

		The proposed development is not directly intended for recreation purposes, comprising major transport infrastructure within the Karrawirra Parri / River Torrens corridor. However, it incorporates elements that support passive and active recreation, including a continuous shared use path, improved pedestrian and cycling connections, and enhanced access to the river corridor. The proposal also includes public realm and landscape upgrades that improve usability and connectivity of the open space network. While the primary function is transport, the development provides meaningful ancillary benefits consistent with the intent of supporting passive and active recreation.
PO 1.2	Buildings are limited in number and size to provide a natural, landscaped setting.	Partially Consistent The proposed development introduces a substantial bridge structure within the Karrawirra Parri / River Torrens corridor and increases the scale of built form compared to the existing bridge. However, the proposal replaces existing infrastructure within an established transport corridor rather than introducing new built form into previously undeveloped open space. The design has been refined to reduce perceived bulk and maintain an open and landscaped setting, including an elevated structure with an open undercroft, articulated finishes and integration with landscaping and river corridor rehabilitation. While the scale of development exceeds that anticipated for buildings in this zone, the broader natural setting is retained.
Built Form and Character		
PO 2.1	Development is designed and sited to be unobtrusive and not spoil the open space character or interrupt views of natural or landscape features.	Partially Consistent The proposal replaces infrastructure within an established crossing and is located within a defined transport corridor rather than intruding into primary open space areas. The elevated structure, open pier configuration and articulated design maintain visual permeability and allow views along and across the river corridor. Landscaping and river corridor rehabilitation further integrate the development into its setting. While some interruption of views and visual presence occurs, the broader open space character and landscape function are retained.
PO 2.3	Development is sited and designed to be compatible with the conservation and enhancement of the natural environment.	Partially Consistent The proposed development is located within an established transport corridor and incorporates measures to minimise and offset environmental impacts. These include replacement planting, riparian rehabilitation, and landscaping to enhance the river side setting. The elevated and open structural design maintains ground-level permeability and supports ongoing ecological function. While there is an initial impact on the natural environment, the development is compatible with its conservation and enhancement over the longer term.

Employment

Desired Outcomes

DO 1	A diverse range of low-impact light industrial, commercial and business activities that complement the role of other zones accommodating significant industrial, shopping and business activities.
DO 2	Distinctive building, landscape and streetscape design to achieve high visual and environmental amenity particularly along arterial roads, zone boundaries and public open spaces.

Performance Outcomes

Land Use and Intensity		
PO 1.1	A range of employment-generating light industrial, service trade, motor repair and other compatible businesses servicing the local community that do not produce emissions that would detrimentally affect local amenity.	Partially Consistent Transport infrastructure is not an employment use; however, it is strategically necessary and co-located due to corridor constraints.
Built Form and Character		
PO 2.1	Development achieves distinctive building, landscape and streetscape design to achieve high visual and environmental amenity particularly along arterial roads, zone boundaries and public open spaces.	Partially Consistent This report confirms a considered urban design response, including architectural treatment of bridge structures, integration with landscaping, and enhancement of the public realm (SUP and river corridor interface). These measures contribute to visual and environmental amenity along South Road, zone interfaces and adjoining open space. While the infrastructure form generally limits the extent a built form outcome can be fully realised, the design aims to achieve a coordinated and context-responsive outcome.
Building height and setbacks		
PO 3.5	Buildings are set back from a secondary street boundary to accommodate the provision of landscaping between buildings and the street to enhance the appearance of land and buildings when viewed from the street.	Partially Consistent See above.
PO 3.6	Buildings mitigate visual impacts of building massing on residential development within a neighbourhood-type zone.	Partially Consistent The proposed development comprises bridge infrastructure rather than buildings and introduces substantial additional massing within the corridor. However, the nearest residential receivers are located approximately 50–100 m to the west, providing significant separation. Design refinement, including reduced structural bulk, articulated finishes and an open pier configuration, reduces perceived mass and maintains visual permeability. While the scale of the structure remains prominent, these measures mitigate visual impacts at the residential interface, resulting in partial consistency with the policy intent.

PO 3.7	Buildings mitigate overshadowing of residential development within a neighbourhood-type zone.	Consistent The development comprises elevated bridge infrastructure with no permanent overshadowing impacts on nearby residential areas. The nearest residential receivers are located approximately 50–100 m to the west of the proposed works, providing substantial separation. The open structural form and linear orientation limit the extent and duration of shadowing. On this basis, the proposal does not result in material overshadowing of residential development and satisfies the intent of the policy.
Landscaping		
PO 5.1	Landscaping is provided to enhance the visual appearance of development when viewed from public roads and thoroughfares.	Consistent Additional landscaping is proposed throughout the corridor as a part of these works, including along South Road, local road interfaces and the Karrawirra Parri / River Torrens, enhancing the visual appearance of the development when viewed from public roads and thoroughfares. This report identifies coordinated landscape design, including verge planting, river corridor rehabilitation and treatments to soften the bridge interface. These measures improve streetscape presentation and contribute positively to visual amenity along key transport routes and public edges.
PO 5.2	Development incorporates areas for landscaping to enhance the overall amenity of the site and locality.	Consistent As above.

General Neighbourhood

Desired Outcome

DO 1	Low-rise, low and medium-density housing that supports a range of needs and lifestyles located within easy reach of services and facilities. Employment and community service uses contribute to making the neighbourhood a convenient place to live without compromising residential amenity.
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Performance Outcomes

Land Use and Intensity		
PO 1.1	Predominantly residential development with complementary non-residential uses that support an active, convenient, and walkable neighbourhood.	Partially Consistent Transport infrastructure is not anticipated in the zone; however, it is strategically necessary and co-located due to corridor constraints.
PO 1.2	Non-residential development located and designed to improve community accessibility to services, primarily in the form of: a. small scale commercial uses such as offices, shops and consulting rooms b. community services such as educational facilities, community centres, places of worship, child care facilities and other health and welfare services	Partially Consistent The proposed development does not comprise the small-scale commercial or community service uses envisaged by this policy. However, it incorporates transport and active transport infrastructure (including the shared use path and improved road network) that enhances accessibility and connectivity to surrounding services, open space and community facilities. While not a directly envisaged land use, the proposal improves movement efficiency and access within the locality, consistent with the underlying intent of improved community accessibility.

	c. services and facilities ancillary to the function or operation of supported accommodation or retirement facilities d. open space and recreation facilities.	
PO 1.3	Non-residential development sited and designed to complement the residential character and amenity of the neighbourhood.	Partially Consistent The development introduces large-scale transport infrastructure that does not reflect the scale or character of surrounding residential built form. However, the nearest residential receivers are located approximately 50–100 m to the west, providing separation from direct interface impacts. This report confirms design refinement, including reduced structural bulk, articulated finishes, open pier configuration and landscaping, which collectively soften the visual presence and maintain amenity at the residential interface. While the infrastructure form is not inherently compatible with residential character, its siting and design mitigate impacts such that residential amenity is not materially diminished.
Building Height		
PO 4.1	Buildings contribute to a low-rise suburban character.	Not Consistent The development comprises large-scale elevated bridge infrastructure that does not reflect the low-rise built form envisaged within a General Neighbourhood Zone. The height and scale of the structure exceed typical suburban development and do not contribute to a low-rise character. While separation distances of approximately 50–100 m from residential receivers and design refinement (reduced bulk, articulation and open pier configuration) mitigate visual impacts, the overall scale remains inconsistent with the policy intent of maintaining a low-rise suburban form.

Overlays

Airport Building Heights Regulated (All Structures over 15 meters)

Desired Outcome

DO 1	Management of potential impacts of buildings and generated emissions to maintain operational and safety requirements of registered and certified commercial and military airfields, airports, airstrips and helicopter landing sites.
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Performance Outcome

Built Form		
PO 1.1	Building height does not pose a hazard to the operation of a certified or registered aerodrome.	Partially Consistent The proposed bridges will be below the 15m height limit identified in SAPPa. The light poles atop Bridge 02 and Bridge 03 are greater than 15 m above ground level. The height above ground level of 35.3 m AHD is less than the Obstacle Limitation Surface (48.5 m AHD) prescribed for the Adelaide Airport

Building Near Airfields

Desired Outcome

DO 1	Maintain the operational and safety requirements of certified commercial and military airfields, airports, airstrips and helicopter landing sites through management of non-residential lighting, turbulence and activities that may attract or result in the congregation of wildlife.
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Performance Outcome

Building Near Airfields		
PO 1.1	Outdoor lighting associated with a non-residential use does not pose a hazard to commercial or military aircraft operations.	Consistent Lighting associated with this project is consistent with road infrastructure of this type and directed towards the road surface.

Future Road Widening

Desired Outcome

DO 1	Development which is consistent with and will not compromise efficient delivery of future road widening requirements.
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Performance Outcomes

Future Road Widening		
PO 1.1	Development does not compromise or is located and designed to minimise its impact on future road widening requirements.	Consistent Development is related to facilitate road widening.

Heritage Adjacency

Desired Outcome

DO 1	Development adjacent to State and Local Heritage Places maintains the heritage and cultural values of those Places.
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Performance Outcomes

Built Form		
PO 1.1	Development adjacent to a State or Local Heritage Place does not dominate, encroach on or unduly impact on the setting of the Place.	Partially Consistent The development adjoins the Hindmarsh Cemetery (State Heritage Place) and introduces a large bridge structure that is visually present within the setting of the place. While the

	structure results in some visual dominance, particularly in views from within the cemetery, it does not physically encroach on graves, layout or heritage fabric. The DA Report and Heritage Impact Statement confirm that impacts are confined to the setting and have been mitigated through siting at the edge of the cemetery, reduced structural bulk, articulated finishes, open pier configuration and landscaping to maintain visual permeability. While the development affects the heritage setting, these impacts are moderated and do not unduly compromise the heritage values of the place. No material affects or impacts will occur to the Goodman Bridge or Caissons associated with the former Hindmarsh Bridge.
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Hazards (Flooding - Evidence Required)

Desired Outcome

DO 1	Development adjacent to State and Local Heritage Places maintains the heritage and cultural values of those Places.
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Performance Outcomes

Flood Resilience		
PO 1.1	Development is sited, designed and constructed to minimise the risk of entry of potential floodwaters where the entry of flood waters is likely to result in undue damage to or compromise ongoing activities within buildings.	Consistent The proposed development is designed to avoid and manage flood risk within the River Torrens corridor. The bridge structure is elevated above the defined flood level (including the 1% AEP event), ensuring floodwaters do not enter or impact structural components or compromise operation. This report confirms that the design maintains hydraulic capacity of the river and incorporates appropriate engineering measures (including clearance above flood levels and scour protection). As the proposal does not involve flood-prone enclosed buildings and is resilient to inundation, the risk of floodwater entry and associated damage is minimised.

Hazards (Flooding - General)

Desired Outcome

DO 1	Impacts on people, property, infrastructure and the environment from high flood risk are minimised by retaining areas free from development, and minimising intensification where development has occurred.
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Performance Outcomes

Land Use		
PO 2.1	Development sited and designed to minimise exposure of people and property to unacceptable flood risk.	Consistent The proposed development is located within the River Torrens floodplain but is designed to minimise exposure to flood risk.

		The bridge structure is elevated above design flood levels and does not accommodate habitable or sensitive land uses within flood-affected areas. The proposal avoids placing people or property at risk and maintains safe operation during flood events. This report confirms appropriate hydraulic design and flood modelling, ensuring that the development does not increase flood risk to surrounding land or expose users to unacceptable risk.
PO 2.2	Buildings housing vulnerable people, community services facilities, key infrastructure and emergency services are sited away from flood prone areas to enable uninterrupted operation of services and reduce likelihood of entrapment.	Consistent The proposed development does not include buildings intended to house vulnerable people, community services or emergency services that would be at risk from flooding. The proposal comprises elevated transport infrastructure, which is designed to remain operational during flood events. The bridge is located above design flood levels and does not introduce uses susceptible to entrapment or service disruption within flood-prone areas. As such, the development avoids placing critical or vulnerable land uses at risk and supports uninterrupted operation.
Flood Resilience		
PO 3.1	Development avoids the need for flood protection works.	Consistent The proposed development is designed to function within the River Torrens floodplain without reliance on structural flood protection works such as levees or barriers. The bridge is elevated above design flood levels and incorporates appropriate hydraulic design, allowing floodwaters to pass beneath the structure without obstruction. This report confirms that the proposal maintains flood conveyance and does not require additional flood mitigation infrastructure. As such, the development inherently avoids the need for flood protection works.
PO 3.2	Development does not cause unacceptable impacts on any adjoining property by the diversion of flood waters or an increase in flood velocity or flood level.	Consistent The development is designed to maintain the hydraulic capacity and function of the River Torrens / Karrawirra Parri, ensuring no adverse impacts on adjoining land. This report confirms that flood modelling and hydraulic assessment demonstrate that the bridge structure does not result in increased flood levels, velocity or diversion of floodwaters that would affect surrounding properties. The elevated and open design allows flood flows to pass beneath the structure without obstruction. As such, the proposal does not introduce unacceptable flood impacts on adjoining land.
PO 3.3	Development does not impede the flow of floodwaters through the allotment or the surrounding land, or cause an unacceptable loss of flood storage.	Consistent The proposed development is designed to maintain existing flood behaviour within the River Torrens / Karrawirra Parri corridor and does not impede the flow of floodwaters or reduce flood storage capacity. This report confirms that hydraulic modelling has been undertaken to ensure the bridge structure allows floodwaters to pass freely beneath, with no obstruction or concentration of flows. The elevated and open design, including pier spacing and alignment, maintains flood conveyance and avoids displacement of flood storage. As such, the proposal does not adversely affect flood behaviour within the allotment or surrounding land.
PO 3.4	Development avoids frequently flooded or high velocity areas, other than where it is	Partially Consistent The proposed development is located within the River Torrens / Karrawirra Parri corridor, including areas subject to flooding and

	part of a flood mitigation scheme to reduce flood impact.	higher flow velocities, and therefore cannot avoid these areas as envisaged by this policy. However, the proposal represents essential infrastructure within an existing corridor and is not a flood mitigation scheme. The design responds to these conditions through elevation above flood levels, open structural form and hydraulic design that accommodates flow conditions without increasing risk. While the development does not avoid the floodplain, it is sited and designed to function safely within it without adverse impacts.
PO 3.5	Buildings are sited, designed and constructed to prevent the entry of floodwaters in a 1% AEP flood event where the entry of floodwaters is likely to result in undue damage to, or compromise ongoing activities within, buildings.	Consistent The proposed development does not include enclosed buildings susceptible to floodwater entry within the River Torrens / Karrawirra Parri floodplain. The proposed bridge structure is elevated above the 1% AEP flood level and is designed to remain operational without risk of inundation. As there are no habitable or vulnerable building spaces at risk of floodwater entry, the potential for damage or compromise to ongoing activities does not arise. The design therefore inherently satisfies the intent of preventing floodwater entry and associated impacts.
PO 3.6	Fences do not unreasonably impede floodwaters.	Consistent The proposed development includes fencing associated with transport infrastructure; however, these elements are not of a form or location that would impede floodwaters within the River Torrens / Karrawirra Parri corridor. Fencing is limited, permeable where required, and positioned outside primary flow paths or elevated above ground level as part of bridge structures. The overall design maintains flood conveyance, and the DA Report confirms that flood flows are not obstructed. As such, fencing does not unreasonably impede floodwaters.
Environmental Protection		
PO 4.2	Development does not create or aggravate the potential for erosion or siltation or lead to the destruction of vegetation during a flood.	Consistent The proposed development has been designed to minimise erosion and sediment impacts within the River Torrens / Karrawirra Parri corridor during flood events. The bridge structure incorporates appropriate engineering measures, including scour protection and stable pier design, to prevent erosion. This report confirms that hydraulic design maintains existing flow conditions, avoiding increased velocities or turbulence that could lead to erosion or siltation. In addition, construction and operational impacts are managed through vegetation management, riparian rehabilitation and sediment control measures. While some vegetation removal is required, replacement planting and revegetation ensure long-term stability and protection of the river side environment.
Site Earthworks		
PO 5.1	The depth and extent of filling required to raise the finished floor level of a building does not cause unacceptable impact on any adjoining property by diversion of flood waters, an increase in flood velocity or flood level, or an unacceptable loss of flood storage.	Consistent The proposed development does not rely on significant filling to raise building floor levels within the River Torrens / Karrawirra Parri floodplain. Instead, flood resilience is achieved through elevated bridge structures and appropriate structural design. This report confirms that hydraulic modelling demonstrates no increase in flood levels, velocity, or diversion of floodwaters, and no loss of flood storage affecting adjoining land. Where minor ground works occur, they are designed to maintain existing flood behaviour.

		Accordingly, the proposed development does not result in adverse impacts associated with filling.
PO 5.2	Driveways, access tracks and parking areas are designed and constructed to minimise excavation and filling.	Consistent The proposed development does not include driveways, access tracks or parking areas of the type envisaged by this policy. Works within the River Torrens / Karrawirra Parri corridor primarily comprise elevated bridge structures and associated infrastructure, avoiding the need for extensive excavation or filling. Where minor ground works occur (e.g. shared use path connections and localised interface works), these are designed to minimise disturbance and maintain existing ground levels where practicable. Accordingly, the proposed development achieves the intent of minimising excavation and filling.
Access		
PO 6.1	Development does not occur on land: a. from which evacuation to areas not vulnerable to flood risk is not possible during a 1% AEP flood event b. which cannot be accessed by emergency services vehicles or essential utility service vehicles during a 1% AEP flood event.	Consistent The proposed development comprises elevated transport infrastructure designed to remain operational during flood events within the River Torrens / Karrawirra Parri corridor. The bridge structure provides continuous connectivity across the floodplain, supporting movement during flood conditions rather than restricting it. The development does not introduce habitable uses requiring evacuation from flood-prone areas. The DA Report confirms that access for emergency services is maintained via the arterial road network, and no land is isolated or rendered inaccessible as a result of the works. Accordingly, the proposed development does not rely on evacuation from flood-prone land and maintains access for emergency servicing.

Local Heritage Place

Desired Outcome

DO 1	Development maintains the heritage and cultural values of Local Heritage Places through conservation, ongoing use and adaptive reuse.
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Performance Outcomes

Built Form		
PO 1.1	The form of new buildings and structures maintains the heritage values of the Local Heritage Place.	Consistent The Local Heritage Place (Caissons associated with the former Hindmarsh Bridge) is located approximately 1 km east of the proposed development and, while within the same broader land parcel, does not share a direct visual or physical interface with the works. The proposed development does not introduce built form in proximity to the Local Heritage Place and therefore does not affect its form, setting or heritage fabric. As a result, the heritage values of the place are maintained.
PO 1.2	Massing, scale and siting of development maintains the heritage values of the Local Heritage Place.	Consistent As above.

PO 1.3	Design and architectural detailing (including but not limited to roof pitch and form, openings, chimneys and verandahs) maintains the heritage values of the Local Heritage Place.	Consistent As above.
PO 1.4	Development is consistent with boundary setbacks and setting.	Consistent As above.
PO 1.5	Materials and colours are either consistent with or complement the heritage values of the Local Heritage Place.	Consistent As above.
PO 1.6	New buildings and structures are not placed or erected between the primary or secondary street boundaries and the façade of a Local Heritage Place.	Consistent As above.
PO 1.7	Development of a Local Heritage Place retains features contributing to its heritage value.	Consistent As above.
Alterations and Additions		
PO 2.1	Alterations and additions complement the subject building and are sited to be unobtrusive, not conceal or obstruct heritage elements and detailing, or dominate the Local Heritage Place or its setting.	Consistent As above.
Demolition		
PO 6.1	Local Heritage Places are not demolished, destroyed or removed in total or in part unless: c. the portion of the Local Heritage Place to be demolished, destroyed or removed is excluded from the extent of listing that is of heritage value or d. the structural condition of the Local Heritage Place represents an unacceptable risk to public or private safety and results from actions and unforeseen events beyond the control of the owner and is irredeemably beyond repair.	Consistent As above.

Major Urban Transport Routes Overlay

Desired Outcome

DO 1	Safe and efficient operation of Major Urban Transport Routes for all road users.
DO 2	Provision of safe and efficient access to and from Major Urban Transport Routes.

Performance Outcomes

Building on Road Reserve		
PO 8.1	Buildings or structures that encroach onto, above or below road reserves designed and sited to minimise impact on safe movements by all road users.	Consistent The proposed development includes bridge structures that extend above the road reserve; however, these are designed and sited to maintain safe and efficient movement for all road users. The design provides appropriate clearances, separation of traffic movements and integration with the existing road network. This report confirms that the proposed development maintains traffic capacity, supports safe vehicle movement and incorporates dedicated infrastructure for pedestrians and cyclists (including the shared use path). The alignment and structural design ensure that movements beneath and across the structure are not impeded, and safety is maintained for all users.
Public Road Junctions		
PO 9.1	New junctions with public roads (including the opening of unmade public road junctions) or modifications to existing road junctions located and designed to ensure safe and efficient road operating conditions are maintained on the State Maintained Road.	Consistent The proposed development includes modifications to existing road junctions within the South Road corridor, which is a State Maintained Road. These works have been designed to maintain and improve safe and efficient operating conditions. This report confirms that the proposed development supports traffic flow, incorporates appropriate lane configurations and intersections, and maintains network performance. The design also integrates pedestrian and cyclist infrastructure, ensuring safe multimodal access. Accordingly, the proposed development maintains and enhances the operational efficiency and safety of the State Maintained Road network.
Corner Cut-Offs		
PO 10.1	Development is located and designed to maintain sightlines for drivers turning into and out of public road junctions to contribute to driver safety.	Consistent The proposed development includes upgrades and modifications within the South Road corridor that have been designed to maintain appropriate sightlines at road junctions. This report confirms that intersection geometry, lane configuration and alignment have been developed in accordance with road safety standards to ensure clear visibility for drivers turning into and out of junctions. The proposed development maintains safe sight distances for all users, including vehicles, pedestrians and cyclists, and does not introduce obstructions within key sightline areas.

Native Vegetation

Desired Outcome

DO 1	Areas of native vegetation are protected, retained and restored in order to sustain biodiversity, threatened species and vegetation communities, fauna habitat, ecosystem services, carbon storage and amenity values.

Performance Outcomes

Environment Protection		
PO 1.1	Development avoids, or where it cannot be practically avoided, minimises the clearance of native vegetation taking into account the siting of buildings, access points, bushfire protection measures and building maintenance.	Partially Consistent The proposed development requires the clearance of some native vegetation within the River Torrens / Karrawirra Parri corridor and therefore cannot fully avoid removal as envisaged by this policy. However, vegetation clearance has been minimised through siting within an established transport corridor and refinement of the design to reduce the extent of impact where practicable. The clearance of native vegetation is subject to assessment and approval under the <i>Native Vegetation Act 1991</i>, including requirements for offsetting and significant environmental benefit, ensuring impacts are appropriately managed. The proposed development also incorporates replacement planting and riparian revegetation to enhance the broader environmental setting. While clearance cannot be avoided due to the nature of the infrastructure, impacts are minimised and regulated in accordance with statutory requirements, consistent with the intent of the policy.
PO 1.2	Native vegetation clearance in association with development avoids the following: a. significant wildlife habitat and movement corridors b. rare, vulnerable or endangered plants species c. native vegetation that is significant because it is located in an area which has been extensively cleared d. native vegetation that is growing in, or in association with, a wetland environment.	Partially Consistent The proposed development requires clearance of native vegetation within the River Torrens / Karrawirra Parri corridor, which functions as a riparian environment and ecological movement corridor. As such, avoidance of all identified sensitive vegetation values is not achieved. However, this report confirms that impacts have been minimised through corridor-based siting and design refinement, avoiding higher value areas where practicable. Clearance does not target rare, vulnerable or endangered species, and affected vegetation is not identified as irreplaceable within a highly cleared landscape context. The clearance has been assessed under the <i>Native Vegetation Act 1991</i>, with requirements for offsets and significant environmental benefit ensuring impacts to habitat and movement corridors are addressed. Replacement planting and riparian revegetation are proposed to restore and enhance ecological function over time. While some impact to a riparian corridor is unavoidable, it is minimised and appropriately managed.
PO 1.4	Development restores and enhances biodiversity and habitat values through revegetation using locally indigenous plant species.	Consistent The proposed development incorporates revegetation and landscaping within the River Torrens / Karrawirra Parri corridor, including riparian rehabilitation that contributes to improved biodiversity and habitat values over time. The DA Report identifies replacement planting and ecological enhancement as part of the landscape strategy, consistent with restoring vegetation structure within the corridor. While detailed species selection is to be resolved at a later stage, the revegetation approach is intended to utilise locally appropriate species and reinforce the existing riverine ecosystem. Accordingly, the proposed development contributes to the restoration and enhancement of biodiversity values.

Non-Stop Corridors

Desired Outcome

DO 1	Safe and efficient operation of non-stop corridors, where free-flowing traffic movement is prioritised.

Performance Outcomes

Non-Stop Corridors Overlay		
PO 1.1	The safety, efficiency and functional performance of non-stop corridors is maintained.	Consistent The proposed development is located within a strategic section of the South Road corridor (a non-stop route) and is specifically designed to maintain and improve its safety, efficiency and functional performance. The works replace and upgrade existing infrastructure, including the expansion of bridge capacity, improved traffic flow arrangements and grade-separated movements. This report confirms that the proposed development enhances network capacity, reduces congestion and improves travel efficiency. In addition, the integration of pedestrian and cycling infrastructure occurs without compromising vehicular movements. Accordingly, the proposed development maintains and strengthens the operational role of the non-stop corridor.

Prescribed Watercourses

Desired Outcome

DO 1	Prescribed watercourses are protected by ensuring the taking of water from such watercourses is avoided or is undertaken in a sustainable manner that maintains the health and natural flow paths of the watercourses.

Performance Outcomes

Prescribed Watercourses Overlay		
PO 1.1	All development, but in particular development involving any of the following: a. horticulture b. activities requiring irrigation c. aquaculture d. industry e. intensive animal husbandry f. commercial forestry has a lawful, sustainable and reliable water supply that does not place undue strain on prescribed watercourses.	Consistent The proposed development does not include land uses that rely on extraction from the River Torrens / Karrawirra Parri or other prescribed watercourses, such as irrigation, aquaculture, industry or intensive activities. Instead, it comprises transport infrastructure with no ongoing demand for water supply that would place strain on water resources. Any water use associated with construction or maintenance is temporary, managed and does not rely on unsustainable extraction from prescribed watercourses. Accordingly, the proposed development does not create pressure on water availability or supply systems and satisfies the intent of the policy.

PO 1.2	Development comprising the erection, construction, modification, enlargement or removal of a dam, wall or other structure that will collect or divert surface water flowing in a prescribed watercourse is undertaken in a manner that maintains the quality and quantity of flows required to meet the needs of the environment as well as downstream users.	Consistent The proposed development includes bridge structures spanning the River Torrens / Karrawirra Parri, however it does not involve the construction of dams, walls or structures intended to collect, store or divert surface water flows. The design maintains natural flow conditions within the watercourse, with an elevated and open structural form that allows water to pass beneath without alteration to flow paths. This report confirms that hydraulic modelling demonstrates no change to flow regime, water quality or downstream availability. Accordingly, the proposed development maintains both the quantity and quality of flows required for environmental function and downstream users.
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Prescribed Wells Area

Desired Outcome

DO 1	Sustainable water use in prescribed wells areas.
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Performance Outcomes

Performance Outcomes		
PO 1.1	All development, but in particular involving any of the following: (a) horticulture (b) activities requiring irrigation (c) aquaculture (d) industry (e) intensive animal husbandry (f) commercial forestry has a lawful, sustainable and reliable water supply that does not place undue strain on water resources in prescribed wells areas.	Consistent The proposed project will be supplied (where required) with water from the existing SA Water network. There is no requirement for groundwater use.

Regulated and Significant Trees

Desired Outcome

DO 1	Conservation of regulated and significant trees to provide aesthetic and environmental benefits and mitigate tree loss.
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Performance Outcomes

Tree Retention and Health		
PO 1.1	Regulated trees are retained where they: a. make an important visual contribution to local character and amenity b. are indigenous to the local area and listed under the <i>National Parks and Wildlife Act 1972</i> as a rare or endangered native species and / or c. provide an important habitat for native fauna.	Partially Consistent The proposed development requires the removal of a number of Regulated trees within the River Torrens / Karrawirra Parri corridor to facilitate essential transport infrastructure and therefore cannot achieve full retention as envisaged by this policy. However, impacts have been minimised through design refinement and selective siting, with higher-value trees avoided where practicable. Tree removal is undertaken in accordance with the <i>Planning, Development and Infrastructure Act 2016</i>, including offset planting where required. The proposed development also incorporates extensive replacement planting and riparian revegetation to restore canopy and habitat values over time. While full retention is not achievable, impacts are minimised and offset in a manner consistent with the intent of the policy when considered in the context of essential infrastructure delivery.
PO 1.2	Significant trees are retained where they: a. make an important contribution to the character or amenity of the local area b. are indigenous to the local area and are listed under the <i>National Parks and Wildlife Act 1972</i> as a rare or endangered native species c. represent an important habitat for native fauna d. are part of a wildlife corridor of a remnant area of native vegetation e. are important to the maintenance of biodiversity in the local environment and / or f. form a notable visual element to the landscape of the local area.	Partially Consistent The proposed development requires the removal of some significant trees within the River Torrens / Karrawirra Parri corridor to facilitate essential transport infrastructure and therefore cannot achieve full retention as envisaged by this policy. However, tree removal has been minimised through design refinement and corridor-based siting, with avoidance of higher-value trees (including those contributing to amenity, habitat and landscape character) where practicable. Clearance has been assessed in accordance with the <i>Planning, Development and Infrastructure Act 2016</i>, with offset planting and replacement revegetation proposed. The proposed development includes riparian rehabilitation and new planting to restore canopy cover, habitat values and landscape character over time. While full retention cannot be achieved, impacts to significant trees are minimised and offset consistent with the intent of the policy when balanced against the delivery of essential infrastructure.
PO 1.4	A tree-damaging activity in connection with other development satisfies all the following: a. it accommodates the reasonable development of land in accordance with the relevant zone or subzone where such development might not otherwise be possible b. in the case of a significant tree, all reasonable development options and design solutions have been considered to prevent substantial tree-damaging activity occurring.	Partially Consistent The proposed development necessitates tree-damaging activity, including the removal of some regulated and significant trees within the River Torrens / Karrawirra Parri corridor, to facilitate essential transport infrastructure works. The alignment, footprint and structural design have been refined to minimise impacts where practicable, and this report confirms that reasonable design alternatives and siting options have been considered to reduce tree-damaging activity, particularly for significant trees. Where removal is unavoidable, it is balanced by replacement planting and riparian revegetation to restore canopy cover and habitat values over time. While tree-damaging activity cannot be fully avoided, it is minimised and justified within the context of delivering essential infrastructure.
Ground Work Affecting Activities		

PO 2.1	Regulated and significant trees, including their root systems, are not unduly compromised by excavation and / or filling of land, or the sealing of surfaces within the vicinity of the tree to support their retention and health.	Partially Consistent The proposed development involves excavation and ground works within the River Torrens / Karrawirra Parri corridor that have the potential to affect regulated and significant trees, including their root systems. However, impacts have been minimised through design refinement, including alignment optimisation and structural solutions that reduce ground disturbance where practicable. This report confirms that construction methodologies and tree protection measures will be implemented to avoid undue damage to retained trees, including consideration of root zones and minimisation of surface sealing where feasible. While some impacts to trees are unavoidable due to the nature of the works, impacts are managed to support the ongoing health and retention of remaining trees.
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State Heritage Place

Desired Outcome

DO 1	Development maintains the heritage and cultural values of State Heritage Places through conservation, ongoing use and adaptive reuse consistent with Statements of Significance and other relevant documents prepared and published by the administrative unit of the Public Service that is responsible for assisting a Minister in the administration of the <i>Heritage Places Act 1993</i> .
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Performance Outcomes

Built Form		
PO 1.1	The form of new buildings and structures maintains the heritage values of the State Heritage Place.	Partially Consistent The proposed development adjoins the Hindmarsh Cemetery (State Heritage Place, ID 11799) and introduces a large bridge structure that is visually present within its setting. The scale and massing of the bridge do not directly reflect the heritage character and therefore cannot be considered fully consistent with maintaining the heritage form-based values. However, the proposed development is located at the edge of the cemetery within an established transport corridor and does not physically encroach on graves, layout or heritage fabric. The DA Report and Heritage Impact Statement confirm that design refinement, including reduced structural bulk, articulated finishes, open pier configuration and landscaping, mitigates visual impacts and maintains visual permeability. While the form introduces a contemporary infrastructure element into the setting, impacts are moderated and do not unduly compromise the heritage values of the State Heritage Place.
PO 1.2	Massing, scale and siting of development maintains the heritage values of the State Heritage Place.	Partially Consistent As above.
PO 1.3	Design and architectural detailing (including but not limited to roof pitch and form, openings, chimneys and verandahs) maintains the heritage values of the State Heritage Place.	Partially Consistent As above.

PO 1.4	Development is consistent with boundary setbacks and setting.	Partially Consistent The development does not adopt traditional boundary setbacks associated with the heritage place, and its scale and infrastructure form introduce a contemporary element within the setting. However, the proposed development avoids physical encroachment into graves, layout or heritage fabric and maintains a defined separation through corridor siting. This report and Heritage Impact Statement confirm that design measures, including reduced structural bulk, open pier configuration and landscaping, maintain visual permeability and soften the interface.
PO 1.5	Materials and colours are either consistent with or complement the heritage values of the State Heritage Place.	Partially Consistent As above.
PO 1.7	Development of a State Heritage Place retains elements contributing to its heritage value.	Partially Consistent The proposed development introduces a large bridge structure that is visually present within its setting. The scale and massing of the bridge do not directly reflect the heritage character and therefore cannot be considered fully consistent with maintaining the heritage form-based values. However, the proposed development is located at the edge of the cemetery within an established transport corridor and does not physically encroach on graves, layout or heritage fabric. The DA Report and Heritage Impact Statement confirm that design refinement, including reduced structural bulk, articulated finishes, open pier configuration and landscaping, mitigates visual impacts and maintains visual permeability. While the form introduces a contemporary infrastructure element into the setting, impacts are moderated and do not unduly compromise the heritage values of the State Heritage Place.
Alterations and Additions		
PO 2.1	Alterations and additions complement the State Heritage Place and are sited to be unobtrusive, not conceal or obstruct heritage features and detailing, or dominate the State Heritage Place or its setting.	Partially Consistent The perpendicular alignment of the screening rows maintains the legibility of the historic burial layout - a recognised and valued characteristic of the cemetery. The screenings will reduce the likelihood of vegetation and weed growth, whilst maintaining a stable surface for visitors. The use of recycled brick edging reflects the historical identity of the locality, acknowledging its association with brickmaking industries, and consistent with the use of brick for the plinth of the perimeter fencing of the cemetery.

Ancillary Development

PO 3.4

Fencing and gates closer to a street boundary (other than a laneway) than the street elevation of the associated building are consistent with the traditional period, style and form of the State Heritage Place.

Partially Consistent

The proposed development does not reflect the traditional period, style or form of the heritage place, as they serve contemporary safety and operational functions.

However, fencing is generally located within the established road corridor and is limited in prominence. This report indicates a coordinated design approach, with materials, finishes and landscaping used to minimise visual intrusion and avoid a dominant presence within the heritage setting. While the fencing does not replicate heritage detailing, it is integrated and visually recessive such that it does not unduly detract from the setting or appreciation of the State Heritage Place.

Stormwater Management

Desired Outcome

DO 1

Development incorporates water sensitive urban design techniques to capture and re-use stormwater.

Performance Outcome

Stormwater Management

PO 1.1

Residential development is designed to capture and re-use stormwater to:

- a. maximise conservation of water resources
- b. manage peak stormwater runoff flows and volume to ensure the carrying capacities of downstream systems are not overloaded
- c. manage stormwater runoff quality.

Partially Consistent

The proposed development does not comprise residential development and therefore does not directly incorporate stormwater capture and re-use systems as envisaged by this policy.

However, it includes a coordinated stormwater management approach within the River Torrens / Karrawirra Parri corridor, designed to manage runoff quantity and quality. This report indicates that drainage infrastructure is designed to control peak flows, maintain downstream capacity and incorporate water quality treatment measures where appropriate. While stormwater re-use is not a feature of the proposed development, the design manages stormwater flows and quality consistent with the broader intent of the policy.

Traffic Generating Development Overlay

Desired Outcome

DO 1

Safe and efficient operation of Urban Transport Routes and Major Urban Transport Routes for all road users.

DO 2

Provision of safe and efficient access to and from urban transport routes and major urban transport routes.

Performance Outcome

Performance Outcomes		
PO 1.1	Development designed to minimise its potential impact on the safety, efficiency and functional performance of the State Maintained Road network.	Consistent The proposed development comprises major transport infrastructure works within the South Road corridor (a State Maintained Road), and is specifically designed to improve the safety, efficiency and overall functional performance of the network. This report confirms that the works increase capacity (including expansion of bridge infrastructure), reduce congestion and improve traffic flow. Intersection upgrades, grade separation and improved alignment enhance operational performance, while maintaining safe conditions for all road users. The proposed development therefore not only minimises adverse impacts, but delivers a net improvement to the State Maintained Road network.

Urban Transport Routes

Desired Outcomes

DO 1	Safe and efficient operation of Urban Transport Routes for all road users.
DO 2	Provision of safe and efficient access to and from Urban Transport Routes.

Performance Outcome

Access - Safe Entry and Exit (Traffic Flow)		
PO 1.1	Access is designed to allow safe entry and exit to and from a site to meet the needs of development and minimise traffic flow interference associated with access movements along adjacent State maintained roads.	Consistent The proposed development comprises major transport infrastructure within the South Road corridor (a State Maintained Road) and is specifically designed to optimise safe access and traffic flow rather than rely on individual site access points. This report confirms that the design incorporates grade separation, controlled access arrangements and upgraded road geometry to minimise traffic conflicts associated with entry and exit movements. Access is rationalised and consolidated within the network, reducing interruption to through traffic while maintaining safe movement for all users, including pedestrians and cyclists. The proposed development therefore minimises traffic flow interference and enhances safe entry and exit conditions.
Access - (Location Spacing) - Existing Access Point		
PO 3.1	Existing access points are designed to accommodate the type and volume of traffic likely to be generated by the development.	Consistent The proposed development involves upgrades to existing access arrangements within the South Road corridor rather than reliance on new or ad hoc access points. Existing access points are redesigned, rationalised and integrated into the broader network upgrade to accommodate increased traffic volumes and improved traffic flow. This report confirms that the proposed

		development includes upgraded intersections, improved lane configurations and controlled access arrangements to support the anticipated traffic demand. These measures ensure that access points safely accommodate the type and volume of traffic generated, while minimising conflicts and maintaining efficient operation of the State Maintained Road network.
Access - Location (Sight Lines)		
PO 5.1	Access points are located and designed to accommodate sight lines that enable drivers and pedestrians to navigate potential conflict points with roads in a controlled and safe manner.	Consistent As above.
Access- Stormwater		
PO 7.1	Access points are designed to minimise negative impact on roadside drainage of water.	Consistent As above.
Building on Road Reserve		
PO 8.1	Buildings or structures that encroach onto, above or below road reserves are designed and sited to minimise impact on safe movements by all road users.	Consistent The proposed development includes bridge structures and associated infrastructure that extend above and within the road reserve; however, these elements are specifically designed to maintain and enhance safe movement for all road users. This report confirms that the structural design provides appropriate clearances, separation of traffic movements and integration with the upgraded arterial road network. The proposed development improves traffic flow, supports safe vehicle operation and incorporates dedicated infrastructure for pedestrians and cyclists (including the shared use path). The design ensures that movement beneath and along the corridor is not impeded and, in fact, is enhanced through improved alignment and capacity.
Corner Cut-Offs		
PO 10.1	Development is located and designed to maintain sightlines for drivers turning into and out of public road junctions to contribute to driver safety.	Consistent The proposed development includes upgrades and reconfiguration of road junctions within the South Road corridor that are designed to maintain and enhance sightlines for drivers. This report confirms that intersection geometry, alignment and lane configuration have been developed in accordance with relevant road design standards to ensure clear visibility for turning movements. The proposed development avoids placing structures or landscaping within critical sightline areas and maintains unobstructed visibility for drivers, pedestrians and cyclists. As a result, safe navigation through junctions is achieved and driver safety is enhanced.

Urban Tree Canopy

Desired Outcome

DO 1	Residential development preserves and enhances urban tree canopy through the planting of new trees and retention of existing mature trees where practicable.

Performance Outcomes

Urban Tree Canopy		
PO 1.1	Trees are planted or retained to contribute to an urban tree canopy.	Partially Consistent The proposed development requires the removal of some existing trees within the River Torrens / Karrawirra Parri corridor to facilitate essential infrastructure works and therefore cannot fully retain existing canopy cover. However, the proposed development incorporates a comprehensive landscaping and revegetation strategy, including substantial new planting and riparian rehabilitation, which will contribute to the re-establishment and long-term enhancement of the urban tree canopy. Tree removal is unavoidable in parts, but canopy outcomes are actively restored and improved over time through replacement planting and integrated landscape design.

Water Resources

Desired Outcomes

DO 1	Protection of the quality of surface waters considering adverse water quality impacts associated with projected reductions in rainfall and warmer air temperatures as a result of climate change.
DO 2	Maintain the conveyance function and natural flow paths of watercourses to assist in the management of flood waters and stormwater runoff.

Performance Outcomes

Water Catchment		
PO 1.1	Watercourses and their beds, banks, wetlands and floodplains (1% AEP flood extent) are not damaged or modified and are retained in their natural state, except where modification is required for essential access or maintenance purposes.	Partially Consistent The proposed development is located within the River Torrens / Karrawirra Parri corridor and involves works within the watercourse environment to deliver essential transport infrastructure, and therefore cannot fully avoid modification as envisaged by this policy. However, the works are limited to what is necessary to enable the bridge crossing and associated infrastructure and are consistent with essential access requirements. This report confirms that the design minimises disturbance to the watercourse, maintains hydraulic function and avoids significant

Water Catchment		
		alteration to the bed, banks and floodplain beyond what is required. Mitigation measures, including erosion control, scour protection and riparian rehabilitation, are incorporated to restore and enhance the condition of the river corridor over time. While some modification is unavoidable, it is limited, managed and consistent with the intent of the policy for essential infrastructure.
PO 1.4	Watercourses, areas of remnant native vegetation, or areas prone to erosion that are capable of natural regeneration are fenced off to limit stock access.	Consistent There is no stock proposed for the site and it will not be generally accessible to the public.
PO 1.5	Development that increases surface water run-off includes a suitably sized strip of vegetated land on each side of a watercourse to filter runoff to: - reduce the impacts on native aquatic ecosystems - minimise soil loss eroding into the watercourse.	Consistent The proposed development incorporates a coordinated stormwater and landscape response within the River Torrens / Karrawirra Parri corridor to manage runoff and protect water quality. While the development introduces increased impervious surfaces, the design integrates vegetated areas along the river corridor, including riparian revegetation and landscaped verges, which function as informal buffer zones to filter runoff. The report identifies erosion and sediment control measures, along with revegetation works, which reduce sediment loads entering the watercourse and support aquatic ecosystem health. These measures collectively function to minimise soil loss and improve runoff quality consistent with the intent of the policy.
PO 1.6	Development resulting in the depositing or placing of an object or solid material in a watercourse or lake occurs only where it involves any of the following: - the construction of an erosion control structure - devices or structures used to extract or regulate water flowing in a watercourse - devices used for scientific purposes - the rehabilitation of watercourses.	Partially consistent The proposed development involves the placement of structural elements within the River Torrens / Karrawirra Parri corridor (e.g. bridge piers and associated works), and therefore includes deposition of materials within the watercourse environment. These works do not fall strictly within the limited categories listed (e.g. water extraction or scientific devices), but are undertaken to support essential transport infrastructure. However, the design incorporates measures that align with the intent of the policy, including erosion control (scour protection) and river corridor rehabilitation. This report confirms that works are limited to what is necessary, maintain hydraulic function and are supported by mitigation measures such as sediment control and revegetation. While not fully consistent with the prescriptive categories, the proposed development achieves comparable environmental outcomes and is justified in the context of essential infrastructure delivery.
PO 1.7	Watercourses, floodplains (1% AEP flood extent) and wetlands protected and enhanced by retaining and protecting existing native vegetation.	Partially Consistent The proposed development requires the removal of some native vegetation within the River Torrens / Karrawirra Parri corridor to facilitate essential transport infrastructure and therefore cannot fully retain all existing vegetation as envisaged by this policy. However, the extent of removal has been minimised through design refinement and selective siting, including avoidance of higher-value vegetation where practicable. This report confirms that replacement planting and riparian revegetation form a key component of the overall landscape strategy, restoring vegetation structure and enhancing ecological function over time.

Water Catchment		
		While full retention is not achieved, the proposed development protects remaining vegetation and provides a net improvement to the river corridor through rehabilitation and canopy re-establishment.
PO 1.8	Watercourses, floodplains (1% AEP flood extent) and wetlands are protected and enhanced by stabilising watercourse banks and reducing sediments and nutrients entering the watercourse.	Consistent The proposed development incorporates a range of design and environmental management measures within the River Torrens / Karrawirra Parri corridor to stabilise banks and minimise sediment and nutrient entry into the watercourse. This report confirms that erosion and sediment control measures, including scour protection around structural elements and controlled drainage systems, are integrated into the design. Construction-phase controls are proposed to manage sediment runoff, while operational measures and riparian revegetation contribute to long-term bank stability and improved water quality. These combined measures reduce erosion potential and support aquatic ecosystem health. Accordingly, the proposed development protects and enhances the function of the watercourse consistent with the intent of the policy.

General Development Policies

Clearance from Overhead Powerlines

Desired Outcome

DO 1	Protection of human health and safety when undertaking development in the vicinity of overhead transmission powerlines.

Performance Outcomes

Clearance from Overhead Powerlines		
PO 1.1	Buildings are adequately separated from aboveground powerlines to minimise potential hazard to people and property.	Consistent The proposed development has been designed to ensure that all bridge structures, lighting infrastructure and associated road elements maintain appropriate clearances from overhead powerlines in accordance with relevant engineering and safety standards. The design avoids conflict with existing services and ensures safe operation and maintenance of infrastructure. Accordingly, safe separation distances are achieved.

Design in Urban Areas

Desired Outcome

DO 1	Development is: (a) contextual - by considering, recognising and carefully responding to its natural surroundings or built environment and positively contributing to the character of the locality (b) durable - fit for purpose, adaptable and long lasting (c) inclusive - by integrating landscape design to optimise pedestrian and cyclist usability, privacy and equitable access and promoting the provision of quality spaces integrated with the public realm that can be used for access and recreation and help optimise security and safety both internally and within the public realm, for occupants and visitors (d) sustainable - by integrating sustainable techniques into the design and siting of development and landscaping to improve community health, urban heat, water management, environmental performance, biodiversity and local amenity and to minimise energy consumption.

Performance Outcomes

External Appearance		
PO 1.1	Buildings reinforce corners through changes in setback, articulation, materials, colour and massing (including height, width, bulk, roof form and slope).	Consistent The proposed development is designed to respond to the surrounding urban context and integrates with the River Torrens / Karrawirra Parri corridor and adjacent Hindmarsh Cemetery. The design of Bridge 03 has been refined through an iterative process incorporating stakeholder feedback and urban design review to reduce visual bulk and improve its relationship with the surrounding environment. Architectural elements, including textured finishes, perforated cladding and a restrained colour palette, contribute to a cohesive and contextually appropriate outcome. Landscaping and undercroft treatments further enhance the public realm and interface with adjoining land uses. Accordingly, the proposed development achieves a high-quality and coordinated design outcome consistent with the intent of the policy.
Safety		
PO 2.1	Development maximises opportunities for passive surveillance of the public realm by providing clear lines of sight, appropriate lighting and the use of visually permeable screening wherever practicable.	Consistent The proposed development incorporates open structural design, clear sightlines, appropriate lighting and low-scale landscaping to maximise passive surveillance of the public realm and avoid visually obstructed or inactive spaces, consistent with the intent of the policy.
PO 2.4	Development at street level is designed to maximise opportunities for passive surveillance of the adjacent public realm.	Consistent The proposed development is designed to maximise opportunities for passive surveillance at ground level through the provision of clear sightlines, open structural elements and active movement corridors. The interface between the bridge, shared use paths and surrounding public realm is designed to maintain visibility and avoid concealed or inactive spaces. Undercroft areas are open and legible, with no solid screening that would obstruct views, and are supported by appropriate lighting and low-scale landscaping. The integration of pedestrian and cyclist infrastructure further promotes regular activity and passive surveillance of the space. Accordingly, the proposed development provides a safe and well-surveilled public realm consistent with the intent of the policy.
Landscaping		
PO 3.1	Soft landscaping and tree planting are incorporated to: (a) minimise heat absorption and reflection (b) maximise shade and shelter (c) maximise stormwater infiltration (d) enhance the appearance of land and streetscapes.	Consistent The proposed development incorporates soft landscaping and tree planting to provide shading, improve microclimate, support stormwater infiltration and enhance the visual quality of the public realm, consistent with the intent of the policy.
Environmental Performance		
PO 4.1	Buildings are sited, oriented and designed to maximise natural sunlight access and ventilation to main activity areas, habitable rooms, common areas and open spaces.	Consistent

		The proposed development will not cause overshadowing impacts to nearby residential properties, with the exception of very early morning hours in summer.
Water Sensitive Design		
PO 5.1	Development is sited and designed to maintain natural hydrological systems without negatively impacting: a. the quantity and quality of surface water and groundwater b. the depth and directional flow of surface water and groundwater c. the quality and function of natural springs.	Consistent The proposed development maintains hydrological function through appropriate drainage design and bridge clearance, ensuring no adverse impact on water quality, flow behaviour or groundwater systems. No natural springs are affected.
Earthworks and Sloping Land		
PO 8.1	Development, including any associated driveways and access tracks, minimises the need for earthworks to limit disturbance to natural topography.	Consistent Whilst retaining walls exceed 1 m in height, this height is to retain existing steep grades and is to support structures outside the riparian zone where greater visual and environmental impacts could result.
Fences and Walls		
PO 9.1	Fences, walls and retaining walls of sufficient height maintain privacy and security without unreasonably impacting visual amenity and adjoining land's access to sunlight or the amenity of public places.	Consistent The proposed development incorporates fencing, retaining walls and structural elements that are designed to provide appropriate safety and delineation without unreasonably impacting visual amenity or access to sunlight. The removal of sections of existing fencing and integration of new fencing with bridge structures and landscaping reduces visual clutter and improves the interface with the Hindmarsh Cemetery and surrounding public realm. Retaining walls and abutments are treated with textured finishes and are integrated into the overall design to minimise visual dominance. The scale and location of these elements do not impede access to sunlight for adjoining land or detract from the amenity of public spaces. Accordingly, the proposed development achieves a balanced outcome consistent with the intent of the policy.
PO 9.2	Landscaping is incorporated on the low side of retaining walls that are visible from public roads and public open space to minimise visual impacts.	Consistent The proposed development incorporates landscaping treatments adjacent to retaining walls and structural elements that are visible from public roads and public open space, including along the River Torrens / Karrawirra Parri corridor and Adam Street. Landscaping is provided on the lower side of retaining walls, including tree planting, groundcovers and revegetation, to soften built form and reduce visual prominence. These treatments are integrated with the overall landscape strategy and respond to the riverine setting, enhancing visual amenity and ensuring retaining walls are not visually dominant. Accordingly, the proposed development minimises visual impacts consistent with the intent of the policy.
Landscaping		
PO 13.1	Development facing a street provides a well landscaped area that contains a deep soil space to accommodate a tree of a species and size adequate to provide	Partially Consistent The proposed development incorporates landscaping and tree planting along road corridors, including Adam Street, South

	shade, contribute to tree canopy targets and soften the appearance of buildings.	Road and the Karrawirra Parri / River Torrens corridor, with provision for deep soil planting zones where practicable. Tree planting is included within verge areas, batters and adjacent open space to contribute to canopy cover, urban cooling and visual softening of infrastructure. However, due to the constrained nature of the corridor and the engineering requirements of major transport infrastructure, continuous deep soil zones directly adjoining all street-facing edges cannot be achieved. Notwithstanding this, the proposed development maximises opportunities for tree planting and landscaping within available areas and delivers a meaningful contribution to canopy targets and streetscape amenity. Accordingly, the intent of the policy is achieved, notwithstanding partial consistency.
PO 13.3	Deep soil zones with access to natural light are provided to assist in maintaining vegetation health.	Partially Consistent The proposed development provides deep soil planting areas with access to natural light where practicable, including along verge areas, batters and open space adjoining the Karrawirra Parri / River Torrens corridor, supporting the establishment and long-term health of vegetation. However, portions of the site—particularly beneath Bridge 03 and within constrained infrastructure areas—experience reduced access to natural light due to the scale and form of the proposed works. In these locations, planting design has been adapted to incorporate suitable shade-tolerant species and surface treatments to maintain functionality and visual quality. While optimal light conditions cannot be achieved across all areas, the proposed development responds to constraints and maximises vegetation health outcomes where practicable. Accordingly, the intent of the policy is achieved, notwithstanding partial consistency.
Environment		
PO 14.1	Development minimises detrimental micro-climatic impacts on adjacent land and buildings.	Partially Consistent The proposed development minimises microclimatic impacts through landscaping and tree planting; however, some localised shading and environmental changes occur due to the scale of infrastructure. These impacts are mitigated and the intent of the policy is achieved.
All non-residential development		
Water Sensitive Design		
PO 42.1	Development likely to result in risk of export of sediment, suspended solids, organic matter, nutrients, oil and grease include stormwater management systems designed to minimise pollutants entering stormwater.	Consistent The proposed development incorporates stormwater management systems designed to minimise the export of sediment, suspended solids and other pollutants to the receiving environment, including the River Torrens / Karrawirra Parri corridor. Stormwater generated by road surfaces and associated infrastructure is managed through an integrated drainage approach, including sediment control measures, treatment prior to discharge and erosion control. Measures such as sediment basins, filtration through vegetated areas and stabilisation of disturbed surfaces reduce the potential for pollutants, including organic matter, nutrients, oil and grease, entering the watercourse. Construction and operational controls ensure that water quality is protected. Accordingly, the proposed development minimises pollutant export consistent with the intent of the policy.
PO 42.2	Water discharged from a development site is of a physical, chemical	Partially Consistent

	and biological condition equivalent to or better than its pre-developed state.	The proposed development incorporates stormwater management systems designed to minimise the discharge of pollutants and maintain water quality within the River Torrens / Karrawirra Parri corridor. Measures including sediment control, treatment of runoff from road surfaces, vegetated filtration and erosion control assist in improving the quality of water prior to discharge. However, as a major transport infrastructure development introducing additional impervious surfaces, achieving water quality that is fully equivalent to or better than pre-development conditions may not be possible across all parameters. Notwithstanding this, the design minimises pollutant loads and protects receiving waters through best-practice stormwater management measures. Accordingly, the intent of the policy is achieved, notwithstanding partial consistency.
PO 42.3	Development includes stormwater management systems to mitigate peak flows and manage the rate and duration of stormwater discharges from the site to ensure that development does not increase peak flows in downstream systems.	Consistent The proposed development incorporates stormwater management systems designed to control peak flows and manage the rate and duration of stormwater discharge from the site. The design includes an integrated drainage network, detention and conveyance measures that regulate runoff from impervious surfaces and ensure that downstream systems are not adversely impacted. Hydraulic modelling undertaken as part of this report confirms that the proposed development maintains existing flow conditions and does not increase peak flows within receiving environments, including the Karrawirra Parri / River Torrens corridor. Accordingly, stormwater discharge is effectively managed, and downstream capacity is protected consistent with the intent of the policy.

Infrastructure and Renewable Energy Facilities

Desired Outcome

DO 1	Efficient provision of infrastructure networks and services, renewable energy facilities and ancillary development in a manner that minimises hazard, is environmentally and culturally sensitive and manages adverse visual impacts on natural and rural landscapes and residential amenity.
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Performance Outcomes

General		
PO 1.1	Development designed to minimise its potential impact on the safety, efficiency and functional performance of the State Maintained Road network.	Consistent The T2D Project will vastly improve the efficiency of traffic movements throughout South Road and adjoining roads by completing the final section of the North-South Corridor, removing a significant network bottleneck between Torrens Road and Darlington. The Project responds to longstanding traffic congestion and an over-representation of crashes along this section of South Road compared with other North-South Corridor links, improving the safety, efficiency and functional performance of the State Maintained Road network through increased capacity, improved traffic flow and reduced travel delay. The proposed development comprises a major upgrade to the South Road corridor, a State Maintained Road, and is specifically designed to improve its safety, efficiency and functional performance. The design includes increased traffic

	capacity, grade separation and improved alignment, reducing congestion and minimising traffic conflicts. Intersection upgrades and controlled access arrangements enhance operational performance, while the integration of pedestrian and cyclist infrastructure ensures safe movement for all users. The proposed development therefore minimises potential impacts on the road network and delivers a net improvement to its operation, consistent with the intent of the policy.
Visual Amenity	
PO 2.1	The visual impact of above-ground infrastructure networks and services (excluding high voltage transmission lines), renewable energy facilities (excluding wind farms), energy storage facilities and ancillary development is minimised from townships, scenic routes and public roads by: a) utilising features of the natural landscape to obscure views where practicable b) siting development below ridgelines where practicable c) avoiding visually sensitive and significant landscapes d) using materials and finishes with low-reflectivity and colours that complement the surroundings e) using existing vegetation to screen buildings f) incorporating landscaping or landscaped mounding around the perimeter of a site and between adjacent allotments accommodating or zoned to primarily accommodate sensitive receivers. Partially Consistent The proposed development comprises large-scale above-ground transport infrastructure within a constrained urban corridor and will therefore be visually prominent from surrounding public roads and open space, including the Karrawirra Parri / River Torrens corridor. However, the design has been refined to minimise visual impact where practicable through the use of landscape features, siting within an established transport corridor and avoidance of intrusion into more sensitive landscapes such as the Hindmarsh Cemetery. The structure is designed with an open pier configuration and reduced bulk to maintain visual permeability. Low-reflectivity materials and a restrained colour palette are used to integrate the infrastructure with its surroundings. Existing and proposed vegetation, along with additional landscaping, assist in softening the appearance and screening where appropriate. While full visual integration cannot be achieved due to the scale of the infrastructure, impacts are minimised and appropriately managed consistent with the intent of the policy.

Interface Between Land Uses

Desired Outcome

DO 1	Development is located and designed to mitigate adverse effects on or from neighbouring and proximate land uses.
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Performance Outcomes

General Land Use Compatibility	
PO 1.2	Development adjacent to a site containing a sensitive receiver (or lawfully approved sensitive receiver) or zone primarily intended to accommodate sensitive receivers is designed to minimise adverse impacts. Partially Consistent The proposed development is located adjacent to sensitive land uses, including residential areas and the Hindmarsh Cemetery (State Heritage Place). As major transport infrastructure, the development has the potential to generate impacts such as noise, visual change and

		altered local amenity. The design has been developed to minimise these impacts through corridor-based siting, separation distances, landscape treatments and architectural detailing to reduce visual bulk. Traffic and operational performance improvements also reduce congestion-related impacts, and the modified road corridor will result in a quieter acoustic environment for cemetery visitors. While some impacts cannot be fully avoided due to the scale and function of the infrastructure, they are minimised and appropriately managed consistent with the intent of the policy.
Overshadowing		
PO 2.1	Overshadowing of habitable room windows of adjacent residential land uses in: a. a neighbourhood-type zone is minimised to maintain access to direct winter sunlight b. other zones is managed to enable access to direct winter sunlight.	Consistent The proposed development comprises elevated transport infrastructure within an established corridor and has the potential to generate localised overshadowing. However, the closest habitable room windows of adjacent residential land uses are located at a distance of over 50 metres from the project site. This separation, combined with the linear nature of the infrastructure and the movement of the sun path, ensures that any shadowing effects are limited in extent and duration and do not materially reduce access to direct winter sunlight. The design avoids direct interface with residential buildings and maintains a substantial spatial buffer. Accordingly, the proposed development manages overshadowing impacts and maintains reasonable access to sunlight consistent with the intent of the policy.
PO 2.2	Overshadowing of the primary area of private open space or communal open space of adjacent residential land uses in: a. a neighbourhood type zone is minimised to maintain access to direct winter sunlight b. other zones is managed to enable access to direct winter sunlight.	Consistent The proposed development has the potential to result in localised overshadowing due to its elevated form; however, the primary areas of private and communal open space associated with adjacent residential land uses are located at a distance of over 50 m from the project site. This separation ensures that any shadowing effects are limited in extent and duration, and do not materially reduce access to direct winter sunlight. The linear nature of the infrastructure and the movement of the sun path further limit the duration of shadowing. The proposed development does not directly encroach upon or dominate adjacent private or communal open space areas, maintaining reasonable levels of solar access. Accordingly, the proposed development manages overshadowing impacts consistent with the intent of the policy.
Activities Generating Noise or Vibration		
PO 4.1	Development that emits noise (other than music) does not unreasonably impact the amenity of sensitive receivers (or lawfully approved sensitive receivers).	Consistent When compared to the existing South Road alignment, which does not have any noise walls or screens, and based on the estimated traffic volumes and vehicle mix forecast at the year 2031, the proposed development will result in an improved acoustic outcome for visitors of the Hindmarsh Cemetery.
Air Quality		
PO 5.1	Development with the potential to emit harmful or nuisance-generating air pollution incorporates air pollution control measures to prevent harm to human health or unreasonably impact the amenity of sensitive receivers (or lawfully approved sensitive receivers) within the locality and	Consistent The proposed development has the potential to generate air quality impacts associated with vehicle emissions; however, it does not include fixed point-source emissions or industrial activities typically associated with harmful air pollution. The design improves traffic flow and reduces congestion along the South Road corridor, which assists in reducing idling and

	zones primarily intended to accommodate sensitive receivers.	associated emissions. Air quality impacts are further managed through separation distances from sensitive receivers, including residential areas and the Hindmarsh Cemetery, and compliance with relevant environmental standards. Construction-related emissions are temporary and controlled through standard mitigation measures. Accordingly, the proposed development does not result in harmful or unreasonable air quality impacts and is consistent with the intent of the policy.
Light Spill		
PO 6.1	External lighting is positioned and designed to not cause unreasonable light spill impact on adjacent sensitive receivers (or lawfully approved sensitive receivers).	Consistent The proposed development incorporates external lighting that is carefully designed and positioned to minimise light spill to adjacent sensitive receivers, including nearby residential areas and the Hindmarsh Cemetery. Lighting associated with the bridge, shared use paths and road infrastructure is directed toward the ground plane and key activity areas, avoiding unnecessary spill beyond the site. Shielding, appropriate mounting heights and controlled luminance levels are used to ensure lighting is functional for safety while not creating unreasonable off-site impacts. The lighting design also considers the sensitive setting of the cemetery by avoiding intrusive or excessive illumination. Accordingly, light spill is effectively managed and does not unreasonably affect surrounding land uses, consistent with the intent of the policy.
Solar Reflectivity / Glare		
PO 7.1	Development is designed and comprised of materials and finishes that do not unreasonably cause a distraction to adjacent road users and pedestrian areas or unreasonably cause heat loading and micro-climatic impacts on adjacent buildings and land uses as a result of reflective solar glare.	Consistent The proposed development utilises materials and finishes that are selected to minimise reflective solar glare and avoid distraction to road users, pedestrians and adjacent land uses. The design incorporates low-reflectivity materials, including treated concrete and subdued architectural finishes, which limit the potential for glare from bridge structures and associated infrastructure. The orientation and configuration of structural elements further reduce opportunities for reflected light to impact surrounding areas. These measures also assist in avoiding excessive heat loading and micro-climatic effects on adjacent land. Accordingly, the proposed development does not result in unreasonable glare or visual distraction and is consistent with the intent of the policy.

Open Space and Recreation

Desired Outcome

DO 1	Pleasant, functional and accessible open space and recreation facilities are provided at State, regional, district, neighbourhood and local levels for active and passive recreation, biodiversity, community health, urban cooling, tree canopy cover, visual amenity, gathering spaces, wildlife and waterway corridors, and a range of other functions and at a range of sizes that reflect the purpose of that open space.
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Performance Outcomes

Land Use and Intensity

PO 1.1	Recreation facilities are compatible with surrounding land uses and activities.	Consistent The proposed development interfaces with existing open space areas, including the Karrawirra Parri / River Torrens corridor, and incorporates features that support recreational use, such as shared use paths for pedestrians and cyclists. These facilities are integrated with the existing network and enhance accessibility and connectivity without displacing or adversely affecting existing recreational activities. The design maintains the function of surrounding open space and provides improved access and amenity for users. Accordingly, the proposed development is compatible with surrounding recreational land uses and activities consistent with the intent of the policy.
PO 1.2	Open space areas include natural or landscaped areas using locally indigenous plant species and large trees.	Consistent The proposed development incorporates landscaping and revegetation within and adjacent to the River Torrens / Karrawirra Parri corridor, including the use of locally indigenous plant species and canopy tree planting. The landscape strategy reinforces the natural character of the river corridor and contributes to ecological function, shade and visual amenity. While not introducing new formal open space, the proposed development enhances existing open space areas through coordinated planting and environmental rehabilitation. Accordingly, the development supports the use of indigenous vegetation and tree planting consistent with the intent of the policy.
Design and Siting		
PO 2.1	Open space and recreation facilities address adjacent public roads to optimise pedestrian access and visibility.	Consistent The proposed development is designed to maintain and enhance connections between open space areas and adjacent public roads, including along the River Torrens / Karrawirra Parri corridor. Shared use paths and pedestrian connections are integrated with surrounding street networks, improving accessibility and visibility of open space areas. The open and legible design of the corridor, including clear sightlines and minimal visual barriers, supports safe and convenient access for users. The alignment of paths and infrastructure ensures that existing recreational areas remain accessible and well connected to the surrounding urban environment. Accordingly, the proposed development optimises pedestrian access and visibility consistent with the intent of the policy.
PO 2.2	Open space and recreation facilities incorporate park furniture, shaded areas and resting places.	Consistent The proposed development incorporates elements that support recreational use within the Karrawirra Parri / River Torrens corridor, including shared use paths, rest areas and landscaping that enhances amenity and usability. While the development does not comprise a traditional park setting, opportunities for rest and passive recreation are supported through the provision of shaded areas created by structural elements and tree planting. The design facilitates comfortable and accessible movement through the corridor, consistent with recreational use patterns. Accordingly, the proposed development incorporates features that support park-like amenity and user comfort consistent with the intent of the policy.

PO 2.3	Open space and recreation facilities link habitats, wildlife corridors and existing open spaces and recreation facilities.	Consistent The proposed development is located within the River Torrens / Karrawirra Parri corridor, which functions as a key ecological and recreational linkage within the metropolitan area. The design incorporates riparian revegetation, landscaping and open space enhancements that strengthen habitat connectivity and support wildlife movement along the corridor. Shared use paths and open space improvements are integrated with the existing network, linking surrounding open spaces and recreational facilities. While some vegetation removal is required, this is offset through coordinated planting and rehabilitation that improves long-term ecological function. Accordingly, the proposed development maintains and enhances connections between habitats, wildlife corridors and open space areas consistent with the intent of the policy.
PO 3.1	Open space incorporates: a. pedestrian and cycle linkages to other open spaces, centres, schools and public transport nodes; b. safe crossing points where pedestrian routes intersect the road network; c. easily identified access points.	Consistent The proposed development incorporates a well-connected pedestrian and cyclist network through the provision of shared use paths along the River Torrens / Karrawirra Parri corridor, linking to surrounding open spaces, local streets and the broader active transport network. Safe crossing points are integrated within the road network through controlled intersections and grade-separated design, reducing conflict between users and vehicles. Access points to the corridor are clearly defined and legible, ensuring ease of entry and movement for users. The proposed development therefore enhances connectivity, safety and accessibility for pedestrians and cyclists consistent with the intent of the policy.
Usability		
PO 4.1	Land allocated for open space is suitable for its intended active and passive recreational use taking into consideration its gradient and potential for inundation.	Partially Consistent The proposed development incorporates areas of open space within the River Torrens / Karrawirra Parri corridor that support passive and active recreational use, including shared use paths and landscaped areas. These areas are generally designed to be usable, accessible and appropriately graded for recreational movement. However, portions of the site, particularly beneath bridge structures and within the river corridor, are subject to constraints including variable topography and potential inundation during flood events. These conditions limit the suitability of some areas for continuous active recreation. Notwithstanding this, the design responds to these constraints through appropriate path alignment, surface treatment and landscape design to maintain usability where practicable. Accordingly, while not all areas can be optimised for recreational use, the proposed development provides functional and usable open space consistent with the intent of the policy, notwithstanding partial consistency.

Safety and Security		
PO 5.1	Open space is overlooked by housing, commercial or other development to provide casual surveillance where possible.	Partially Consistent The proposed development enhances safety and security within the Karrawirra Parri / River Torrens corridor through the provision of clear sightlines, open structural design and integration of shared use paths that support regular activity and passive surveillance. However, opportunities for direct overlooking from adjacent housing or commercial development are limited due to the separation between the corridor and surrounding land uses and the linear, infrastructure-focused nature of the development. Notwithstanding this, the design promotes passive surveillance through visibility, lighting and activation of movement corridors, avoiding concealed or inactive spaces. Accordingly, while direct overlooking by surrounding development is limited, safety and security outcomes are achieved consistent with the intent of the policy, notwithstanding partial consistency.
PO 5.3	Landscaping provided in open space and recreation facilities maximises opportunities for casual surveillance throughout the park.	Consistent The proposed development incorporates landscaping within the Karrawirra Parri / River Torrens corridor that supports visibility and maximises opportunities for casual surveillance. Planting design is generally low-scale or selectively located to avoid obstructing sightlines along shared use paths and open space areas. Tree and vegetation placement is coordinated with path networks and open structural elements to maintain clear lines of sight and avoid creating concealed or inactive spaces. These measures, combined with lighting and regular pedestrian and cyclist activity, ensure that landscaping contributes positively to safety outcomes. Accordingly, the proposed development maximises opportunities for casual surveillance consistent with the intent of the policy.
PO 5.5	Adequate lighting is provided around toilets, telephones, seating, litter bins, bicycle storage, car parks and other such facilities.	Consistent As above.
PO 5.6	Pedestrian and bicycle movement after dark is focused along clearly defined, adequately lit routes with observable entries and exits.	Consistent The proposed development incorporates clearly defined and well-lit pedestrian and cyclist routes within the Karrawirra Parri / River Torrens corridor, including shared use paths that provide legible and continuous movement through the site. Lighting is focused along these primary routes and at access points to ensure visibility and safe use after dark. Entry and exit points to the corridor are identifiable and connected to the surrounding street network, supporting orientation and passive surveillance. The open design and absence of visual obstructions further improve visibility along movement corridors. Accordingly, pedestrian and cyclist movement is safely supported after dark consistent with the intent of the policy.

Signage		
PO 6.1	Signage is provided at entrances to and within the open space and recreation facilities to provide clear orientation to major points of interest such as the location of public toilets, telephones, safe routes, park activities and the like.	Consistent The proposed development incorporates wayfinding and directional signage associated with the shared use path network within the Karrawirra Parri / River Torrens corridor, supporting clear orientation and navigation for users. Access points to the corridor and connections to surrounding streets and paths are legible, enabling users to understand routes and destinations. While the development does not include facilities such as toilets or telephones, signage is focused on identifying safe routes, connections and movement corridors. The clarity of path alignment and open design further supports intuitive navigation. Accordingly, the proposed development provides appropriate orientation and wayfinding consistent with the intent of the policy.
Buildings and Open Space		
PO 7.1	Buildings and car parking areas in open space areas are designed, located and of a scale to be unobtrusive.	Partially Consistent While Bridge 03 will introduce a visually dominant element within the Hindmarsh Cemetery due to its scale and elevation relative to the surrounding low-rise cemetery features, its location at the cemetery periphery and inclusion of design measures that reduce visual bulk and retain important views to and from the River Torrens / Karrawirra Parri partially mitigate these impacts and maintain key aspects of the site's visual and recreational character.
PO 7.3	Development in open space is constructed to minimise the extent of impervious surfaces.	Partially Consistent The proposed development includes areas of impervious surface associated with road infrastructure, bridge structures and shared use paths, which are necessary to support the function and safety of the transport corridor. However, the extent of impervious surfaces is minimised where practicable through the incorporation of landscaped areas, verge planting, riparian revegetation and permeable ground treatments within the Karrawirra Parri / River Torrens corridor. These measures reduce the overall footprint of hard surfaces within open space areas and contribute to improved environmental and visual outcomes. While impervious surfaces cannot be avoided due to the nature of the development, they are appropriately limited and balanced with landscape integration consistent with the intent of the policy.
Landscaping		
PO 8.1	Open space and recreation facilities provide for the planting and retention of large trees and vegetation.	Partially Consistent The proposed development incorporates landscaping and revegetation within the Karrawirra Parri / River Torrens corridor, including the planting of canopy trees and vegetation that contribute to ecological function, shade and visual amenity. However, delivery of the infrastructure requires the removal of some existing vegetation, including mature trees, within the corridor. Opportunities for retention have been maximised where practicable, with higher-value vegetation avoided where feasible, and a comprehensive landscape strategy provides for replacement planting and long-term canopy re-establishment. While full retention of existing large trees is not achievable, the proposed development provides for substantial new planting and restoration, resulting in improved vegetation structure over time.

		Accordingly, the intent of the policy is achieved, notwithstanding partial consistency.
PO 8.2	Landscaping in open space and recreation facilities provides shade and windbreaks: a. along cyclist and pedestrian routes; b. around picnic and barbecue areas; c. in car parking areas.	Partially Consistent The proposed development incorporates landscaping and tree planting within the Karrawirra Parri / River Torrens corridor, including along shared use paths, which provides shade and assists in moderating microclimatic conditions for pedestrians and cyclists. Vegetation and structural elements such as bridge infrastructure also contribute to areas of shelter along key movement corridors. However, the development does not include formal picnic or barbecue areas or car parking areas within the open space, and therefore these components of the policy are not directly applicable. While shade and limited wind protection are provided along primary movement routes, continuous coverage across all areas cannot be achieved due to the scale and operational requirements of the infrastructure. Accordingly, the intent of the policy is met where relevant, notwithstanding partial consistency.
PO 8.3	Landscaping in open space facilitates habitat for local fauna and facilitates biodiversity.	Consistent The proposed development incorporates landscaping and revegetation within the Karrawirra Parri / River Torrens corridor that supports habitat provision and enhances biodiversity. The landscape strategy includes the use of locally indigenous species, riparian planting and restoration of vegetation structure, which contribute to habitat connectivity and improved ecological function. While some existing vegetation is removed to facilitate the infrastructure, this is offset through coordinated revegetation and habitat enhancement measures that strengthen the corridor as a wildlife linkage. Accordingly, the proposed development facilitates habitat and biodiversity outcomes consistent with the intent of the policy.
PO 8.4	Landscaping including trees and other vegetation passively watered with local rainfall run-off, where practicable.	Partially Consistent The proposed development incorporates landscaping and revegetation within the Karrawirra Parri / River Torrens corridor, including areas where vegetation is passively watered through natural rainfall and local runoff. The landscape design responds to the riverine setting and includes planting in verge, batter and riparian areas that can utilise natural hydrological processes. However, due to the extent of impervious surfaces and engineered drainage required for the transport infrastructure, not all landscaped areas can rely solely on passive watering and may require managed drainage or irrigation during establishment. Notwithstanding this, opportunities for passive watering have been maximised where practicable, and the overall design supports sustainable landscape outcomes. Accordingly, the intent of the policy is achieved, notwithstanding partial consistency.

Transport, Access and Parking

Desired Outcome

DO 1	A comprehensive, integrated and connected transport system that is safe, sustainable, efficient, convenient and accessible to all users.
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Movement Systems		
PO 1.1	Development is integrated with the existing transport system and designed to minimise its potential impact on the functional performance of the transport system.	Consistent The design improves the functional performance of the transport system through increased capacity, grade separation and upgraded intersections, reducing congestion and minimising delays. Access arrangements are rationalised and coordinated with the surrounding road network, limiting disruption to traffic flow. The inclusion of shared use paths and improved pedestrian and cyclist infrastructure further integrates the development with the wider transport system. Accordingly, the proposed development enhances network performance and minimises adverse impacts consistent with the intent of the policy.
Sightlines		
PO 2.1	Sightlines at intersections, pedestrian and cycle crossings, and crossovers to allotments for motorists, cyclists and pedestrians are maintained or enhanced to ensure safety for all road users and pedestrians.	Consistent The proposed development incorporates upgraded intersections, crossings and access arrangements within the South Road corridor that are designed to maintain and enhance sightlines for all users. Road geometry, alignment and grading have been developed in accordance with relevant design standards to ensure clear visibility at intersections, pedestrian and cyclist crossings and along movement corridors. The design avoids visual obstructions within critical sightline areas and provides appropriate separation and alignment to allow safe interaction between motorists, cyclists and pedestrians. Accordingly, the proposed development maintains and enhances sightlines, supporting safe operation of the transport network consistent with the intent of the policy.
PO 2.2	Walls, fencing and landscaping adjacent to driveways and corner sites are designed to provide adequate sightlines between vehicles and pedestrians.	Consistent The proposed development incorporates fencing, retaining walls and landscaping that are designed to maintain adequate sightlines at locations where vehicles, pedestrians and cyclists interact, including intersections and access points within the South Road corridor. The placement, height and configuration of these elements avoid obstruction of critical sightlines and ensure visibility is maintained in accordance with relevant road design standards. Landscaping is low-scale or appropriately positioned to prevent visual interference, and fencing and structural elements are integrated to support clear lines of sight. Accordingly, the proposed development maintains safe visibility between road users consistent with the intent of the policy.
Access for People with Disabilities		
PO 4.1	Development is sited and designed to provide safe, dignified and convenient access for people with a disability.	Consistent The proposed development is designed to provide safe, dignified and convenient access for people with a disability through the

		integration of accessible pedestrian infrastructure within the South Road corridor and the Karrawirra Parri / River Torrens corridor. Shared use paths, crossings and connections to surrounding streets are designed in accordance with relevant accessibility standards, providing appropriate gradients, surface treatments and clear path widths. Access points are legible and connected to the broader pedestrian network, supporting equitable use by all members of the community. The design avoids barriers to movement and incorporates gentle grades where practicable, ensuring inclusive access is achieved. Accordingly, the proposed development provides an accessible and safe environment consistent with the intent of the policy.
Corner Cut-offs		
PO 10.1	Development is located and designed to ensure drivers can safely turn into and out of public road junctions.	Consistent The proposed development incorporates upgraded intersections and junction layouts within the South Road corridor that are designed to enable safe turning movements for vehicles. Intersection geometry, lane configuration and alignment have been developed in accordance with relevant road design standards to ensure clear sightlines and adequate space for turning vehicles. The design avoids obstructions at corner locations and provides appropriate separation between vehicle, pedestrian and cyclist movements. Grade separation and controlled intersection treatments further reduce conflict and improve safety outcomes. Accordingly, the proposed development ensures safe turning movements into and out of road junctions consistent with the intent of the policy.