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**Proposed Gillman Spoil Reuse Facility - Part 2
Crown Development Application**

21 February 2025

For the attention of: Ms Gabrielle McMahon

Dear Ms McMahon

We act for the Department for Infrastructure and Transport (the Department), which is proposing a specialised spoil reuse facility (SRF) and the filling of land at Gillman. The proposed development will support the beneficial reuse of waste derived fill from the construction of the River Torrens to Darlington (T2D) Project. In doing so, it will facilitate the future development of the largest single source of vacant, zoned employment land in Greater Adelaide.

This application, for Part 2 of the SRF on land at North Arm Road, Dry Creek (Piece 502 in Deposited Plan 121878), is being lodged as a Crown Development pursuant to Section 131 of the *Planning, Development and Infrastructure Act 2016* (PDI Act). A previous Crown Development Application (ID: 24014973) by the Department for Part 1 of the SRF on adjacent land at 208 Eastern Parade, Gillman (Piece 501) was approved by the Minister for Planning (the Minister) on 11 December 2024.

The attached Planning Report:

- provides details on the subject land, including the existing environmental conditions.
- describes the locality, its strategic context and the key issues of stormwater and flooding.
- outlines the elements of the proposed development and details how the SRF will operate on the subject land.
- provides details on the staged approach to approval being sought and the interactions with the Environment Protection Authority (EPA) *Standard for the production and reuse of waste derived fill* (WDF Standard).
- demonstrates its consistency with the relevant provisions of the Code through a performance assessment.

In doing so, the Planning Report seeks to address issues raised by the State Commission Assessment Panel (SCAP) at its hearing for the previous application on 31 October 2024, as well as those raised by referral agencies, Council and representatives during the assessment process.

This application requires referral to the City of Port Adelaide Enfield (Council) pursuant to Section 131(6) of the PDI Act, and the Coast Protection Board (CPB) and the Environment Protection Authority (EPA) pursuant to Section 131(10).

The referral to the CPB is required due to the filling of land within the Coastal Areas Overlay of the Planning and Design Code (the Code). Referral to the EPA is related to a proposed water treatment plant (WTP) with capacity to treat more than 12.5ML of wastewater in a 12-month period, and discharge of chemically treated wastewater to marine or inland waters at a volume exceeding 50kL per day, as outlined in Part 9.1 of the Code. It is anticipated that the WTP will have a capacity to treat more than 50ML, requiring a licence from the EPA to be obtained by the T2D Alliance subsequent to a development approval, while the treated wastewater discharge (potentially averaging more than 500kL per day) will also require a licence.

There is no change to the access arrangements or traffic volumes for the proposed SRF considered and approved for the previous application for Part 1. That application considered a worst-case scenario of all anticipated spoil truck traffic being accommodated through the Eastern Parade driveway, but also with access from Hanson Road. But it is noted that the T2D Alliance anticipates that the truck volumes will be lower than the maximum outlined in the previous application. As such, we consider that referral to the Commissioner of Highways (a role held by the Chief Executive of the Department) is not required under the Major Urban Transport Routes or Non-Stop Corridors Overlays.

We also consider that referral to the Department for Energy and Mining is unnecessary due to the proposed development not triggering the referral requirements in the Gas and Liquid Petroleum Pipelines Overlay. Nonetheless, similar conditions to those recommended to and adopted by the Minister for the previous application may be considered appropriate.

The application requires public notification pursuant to Section 131(13) of the PDI Act as the development cost is greater than \$10 million. The Department proposes a single sign at the boundary of the subject land with Hanson Road, in the same location as that for the previous application, be erected at the appropriate time. A sign on Eastern Parade is not considered necessary for this application noting the prior notification and approval of the Part 1 application.

The attached plans and drawings are preliminary and high level, reflecting the need for detailed design work to be undertaken by the T2D Alliance. However, we believe they are sufficient for an assessment and request relevant conditions that further detailed plans and appropriate management plans be submitted for further consideration and approval of the Minister. This approach is consistent with the previous application and appropriate for a development by a Crown agency on land owned by another Crown agency (i.e. Renewal SA). It provides a degree of flexibility for the T2D Alliance in the preparation of its detailed designs and management plans for the SRF, while giving sufficient information for scrutiny by the public, referral agencies and SCAP, and sufficient certainty for the Minister that environmental issues will be appropriately considered and addressed.

The T2D Alliance is currently progressing detailed designs for Part 1 of the SRF and preparing management plans required by the conditions of approval in consultation with relevant agencies. Further information may also be relevant to this application and, if available, will be submitted as appropriate to support the assessment by SCAP.

Like the approved development, this application also seeks a staged approval that aligns to the construction stages and sources of fill for the T2D Project. Use of waste derived fill is governed by the Auditor Protocol under the WDF Standard, which provides a robust process for assessment and approval of the reuse of T2D Project spoil, separate to the consideration of this application. This application for filling of land should be considered independently from the source of the fill. However, the Department notes the conditions imposed by the Minister for the previous application at the request of the EPA, requiring the provision of Interim Audit Advice and an endorsed Site Management Plan from an Accredited Site Contamination Auditor before filling with spoil from the T2D Project.

The Department also requests that, given the staged approach to the implementation of the SRF, the operative timeframe of any approval from the Minister be seven years from the date of approval, as per the previous approval.

The proposed SRF and filling of land is considered appropriate in the strategic context of the site and the nature of the current and proposed uses in the locality. Impacts to the environment can be addressed and managed through a Construction Environmental Management Plan (and relevant subplans), the Department's Contract Scope and Contract Specifications and Master Specifications (that the T2D Alliance must adhere to), and the Auditor Protocol under the WDF Standard.

The proposed development is considered consistent with the Code and in our view merits the support of SCAP and approval from the Minister.

We trust that there is sufficient information to enable verification of the application and commencement of the assessment process.

Please do not hesitate to contact me if you have any queries in respect to the proposed development.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Mike Davis', with a long horizontal flourish extending to the right.

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cc	Mr Scott Cooper	Department for Infrastructure and Transport
	Mr David Robinson	Department for Infrastructure and Transport

Gillman Spoil Reuse Facility – Part 2

Planning Report

River Torrens to
Darlington Project

February 2025



Australian Government

BUILDING AUSTRALIA



Government
of South Australia

Department for Infrastructure
and Transport



Delivered by
**TORRENS TO
DARLINGTON
ALLIANCE**

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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.



Executive Summary

The Department for Infrastructure and Transport (the Department) is proposing a specialised spoil reuse facility (SRF) and the filling of land at North Arm Road, Dry Creek. The proposed development will support the beneficial reuse of waste derived fill from the construction of the River Torrens to Darlington (T2D) Project, the State's largest ever infrastructure project. In doing so, it will facilitate the future development of the largest single source of vacant, zoned employment land in Greater Adelaide.

The application is being lodged as a Crown development pursuant to Section 131 of the *Planning, Development and Infrastructure Act 2016* (PDI Act). A previous Crown Development Application by the Department for a similar proposal on adjacent land at 208 Eastern Parade, Gillman (Lot 501) was approved by the Minister for Planning (the Minister) subject to 26 conditions on 11 December 2024. That application was for Part 1 of a two-part development, with the current application Part 2.

Similar to the approved development for Lot 501, this application seeks a staged approval that aligns to the construction stages for the T2D Project and sources of fill that are governed by a separate Auditor Protocol under the Environment Protection Authority (EPA) *Standard for the production and reuse of waste derived fill* (WDF Standard). The WDF Standard provides a robust process for assessment and approval of the reuse of T2D Project spoil, separate to the consideration of this application, which includes provision of Interim Audit Advice (IAA) from the Accredited Site Contamination Auditor (ASCA) and an endorsed Site Management Plan (SMP) before filling with spoil from the T2D Project.

This Planning Report provides an outline of suitability of the subject land and locality for the proposed development, and its consistency with both the strategic objectives of State Government and the Planning and Design Code (the Code). In particular:

- The subject land is within the Strategic Employment Zone of the Code and within an area designated as a State Significant Industrial Employment Precinct in the draft Greater Adelaide Regional Plan (GARP), which was released for public consultation in September 2024. Filling the land will unlock the development opportunity envisaged for the Gillman and Dry Creek area since the 1962 *Report on the metropolitan area of Adelaide*. It is unlikely that there will be another opportunity like the T2D Project to acquire the required volume of fill material.
- The subject land is located within the Gillman Subzone of the Code, which specifically anticipates and requires the filling of land to a minimum site level of 3.7 metres (m) Australian Height Datum (AHD) to ensure that future development is not inundated by seawater in the future due to storm events and sea level rise. The act of filling is consistent with this desire and existing filling activities occurring on neighbouring land and the wider locality.
- The temporary buildings and structures to be constructed to facilitate the receipt and processing of spoil and the filling of land are appropriate in the locality and consistent with the form of infrastructure and facilities on neighbouring land. As temporary facilities, their location on land with a finished site level below that envisaged by the Gillman Subzone is appropriate.
- Access to the SRF will be via established access points to the arterial road network (Eastern Parade and Hanson Road), which the Department demonstrated as able to accommodate the expected volume of traffic to be generated by spoil trucks as part of the previous approved development for Lot 501. There is no proposed change in access arrangement approved by

the Minister for Lot 501, nor the volume of trucks (albeit there is anticipated to be lower peak volumes), with the prior application considering a worst-case traffic and access scenario.

- Areas of sensitive environmental habitat on the subject land, including Threatened Ecological Communities (TEC) associated with existing watercourses, are largely avoided to minimise the potential impact upon migratory bird species protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). No referral is deemed required to the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the EPBC Act.
- Stormwater infrastructure and a water treatment plant (WTP) will ensure that water runoff from the site is captured, retained and treated for reuse on-site. Discharge volumes of treated wastewater will vary by season but average more than 500 kilolitres (kL) per day. The proposed outfall will be downstream of the Magazine Creek and Range wetlands and will not compromise their function, nor will the water quality impact upon the marine environment of the Barker Inlet. This will be reinforced by submission of a detailed Stormwater Management Plan (SWMP) or equivalent at detailed design stage.
- The subject land, together with other land in the Range Wetland and Magazine Wetland ponding basins, provides flood storage capacity in a 1% Annual Exceedance Probability (AEP) storm event with elevated tidal levels. Filling of the whole of the subject land (beyond the scope of this application), together with other land identified for development at Gillman and Dry Creek within the Gillman Subzone, will result in flood impacts upstream of the tidal gates due to displaced storage, particularly in the vicinity of the Range Wetlands. However, the impacts are modest with 25 to 110 millimetre (mm) increase during Mean High Water Springs (MHWS), considering future sea level rise from climate change and no change to tidal gates.
- Filling of the subject land does not trigger the need for upgrades to the tidal gates located to the north of the SRF on land owned by the Urban Renewal Authority (Renewal SA). There is a need for replacement of the tidal gates in the foreseeable future, with longer term upgrades required to protect from inundation risk with future sea level rise. Upgrades to the tidal gates is separate from and independent to the requirements of this application and is the future responsibility of Renewal SA as the broader landowner and developer.
- Landscaping of the site perimeter along the Port River Bikeway, and the fill mounds, stormwater bunds and swales, will minimise the visual impact when viewed from adjoining land. It will also contribute to improved environmental outcomes during the operations of the SRF and the subsequent development of the land for industrial and/or commercial purposes by Renewal SA (outside the scope of this application). A detailed landscaping plan and planting schedule is proposed to be provided at detailed design stage.
- Environmental matters can be appropriately addressed through a Construction Environmental Management Plan (CEMP) for the SRF that will be consistent with the Department's Environment and Heritage Impact Assessment (EHIA) for the site and an endorsed SMP under the WDF Standard. The environmental matters associated with the source of the fill are appropriately governed by the Auditor Protocol under the WDF Standard.

The proposed development merits the support of the State Commission Assessment Panel (SCAP) and approval from the Minister.

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Glossary

Abbreviation / Term	Full Form/ Description
1% AEP	1% Annual Exceedance Probability (flood which has a 1% chance of occurring in any year)
30-Year Plan	<i>The 30-Year Plan for Greater Adelaide</i> (2010 or 2017 version)
AADT	Annual Average Daily Traffic
ACP	Adelaide Capital Partners
AGRD	Austroads Guide to Road Design
AHD	Australian Height Datum
Alliance	Alliance for design, construction and maintenance of the T2D Project comprising John Holland, Bouygues Construction, Arcadis, Jacobs and Ventia, with the Department for Infrastructure and Transport
ARTC	Australian Rail Track Corporation
AS	Australian Standard
ASCA	Accredited Site Contamination Auditor
ASS (AASS / PASS)	Acid Sulfate Soils (Actual / Potential)
BGL	Below Ground Level
BRC	Building Rules Certification
CBD	Central Business District
CEMP	Construction Environmental Management Plan
The Code	Planning and Design Code
COI	Chemical (substance) of interest
The Commission	State Planning Commission
Council	City of Port Adelaide Enfield
CPB	Coast Protection Board
CSCR	Contract Scope and Contract Requirements
CSM	Conceptual Site Model
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth)
DEM	Department for Energy and Mining
The Department	Department for Infrastructure and Transport
DEW	Department for Environment and Water
DO	Desired Outcome

Abbreviation / Term	Full Form/ Description
DPA	Development Plan Amendment
DPF	Designated Performance Feature
DSI	Detailed Site Investigation
DTS	Deemed-to-Satisfy
EHIA	Environment and Heritage Impact Assessment
EHIAR	Environment and Heritage Impact Assessment Report
EHTM	Environment and Heritage Technical Manual (Department for Infrastructure and Transport)
EPA	Environment Protection Authority
EP Act	<i>Environment Protection Act 1993</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
FoPR	Friends of Port River
GARP	Greater Adelaide Regional Plan
ha	Hectare
Highways Act	<i>Highways Act 1926</i>
kL	Kilolitre
km	Kilometre
IAA	Interim Audit Advice
L	Litre
LMA	Land Management Agreement
Lot 501	208 Eastern Parade, Gillman – subject land for Part 1 application
Lot 502	North Arm Road, Dry Creek – subject land for this application
m	Metre
m ³	Cubic metre
MFP	Multi-Function Polis
The Minister	Minister for Planning
ML	Megalitre
mm	Millimetre
NPW Act	<i>National Parks and Wildlife Act 1972</i>
PAREPG	Port Adelaide Residents Environmental Protection Group
PCA	Potentially Contaminating Activity

Abbreviation / Term	Full Form/ Description
PDI Act	<i>Planning, Development and Infrastructure Act 2016</i>
PDI (General) Regulations	<i>Planning, Development and Infrastructure (General) Regulations 2017</i>
PO	Performance Outcome
PSI	Preliminary Site Investigation
RAVnet	An interactive online map system that displays approved heavy vehicle route networks in South Australia
Renewal SA	Urban Renewal Authority
SAPPA	SA's Property and Planning Atlas
SCAP	State Commission Assessment Panel
SEA Gas	South East Australia Gas
SMP	Site Management Plan
SPPs	State Planning Policies
SRF	Spoil Reuse Facility
SWMP	Stormwater Management Plan
T2D	River Torrens to Darlington
TBM	Tunnel boring machine
TEC	Threatened Ecological Community
TMP	Traffic Management Plan
TNV	Technical and Numerical Variation
WDF Standard	<i>Standard for the production and reuse of waste derived fill (2013)</i>
WTP	Water Treatment Plant

Introduction

This Planning Report is provided to support a Crown development application by the Department pursuant to Section 131 of the PDI Act. It seeks a change in the use of land for a spoil reuse facility, construction of supporting infrastructure and facilities, and filling of land at Lot 502 North Arm Road, Dry Creek to support delivery of the T2D Project.

Background

The T2D Project is the most significant road infrastructure project ever undertaken in South Australia. The project will deliver the final 10.5-kilometre (km) section of the North-South Corridor and complete the 78km non-stop, traffic light-free motorway between Gawler and Old Noarlunga.

The T2D Project involves construction of two twin tunnels (the 4km southern tunnels and the 2.2km northern tunnels), and lowered motorways that will connect the tunnels with each other as well as the broader North-South Corridor at Tonsley Boulevard, Tonsley in the south and Grange Road, Hindmarsh in the north.

Delivery of the T2D Project will generate approximately 3.9 million cubic metres (m³) of spoil (or excess soil) material through boring of the tunnels by tunnel boring machine (TBM) and excavation of the lowered motorways and cut and cover tunnel portals. As there is no space at the T2D Project site, the spoil will need to be moved directly offsite. Instead of disposing the spoil to landfill, the Department is seeking to maximise the beneficial reuse of the waste derived fill. Accordingly, the T2D Project requires the establishment of a dedicated SRF to receive, treat and reuse the spoil in accordance with requirements of the WDF Standard, which is governed under the *Environment Protection Act 1993* (EP Act).

Part 1 Development Application

In June 2024 the Department lodged a separate Crown Development Application for a similar but smaller development on Lot 501 (ID 24014973), which was identified as Part 1 of the Gillman SRF and is adjacent to the subject land to the immediate southwest but separated by an unmade public road (North Arm Road). That application was granted Development Approval with conditions by the Minister on 11 December 2024 following assessment and advice from SCAP, which took account of comments by referral agencies and the City of Port Adelaide Enfield (Council), and representations received during public notification.

At the time of lodgement of the application for Part 1, the extent of filling of Lot 502 as Part 2 was subject to further investigations by the Department on the needs of the T2D Project, the suitability of Lot 502 for the receipt of spoil and environmental impacts arising from the filling of land that were not completely resolved by the Gillman Master Plan in 2014 or the Employment Lands (Gillman / Dry Creek and Wingfield) and General Section Development Plan Amendment (DPA) in 2015. The additional investigations have now been completed such that this Part 2 application can now be lodged.

Following award of the T2D Project Main Works contract to an alliance comprising John Holland, Bouygues Construction, Arcadis, Jacobs and Ventia (Alliance) by the South Australian Government, further consideration has also been undertaken of the design of the overall Gillman SRF and the requirements for the development of facilities and infrastructure. This is reflected by the current proposal including similar elements to the Part 1 development application.

Part 2 Development Application

The subject land is owned by the South Australian Government and, together with Lot 501 and other adjoining land, forms part of the largest single source of vacant, zoned employment land in Greater Adelaide. The low-lying nature of the land has seen it left undeveloped for decades, as the site requires filling to protect future development from the risk of sea water inundation and to manage stormwater processes. The Gillman Subzone of the Code requires a finished site level of 3.7 metres (m) Australian Height Datum (AHD) for new development.

This application for an SRF on Lot 502 will be staged to allow for site preparation and the establishment of the site facilities and infrastructure ahead of the filling of land in stages based on the source of the fill (i.e. from bulk earthworks or from use of Tunnel Boring Machines). This staged approach to development approval was sought for the Part 1 development application and approved by the Minister.

Construction of the proposed facilities are not scheduled to commence until after the establishment of the adjoining site and is primarily intended to accommodate excavated spoil generated from the boring of the tunnels commencing from mid-2026. The site will be progressively filled through to 2031 when the facility will be decommissioned, and the spoil management facilities removed or repurposed for employment uses as envisaged in the Gillman Subzone of the Code.

Subject Land and Locality

This section provides a description of the subject land, an irregular shaped parcel of vacant land at Dry Creek, and the locality, which has been earmarked for future industrial and employment development since the 1962 Report on the metropolitan area of Adelaide.

Subject Land

Property details

The subject land for this application consists of one parcel of land of irregular shape approximately 115.4ha in area within the City of Port Adelaide Enfield. It is located at North Arm Road, Dry Creek, formally identified as Piece 502 (Lot 502) in Deposit Plan 121878 and registered on Certificate of Title Volume 6239 Folio 959. The Certificate of Title also includes the adjoining land identified as Lot 501, as highlighted in Table 1.

A copy of the Certificate of Title and Plan Image is included in Appendix C.

Table 1: SRF site details

Street Address	Plan and Lot	Certificate of Title	Valuation Number	Area	Zoning	Application
208 Eastern Parade, Gillman	D121878 QP501	6239 / 959	0404885431	39.4 ha	Strategic Employment Zone	Part 1 – approved application
North Arm Road, Dry Creek	D121878 QP502		0632456823	115.4 ha	Gillman Subzone	Part 2 – this application

Easements

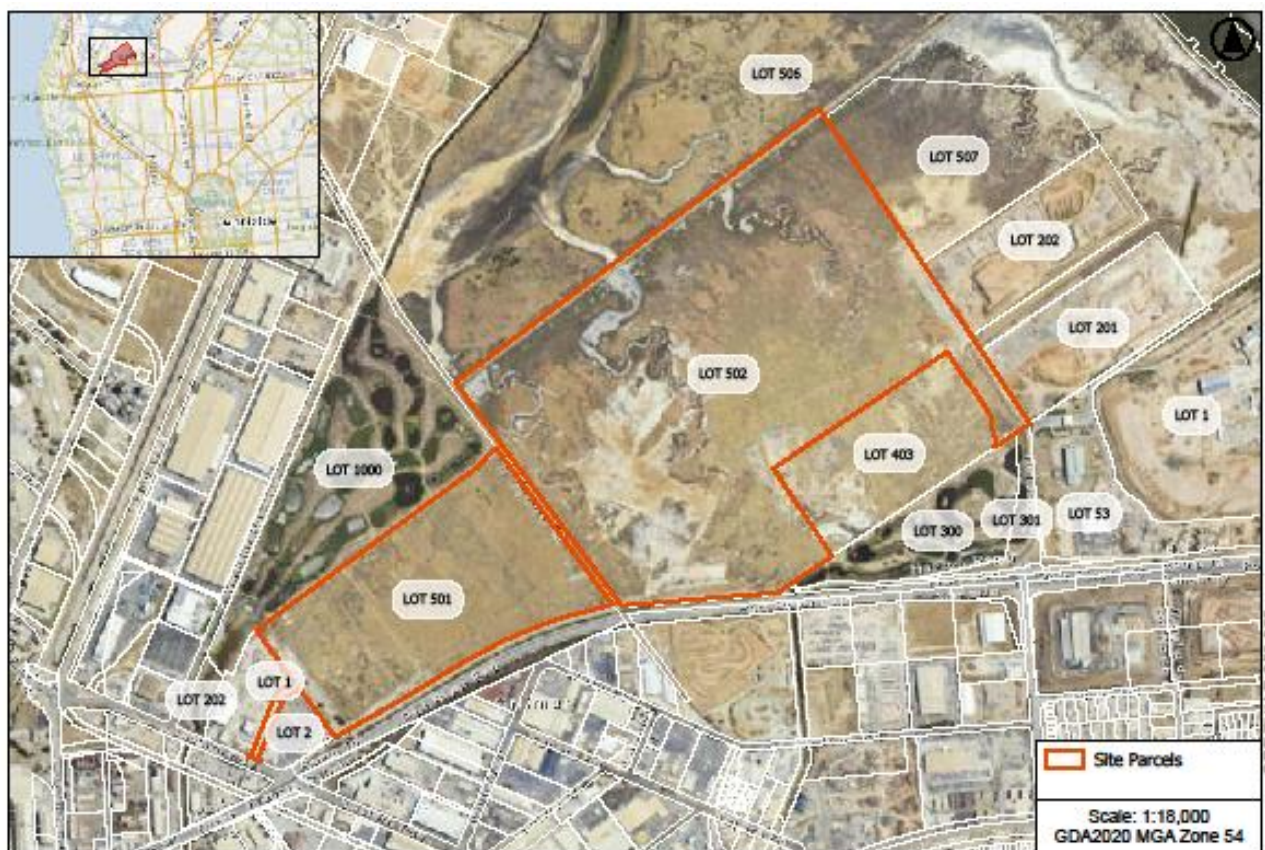
Several easements exist over the subject land, which includes:

- along the southern boundary adjacent to the Port River Expressway for the high-pressure gas pipeline from Port Campbell in Victoria to the Pelican Point Power Station on the Lefevre Peninsula, which is operated by South East Australia Gas (SEAGas)
- free and unrestricted rights of way within the 'handle' that extends to Hanson Road, providing access to adjoining allotments to the northeast (Lots 201, 202 and 507) and east (Lot 403)

- a drainage easement to facilitate the drainage channel from the Range Wetlands over the handle that extends to Hanson Road to the channel located on portion of Lot 506 between Lots 201 and 202.

None of these easements will impede nor be impacted by the development of the subject land as proposed by this application.

Figure 1: Location of the Subject Land (Lot 502) and adjoining Lot 501



Land Management Agreement

The Department notes that a Land Management Agreement (LMA) was registered over the subject land in 2016 (Dealing Number 12621329). The LMA relates to an option deed entered into by Renewal SA and Adelaide Capital Partners (ACP). The option deed provided ACP a right to purchase the land and develop the site for commercial use in accordance with an agreed Project Plan. The LMA establishes a framework for the design, implementation and funding of associated road and stormwater infrastructure should the ACP exercise their option under the deed and proceed with development of the site. While the option for ACP is no longer relevant, the LMA is still registered on the land.

The proposed development is being undertaken by the Commissioner of Highways in conjunction with delivery of the T2D Project and therefore is not subject to the LMA.

A copy of the LMA is included as Appendix D.

Current Zoning, Land Use and Infrastructure

The subject land is located within the Strategic Employment Zone and the Gillman Subzone of the Code. It was rezoned to Industry through a DPA in 2015 and transitioned to the current zoning as part of the implementation of the Code in 2021.

The subject land, together with adjoining land (including Lot 501), has been in the ownership of Renewal SA since 2003 when it was acquired to facilitate future industrial and employment land uses. However, it had previously been in State Government ownership and had been considered for development as part of the Multi-Function Polis (MFP) in the late 1980s.

The low-lying nature of the subject land—approximately 0.5m AHD on average—has seen it left undeveloped for decades due to the need for significant filling to protect future development from the risk of sea water inundation and stormwater flooding. The northwestern boundary of the subject land is a levee that extends beyond the northern extent of the property boundary and joins to the seawall along the southern edge of the Barker Inlet mangroves. These measures have been considered insufficient to protect future development of the land from seawater inundation, with the Subzone requiring the filling of land to raise site levels to minimum 3.7m AHD and subsequent finished floor levels to 3.95m AHD.

Lots 501 and 502 are separated by a road reserve (historically noted as North Arm Road). The road is unmade and is generally filled higher than the natural ground level of both Lots 501 and 502, with an access track connecting into the levee along the northwestern boundary of the subject land. North Arm Road accommodates the alignment of the SEAGas high pressure gas pipeline, which also cuts across the southern corner of the subject land and runs adjacent to the southern boundary on the southern side of the Port River Bikeway.

A portion of the bikeway encroaches onto the subject land. The bikeway, together with the Port River Expressway, is constructed on fill and sits at a level higher than the subject land.

Access to Lot 502 is provided from Hanson Road, which is a State-maintained road and connects to the Port River Expressway. Hanson Road provides access principally to the Wingfield Waste and Recycling Centre, as well as allotments to the northeast and east of Lot 502 via a right of way over the 'handle' of the subject land. There is no direct access currently to Eastern Parade via Lot 501; however, this will be addressed by the introduction of new driveway access as part of the establishment of the proposed SRF and was included within the approved application for Lot 501. Currently there are informal tracks that connect Lots 501 and 502.

There is no obvious demarcation between the subject land and the adjoining Lot 403, which is approved for filling and under development.

Existing Environment

Water

Construction of the levee along the boundary, the seawall and the tidal gates at the mouth of Magazine Creek has significantly altered the hydrology of the subject land. Lot 502 includes three lower lying areas that appear from aerial photography as meandering water courses, as seen in Figure 1, and which are

earmarked as watercourses in Location SA and for the purposes of applying the Water Resources Overlay in the Code.

However, with the levee, seawall and tidal gates limiting tidal inflows, and the modification of stormwater overland flows through the construction of both the Port River Expressway and the Range Wetlands, these are no longer functioning coastal watercourses. Notwithstanding these changes, these areas remain low-lying (below sea level shown as in Figure 2) and water flows into them from the north along the southeastern side of the levee. There is only a single outflow pipe under the levee, which is located northeast of the subject land in proximity to the Range wetland channel. Water ponds behind the levee within what is known as the Range basin and flows into the low-lying parts of the subject land.

Figure 2: Low-lying areas (<0m) on the SRF site (subject land and adjoining Lot 501)



Groundwater levels are between 0.2 and 2.7m below ground level (BGL) with seasonal fluctuation. On-site monitoring indicates that groundwater beneath the subject land:

- is highly saline and contains coliforms and ammonia
- is slightly acidic to neutral
- has previously been recorded as containing a range of metals (aluminium, arsenic, copper, iron, lead and zinc) above the EPA Water Quality guidelines (fresh and marine).

A Section 83A notification (61469-01) under the EP Act is in place for the subject land due to the presence of arsenic and copper in groundwater.

Acid Sulfate Soils

The subject land contains acid sulfate soil (ASS) types and has been subject to significant ASS investigations. The broader area has been isolated from tides since the 1930s when a series of bund walls that prevent tidal inundation were constructed. The consequent loss of tidal inundation has resulted in a lowering of the water table which has exposed large areas of hypersulfidic material, or Potential ASS (PASS), to the atmosphere. This has allowed sulfide minerals contained in the hypersulfidic material (typically pyrite) to oxidise to produce sulfuric acid, thereby converting the upper 2m of the soil profile inside the bund walls to sulfuric material, or Actual ASS (AASS), exhibiting very low pH (<4), jarosite mottles, and low acid neutralising capacity.

ASS materials have been found to be strongly associated with particular landscape units on the subject land. Seasonally flooded areas comprising former tidal creek depressions, erosion channels, and drains generally contain sulfidic material including hypersulfidic, hyposulfidic, and monosulfidic materials. Higher topographic elevations where former tidal creeks have eroded into sandy soils contain sulfuric material underlain by hypersulfidic and/or hyposulfidic materials. Areas historically flooded when the site was under natural tidal influence contain the highest levels of sulfuric and sulfidic material. Lower elevation areas with a higher water table contain less extensive sulfuric material.

Flora and Fauna

Regular inundation of low-lying areas has allowed for the maintenance of subtropical and temperate coastal saltmarsh habitat along the northwestern boundary of the subject land. This habitat is part of a TEC, as shown in Figure 3, which comprises:

- an area of intact *Tecticornia arbuscula* (Shrubby Samphire) shrublands over *Salicornia quinqueflora* ssp. *quinqueflora* (Beaded Samphire) and *Poa* sp. (Meadow-grass) – area marked as A3 in purple – which is the only location of this habitat within the study area surveyed by the Department's ecology consultants (EBS Ecology, now Umwelt)
- an area of *Tecticornia halocnemoides* ssp. (Grey Samphire) closed tidal shrubland – area marked as A4 in orange – which covers the northern 'watercourse' and extends northwest of the subject land along the Range channel.

Areas of TEC extend beyond the subject land, particularly within the area of the Range and Magazine Basins that are generally not proposed for filling and subsequent development for industrial in the Gillman Master Plan.

No flora species that is listed as threatened under the EPBC Act or the State *National Parks and Wildlife Act 1972* (NPW Act) were observed during a field survey by EBS Ecology (now Umwelt); however, it was determined that the EPBC Vulnerable plant *Tecticornia flabelliformis* (Bead Samphire) may have been present but undetected in the most frequently inundated parts of the subject land.

Figure 3: Vegetation associations and ecological communities within the Study Area

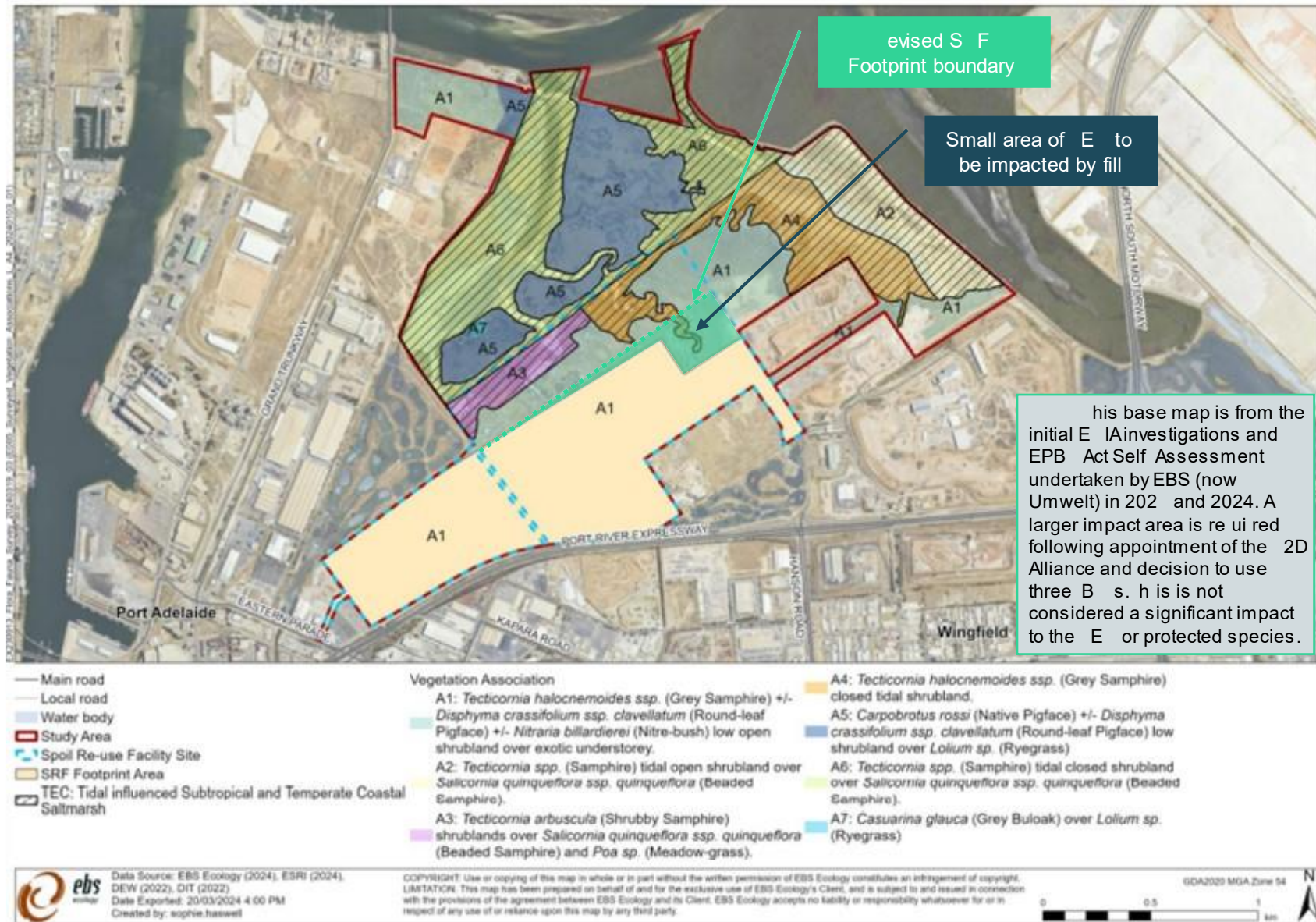
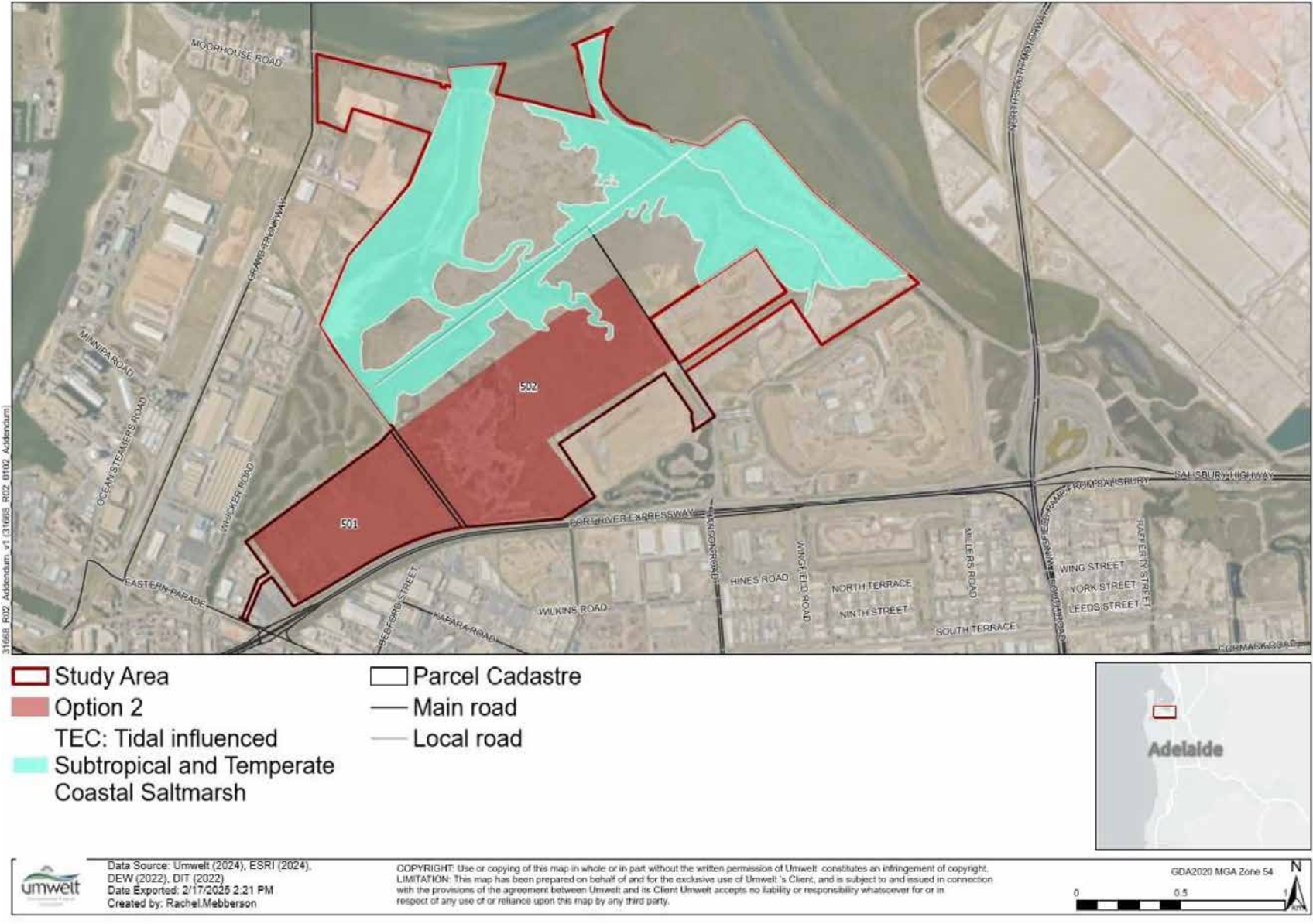


Figure 4: Proposed SRF Impact Area and mapped TEC



The area of the TEC on the subject land is intended to be mostly avoided through the proposed filling as it may contain *Tecticornia flabelliformis* and forms part of the important habitat for *Calidris acuminata* (Sharp-tailed Sandpipers), which is listed as a vulnerable and migratory bird species protected by the EPBC Act.

Under the precautionary principle, this area has been mostly excluded from the proposed development site, with only a small area of the northern 'watercourse' impacted, as illustrated in Figure 4. This area, representing only 0.76% of the mapped TEC in the locality, is of a degraded quality and may not meet all of the TEC diagnostic criteria such as tidal influence. Field surveys by Umwelt noted hypersaline stagnant pools of water dotted along the mapped TEC, as illustrated in Figure 5.

Figure 5: Photo of TEC impact area facing east¹



The remainder of the subject land is largely degraded samphire and grassland with significant intrusion of weed species, consistent with the habitat of Lot 501.

A Self-Assessment under the EPBC Act determined that there will not be a significant impact on protected species through the proposed development, provided the TEC area is avoided and there is continued inundation from water. Further consideration of a wider footprint indicates that there is unlikely

¹ Source: Umwelt field survey 19 February 2025

to be a significant impact, allowing for the small intrusion that will provide an improved future development outcome from filling the land.

There are no trees on the subject land. There is also no existing vegetation screening the subject land along the Port River Bikeway on the northern side of the Port River Expressway. However, a strip of vegetation, including low trees and shrubs, exists between the Port River Bikeway and the Expressway.

Site Selection

The Department released an open call for expressions of interest in November 2021 to gain an understanding of options for managing spoil on the T2D Project (including storage, treatment, reuse and disposal) and market capability and capacity.

A multi-criteria assessment of private and State Government owned sites was undertaken in 2022 based on five key criteria:

- economic
- environmental
- social
- technical
- cost/risk.

The assessment of sites considered factors including distance from the T2D Project, capacity and ownership, statutory approvals and licences required, and existing facilities on the site.

The Gillman site was identified as the preferred site with favourable attributes including:

- opportunity to maximise beneficial reuse of the spoil.
- capacity to receive, treat and reuse the spoil.
- reliability and resilience of the site to receive spoil through State Government ownership.
- delivering State economic benefits through creation of increased land value of the site.
- alignment with State strategic directions for future use of the site as an employment hub.

Locality

The subject land is strategically located in Adelaide's traditional/freight and logistics/defence industry cluster, approximately 2.7km northeast of Port Adelaide centre and 12km northwest of the Adelaide central business district (CBD). Adjoining the subject land is vacant land, and commercial, industrial and waste receival land uses.

Lot 501 to the southwest is approved for Part 1 of the Gillman SRF, with industrial and commercial land uses adjacent to Eastern Parade further southwest.

The subject land effectively wraps around adjoining Lot 403, which is approved for filling and development of two warehouses (Application ID: 22015433 and subsequent applications to vary the approval and conditions). There are three vacant parcels to the northwest (Lots 201, 202 and 507), with Lot 201 subject to a current development application for a renewable energy facility in the form of a pyrolysis plant (Application ID: 22013487). Land to the east of Hanson Road is generally developed for waste disposal and resource recovery facilities.

Adjoining the land to the north is Lot 506, which forms the Magazine Creek ponding basin and is also low-lying land with temperate saltmarsh and watercourses. This land is surrounded by flood levees, the sea wall and is protected by tidal gates to the Barker Inlet. Lot 506, the sea wall and the tidal gates are in the ownership of Renewal SA. Land to the northwest of Lot 506 comprises developed industrial land and development sites along Grand Trunkway, which effectively form the western edge of the Magazine Creek ponding basin.

Land to the west of the subject land includes the Magazine Creek wetlands, which are owned and maintained by the Council. These wetlands form part of the broader stormwater network for Port Adelaide, Gillman and a catchment that extends to Croydon.

Industrial and/or employment development of the subject land and adjoining land is consistent with the Desired Outcome of the Gillman Subzone and Concept Plan 102 – Gillman in the Code (see Figure 6).

The development in the locality reflects the strategic intention established by Renewal SA's Gillman Master Plan (2014), which proposed full development of Lots 501, 502 and 403 as industrial/employment land and Lots 201, 202 and 507 as a resource recovery precinct – see Figure 7. Land on the opposite side of Magazine Creek from the subject land accessed from Grand Trunkway was also earmarked for industrial/employment development. The Master Plan anticipated the filling of the land, and this was factored into flood modelling and identification of a new levee, tidal gates and stormwater infrastructure.

However, the subject land is in proximity to several sensitive and protected aquatic and intertidal ecosystems, including the neighbouring Range and Magazine Wetlands and further north the Barker Inlet, which includes the St Kilda Aquatic Reserve, the Adelaide Dolphin Sanctuary and Adelaide International Bird Sanctuary.

Figure 6: Concept Plan 102 – Gillman in Planning and Design Code

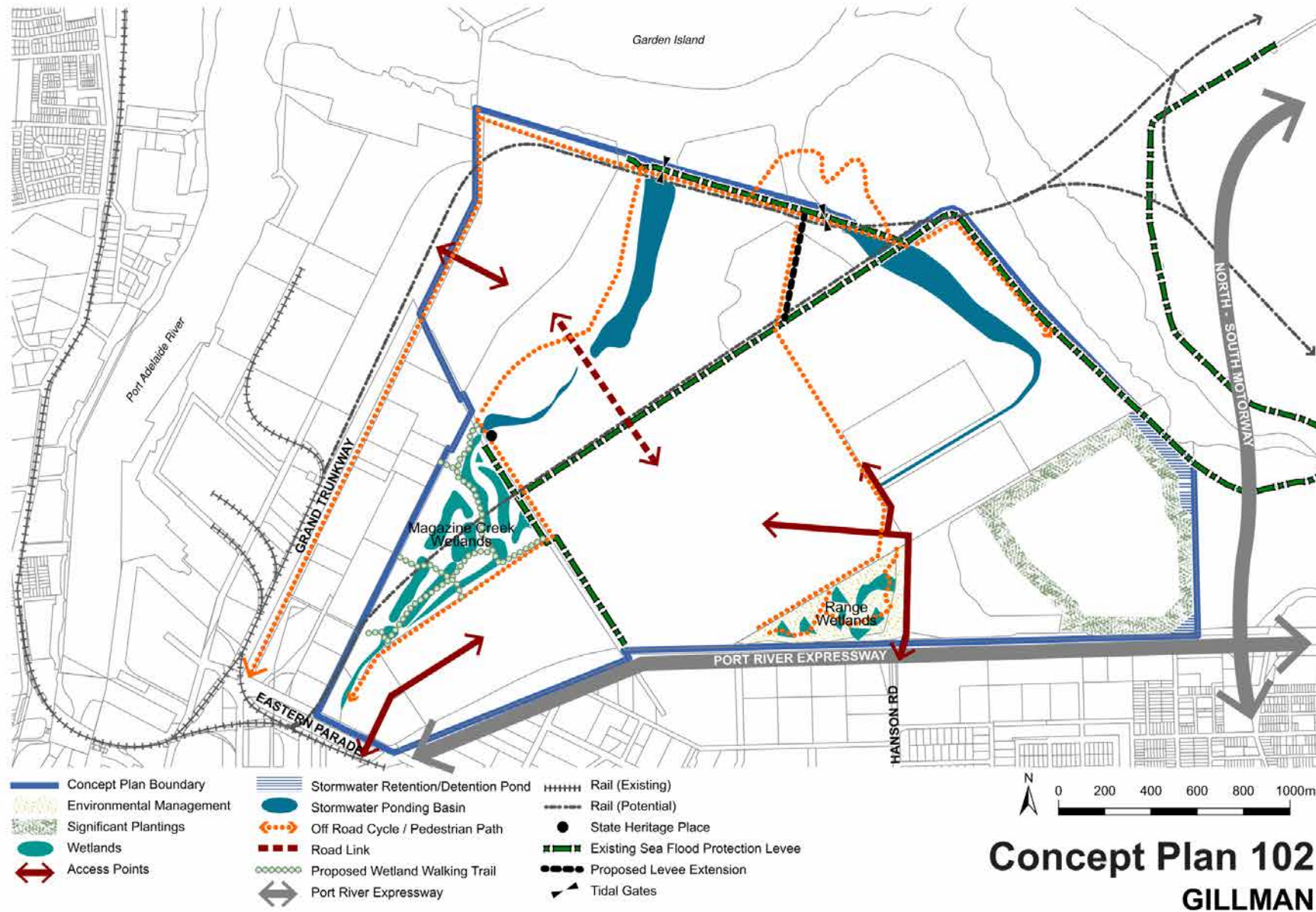
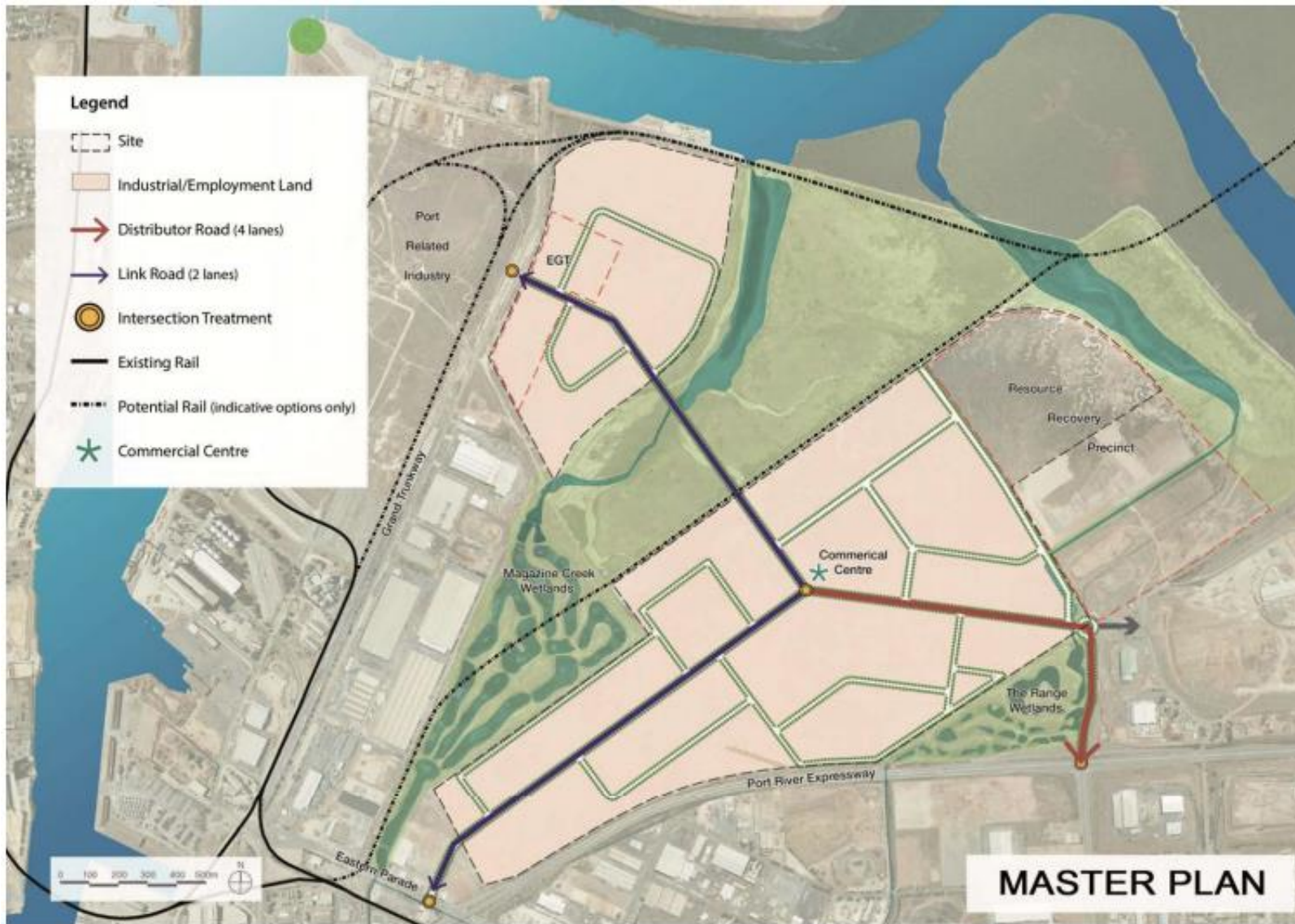


Figure 7: Gillman Master Plan



Strategic Context

The Gillman site is State Government-owned land that has long been identified as being of economic importance to the State due to its size, proximity to international/national freight networks and major industry (including strategic Australian defence facilities), and its ability to accommodate activities that require 24/7 operations. The low-lying nature of the land and its susceptibility to inundation has meant that the land has been unavailable for development without significant filling. There is unlikely to be another opportunity like the T2D Project that will generate the required volume of fill material needed to realise this strategic opportunity.

It is understood that there is some opposition to the filling of the land and a desire that it be retained and rehabilitated for environmental purposes. However, the strategic importance of the broader 'Gillman/Dry Creek Precinct' for employment was initially recognised by the Town Planning Committee in the *Report on the metropolitan area of Adelaide* in 1962. It was later zoned for a Multi-Function Polis in the 1980s and, most recently, noted in the draft GARP as a State Significant Industrial Employment Precinct. The locality was variously referenced as important industrial land in previous strategies, including:

- *Planning Strategy for Metropolitan Adelaide* (2003 and 2006)
- *Metropolitan Adelaide Industrial Land Strategy* (2007)
- *The 30-Year Plan for Greater Adelaide* (2010 and 2017).

Each of these plans has been subject to public consultation and decisions of multiple State Governments over many years.

Formal master planning for the Gillman/Dry Creek Precinct was commissioned by Renewal SA in 2014 and involved detailed investigations and extensive stakeholder engagement. The master planning process led to rezoning of the precinct to Strategic Industry in 2015 and incorporation of the Gillman Concept Plan into the then Port Adelaide Enfield (City) Development Plan. This aligned the zoning of the site with the strategic vision for a range of employment generating activities supported by hazard and environmental management and infrastructure planning.

The rezoning of the land resulted in an additional 395 hectares of zoned employment land being made available, making it the largest single source of vacant employment land in Greater Adelaide. However, as noted in the 2021 Employment Land Supply Report, 'significant site works are required' to make the land 'development ready'.

Since the rezoning, Renewal SA (as the land holder on behalf of the South Australian Government) has progressed filling and release to market of industrial allotments along Grand Trunkway and Inglis Court to the north of the subject land, as well as Lots 403, 201 and 202 to the southeast and northeast of the subject land.

Land supply analysis undertaken by the State Planning Commission (the Commission) found that 'to maintain a 15-year rolling supply of zoned (development ready) employment land, additional land may

need to be brought on in about 10 years². The use of the Gillman site as the SRF for the T2D Project will support transformation of the Gillman/Dry Creek Precinct into development-ready employment lands to meet Adelaide's land supply targets and generate economic uplift for the State.

Stormwater, Groundwater and Flooding

The Gillman locality is adjacent to the Barker Inlet, a tidal inlet of Gulf St Vincent and is a mixture of low-lying and filled land. The undeveloped area comprises mainly tidal flats and salt marshes and is protected by a sea wall and tidal gates. The low-lying areas form part of the stormwater system and are considered four separate basins (see Figure 8) comprising:

- Magazine Wetlands
- Magazine Basin
- Range Wetlands
- Range Basin.

The stormwater system plays a part in protecting the upstream built environment within the Torrens Road Catchment that extends to Croydon by reducing the risk of flooding and protects the downstream marine environment by improving water quality in the outflows to the Port River/Barker Inlet system.

The Magazine Wetlands receive stormwater flows from Magazine Creek, which collects water from part of the Torrens Road Catchment. Water entering the Magazine Wetlands flows into the Magazine Basin that separates the wetland and the Barker Inlet.

Water in the Magazine Basin flows out to sea (North Arm) via a set of tidal gates in the sea wall. When water levels in the basin are greater than the tide level in the North Arm, water flows out of the tidal gates. The flap gates prevent backflow of sea water into the basin when tide levels are higher than the water level in the basin.

Water entering the Range Wetland (also from the Torrens Road Catchment) discharges over a weir into the Range Channel, which directs flows into the Range Basin. Part of the Range Channel is on the subject land before turning northeast between Lots 201 and 202.

The Range Basin is connected to the Magazine Basin by a single pipe with a flap gate underneath the levee constructed along the northwestern boundary of the subject land. Past investigations have suggested that the pipe is blocked and not functioning effectively, with water flows in the Range Basin dissipating via a combination of evaporation and infiltration. This has not been confirmed by Renewal SA and the current condition of the pipe is not known, but this is outside the scope of this application.

Some low-lying areas maintain surface water for much of the year. As evidenced in Figure 3, parts of the subject land and areas to the north within the Range Basin comprise TEC of samphire habitat due to the inundation of freshwater from stormwater flows that pond behind the levee separating the Magazine and Range basins.

² Greater Adelaide Regional Plan Discussion Paper, 2023, p. 151

Figure 8: Gillman Basin System Overview³

Construction of the Magazine and Range Wetlands involved excavation of several ponds in the late 1990s, with specifically designed inlets and outlets to manage stormwater flows. As the wetlands are underlain by shallow hypersaline groundwater, a series of subsurface drains were constructed beneath the wetland ponds and connected to 6m deep sumps where groundwater is intersected and discharges under gravity. Each sump was equipped with a windmill that pumps collected groundwater to a dedicated outlet (discharge) pond. This groundwater control system was designed to lower groundwater levels to minimise the potential for hypersaline groundwater to enter wetland ponds.

Current groundwater investigations by the Department, which include seasonal monitoring, are continuing and will inform the detailed design of the SRF by the Alliance.

The Department reviewed existing flood modelling for the Gillman Master Plan (2014) and the Western Adelaide Region Climate Adaptation Plan (2018), which considered the stormwater inflows with filling of the subject land and other land. Coastal flooding modelled by BlueCoast (2023) for the Department for Environment and Water (DEW) was also reviewed.

The Department has undertaken further modelling to support the implementation of the SRF on Lots 501 and 502, utilising inputs from these prior modelling results. This modelled scenario reflects existing filling plans for land along Grand Trunkway and on Lot 403 (pink areas in Figure 9).

³ Source: *Western Adelaide Region Climate Change Adaptation Plan, Coastal and Inundation Modelling Phase 3 Report*, February 2018, Tonkin Consulting (Figure 3.13, p. 22)

Under MHWS plus climate change conditions (adopting the Austroads Guide to Road Design (AGRD) methodology for assessing sea level rise) it is observed that the Lot 501 area is dry and not performing a flood storage function, but flooding is observed through Lot 502.

A tidal surge event provided by Blue Coast's modelling for DEW was applied to this scenario, representing North Arm experiencing a 1% Annual Exceedance Probability (AEP) magnitude flood tidal curve under existing fill conditions. As seen in Figure 9, Lot 502 floods, particularly in the lower lying areas of the land, consistent with previous flood studies.

Figure 9: 1% AEP depth with MHWS and climate change with 1% AEP tidal tailwater under existing conditions



Existing tidal gates

The existing seawall acts as a barrier to tidal flux whereby spillage from the Magazine basin to the sea, via a gated spillway, is only possible at low tide. The tidal gates function to limit inflow of seawater during rain events.

There are currently three rectangular tidal gates which have a 2.44m width, 1.52m height and 6m length. The tidal gates have an estimated invert of -1.7m AHD. These are towards the end of their service life and in need of replacement within the foreseeable future. However, there are currently no funded plans for their replacement by Renewal SA.

Figure 10: Existing tidal gates



Proposed Development

This section outlines the proposed development, including the elements requiring approval and the staged approach to the Development Approval sought from the Minister.

Description of the proposal

The proposed development is for the filling (prescribed earthworks) of the subject land with spoil generated by the construction of the T2D Project. However, the establishment of facilities and the operations to receive, treat and re-use the surplus spoil has been deemed to reflect a change in land use as the site is currently vacant. Therefore, the proposed development includes:

- Change in the use of land to a SRF, an undefined use within the Code
- Prescribed earthworks in the form of filling of land within the Coastal Areas Overlay
- Construction of infrastructure and facilities to support the operations of the SRF and filling of land.

The SRF was proposed to be undertaken in two parts to reflect the timing of investigations for the subject land and Lot 501 and decisions on the area of land needed to receive, treat and re-use spoil from the T2D Project. Part 1 was subject to a separate Crown Development Application (ID: 24014973) for ostensibly the same purposes as outlined above on Lot 501, which was granted Development Approval by the Minister on 11 December 2024.

This application (Part 2) is therefore restricted to Lot 502, but has a relationship with the approved development on Lot 501 and will utilise some of the infrastructure to be established on that land. In particular, access arrangements for this application will not differ from that approved for Lot 501, of which certain elements are not development and do not require approval.

Elements Requiring Development Approval

The elements of the proposed works requiring development approval are detailed below:

- Temporary change in land use to a SRF
- Prescribed earthworks, including to:
 - fill land to a minimum 3.7m AHD, including temporary preload surcharge to 8.0m AHD
- construct stormwater bunds, drainage channels and detention, retention/storage and/or sedimentation basins

- Temporary spoil management facilities, including:
 - General storage buildings and structures, including storage silos and ablutions
 - Gatehouse buildings with ablutions
 - Truck weighing facilities
 - Truck staging and turnaround areas
- Truck, plant and equipment parking/storage
 - Truck washdown facility
 - Wheel washes
 - Above ground water tanks
 - Water treatment plant (WTP) with capacity to treat more than 12.5ML of wastewater per annum and associated support buildings and structures
 - Truck and plant refuelling facilities, comprising self-bunded fuel storage tanks with a combined volume less than 100m³
 - Lighting
 - Retaining walls within the Coastal Areas Overlay.
- Signs not subject to Clause 1(c) of Schedule 4 of the PDI (General) Regulations – there is no exemption from approval under Clause 2(1)(b)(xvii) of Schedule 13 of the PDI (General) Regulations as the site is subject to coastal processes in the foreseeable future per Clause 2(2) of Schedule 13.
- Construction of drains, pipes and underground cables – there is no exemption under Clause 2(1)(c) of Schedule 13 of the PDI (General) Regulations as the site is subject to coastal processes in the foreseeable future per Clause 2(2) of Schedule 13.

Elements Not Requiring Development Approval

The elements of the proposed works not requiring development approval are detailed below:

- Construction of internal roadways, being excluded from the definition of development in Section 3(1) of the PDI Act (construction of a road, street or thoroughfare by the Crown, including excavation or other preliminary or associated work).
- Construction of internal signage that is on enclosed land and is not readily visible from land outside the subject land under Clause 1(c) of Schedule 4 of the PDI (General) Regulations
- Construction of a chain mesh fence around the perimeter of the site under Clause 2(1)(r)(iv) of Schedule 13 of the PDI (General) Regulations.

Through referral of the application to Council in accordance with Section 131(6) of the PDI Act, the provision of the above information and references in the relevant plans and drawings showing fencing should be considered notification required by Regulation 106(3) of the PDI (General) Regulations.

Note that the following SRF already approved through the Development Approval for Lot 501 will be used to support activities on Lot 502:

- Site office and ablutions building
- General storage buildings and structures, including storage silos
- Gatehouse buildings
- Workshop and maintenance building
- Truck weighing facilities
- Truck staging and turnaround areas
- Spoil receipt, handling and treatment area, including associated walls and retaining walls for storage bins
- Staff car parking
- Truck and plant refuelling facilities, comprising self-bunded fuel storage tanks with a combined volume less than 100m³
- Solid fencing and walls within the Coastal Areas Overlay
- Retaining walls within the Coastal Areas Overlay.

Land Use

Delivery of the T2D Project will generate approximately 3.9 million m³ of spoil (or excess soil), providing significant benefit to realising the strategic objectives for the subject land. Approximately 45% of the spoil (1.8 million m³) will be generated by bulk earthworks using earthmoving equipment from the lowered motorways and tunnel portals (cut and cover sections). The remaining 55% (2.1 million m³) will be generated from construction of the tunnels by TBMs.

The Department's approach to spoil management for the T2D Project is based on sustainability and waste minimisation principles and will deliver reuse of 93% of the spoil generated, excluding only the reuse of contaminated material. The scale of spoil to be managed is unprecedented in South Australia and requires establishment of a dedicated SRF for its handling, storage, treatment and reuse.

A SRF is an undefined land use within the Code and is a specialised operation to receive and treat spoil to enable its reuse as engineered fill to facilitate subsequent development of the subject land for employment land uses (future use of the site and associated infrastructure works is not subject to this application). The change in land use is temporary and does not extend beyond the specific requirements for the beneficial reuse of spoil from the T2D Project.

Operational Requirements

Upon arrival at the SRF, the spoil from the T2D Project needs to be managed in two different ways:

- **Spoil that requires no or little treatment**

This is the surface bulk earthworks excavation for sections of lowered and surface motorway, cut and cover tunnel sections and TBM launch boxes. Soil is excavated in situ directly from the ground by an excavator and placed into a truck for transport to the SRF. This spoil requires no or little treatment on-site before being able to be used as engineered fill. Generation of bulk spoil will commence in mid-2025.

- **Spoil that requires treatment**

Excavation by Tunnel Boring Machines (TBM) requires the addition of water and / or other additives to enable the spoil to be extracted from the cutting face, through the TBM, the constructed tunnel extent then up to the surface and into trucks. Due to this process the spoil from the TBM may be over-wet and exceed the optimum moisture content for use as fill. This material requires treatment to reduce its water content before being able to be used as engineered fill. Generation of spoil from the TBMs will commence in early to mid-2026.

Following contract award, and through further investigations with the Alliance, it is anticipated that Lot 502 will receive more of the spoil requiring treatment; however, the general operations of the site will be the same as those outlined for the previous application for Lot 501. When a truck arrives with spoil at the SRF the following will occur:

1. The truck and dog trailer (see Figure 11) will enter the site and proceed to the gatehouse to weigh in (see Figure 12) and record the load arriving at the SRF in accordance with the T2D Project's waste tracking system. The spoil will also be visually inspected before proceeding.
2. If the spoil being delivered meets the optimum moisture content (i.e. surface bulk earthwork spoil) and can be used as engineered fill straight away, the spoil will be offloaded onto the spoil handling area (see Figure 13) for immediate transfer to a spoil placement area.
3. If the spoil being delivered exceeds the optimum moisture content (i.e. the TBM spoil) it will be placed in drying beds 300 millimetres (mm) thick, where lime may be added and through a continuous turning process, the material will be dried. The material will likely then be mixed and compacted in place or moved to another area for placement.

Figure 11: Example of an 'on road' truck and dog trailer combination



Figure 12: Example of a gatehouse and weigh in facility



Figure 13: Example of a spoil receival and handling area



4. The truck will then proceed to the vehicle washdown and truck tub clean out facility for cleaning before departing the SRF for their next load of spoil from the T2D construction site. The site drainage retains the washdown water for retention in lined sediment basins and treated before on-site reuse or disposal.
5. Earthmoving equipment, such as front end loaders (see Figure 14), articulated dump trucks or 'moxys' (see Figure 15), compactors (see Figure 16) and bulldozers will then be used to transfer spoil along internal haul roads from the spoil handling area to the spoil placement area, where it will be spread and compacted.
6. The Alliance's fill treatment, placement, and compaction methodology will be applied in accordance with the SMP, which includes a SRF Filling Strategy. The SRF Filling Strategy will consider the technical requirements of the intended end land use being a commercial/industrial development.

Operations for the SRF will be undertaken in accordance with the SMP and CEMP. These documents will be reviewed and endorsed by the ASCA under the Auditor Protocol outlined in the WDF Standard.

As part of the SRF Filling Strategy, an inspection and testing plan will be implemented for the SRF to comply with "Level 1 Inspection and Testing" requirements of Australian Standard (AS) 3798-2007 *Guidelines for earthworks for commercial and residential developments* for the duration of the SRF's operation.

Figure 14: Example of an 'off-road' front end loader



Figure 15: Example of an 'off-road' articulated dump truck or 'moxy'



Figure 16: Example of an 'off-road' compactor used in the spoil placement area



Proposed hours of operation

The proposed SRF will operate 24 hours per day, 7 days per week for the duration of the construction of the T2D Project, which is scheduled to be complete by the end of 2031.

Filling of Land

Filling of land within the Coastal Areas Overlay is development in the form of prescribed earthworks pursuant to Regulation 3B and Clauses 3 and 5 of Schedule 3 of the PDI (General) Regulations. However, filling of the subject land, together with adjacent land, is an essential precondition to realising the long held strategic ambition for the development of an employment precinct at Gillman and Dry Creek. An express requirement for development within the Gillman Subzone is finished site levels of 3.7m AHD to protect from coastal inundation.

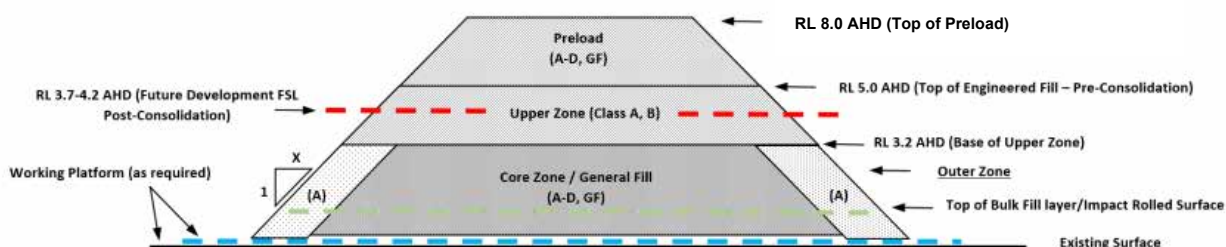
Following the conclusion of filling of land and cessation of the SRF, the finished ground design level (post-settlement) for the areas filled will be between 3.7 and 4.2m AHD, with a final fill height of 2.7-3.7m above natural ground level and a typical embankment with 1-in-4 slope. Areas where operational facilities are located will have a lower finished ground level once removed and may require further filling by Renewal SA (subject to separate approvals) to facilitate future development of land in line with the Gillman Master Plan.

In the operational phase of the SRF, and to achieve the design level, there will be a pre-load level above the engineered fill layers to 8.0m AHD that will assist in compaction and consolidation of the engineered

fill layers. This will require approximately 7.0-7.5m of fill above the natural ground level for pre-load for periods typically of 6-12 months.

Fill will be generally placed in accordance with **Error! Reference source not found.**, with an engineered embankment design employed to ensure that it is inherently stable under environmental and operational conditions. The fill mounds will be surrounded by a catch drain and perimeter bund to ensure water run-off is captured on-site and directed to detention, retention and/or sedimentation basins – see **Stormwater Infrastructure and Wastewater Treatment**.

Figure 17: Typical fill formation - conceptual



It is proposed that a drainage layer is placed below the spoil material to mitigate increases in groundwater levels within the spoil embankments. The design of the drainage layer will be 1m thick above an initial placement of spoil of 1m depth, which will ensure that groundwater flux within the underlying soil remains above a level that minimises oxidation of acid sulfate soils. The effect of settlement from the pre-loading will be considered in the design of the drainage layer.

Beneficial Reuse of Waste Derived Fill

The beneficial use of waste derived materials recovered for re-use as fill must be undertaken in accordance with the WDF Standard. It identifies the testing, submission and approval requirements for waste derived fill, details the process of the Auditor Protocol to be followed, and defines the role of the ASCA.

In accordance with the Auditor Protocol, and under the guidance of the EPA, the Department has:

- Engaged an ASCA and independent environmental consultant.
- Prepared a Preliminary SMP which defines the key technical and regulatory requirements for designing, constructing and operating the SRF. The SMP was developed in accordance with relevant EPA guidelines, including:
 - Bunding and Spill Management (2016)
 - Construction Environmental Management Plan Guideline (2021)
 - WDF Standard (2013)
 - Guidelines for Resource Recovery and Waste Transfer Depots (2001)
 - Guideline for Stockpile Management (2020)

- Wastewater Lagoon Construction (2019)
- Undertaken site investigations, including:
 - soil, groundwater and surface water sampling for the purposes of establishing baseline site conditions
 - planning of the SRF to concept plan level
- environmental and heritage investigations in accordance with the Department's Environment and Heritage Technical Manual (EHTM).

The Department has actively engaged the EPA throughout the planning and implementation of the approach to spoil management for the T2D Project. It is noted that the Department, through the Alliance, must also consult with the EPA on a range of matters prior to submission of further plans and details to the Minister as part of the conditional approval of the previous application for Lot 501.

The Final SMP, to be prepared by the Alliance, will require endorsement by the ASCA and subsequent acceptance by the EPA prior to the use of waste derived fill from the T2D Project. However, this application also seeks a staged approval approach adopted for the previous application, which stages submission requirements for filling based on the source of fill and requirements under the WDF Standard.

Notwithstanding the above, the Department considers that approvals required under the WDF Standard should be considered independent of this application for a change in the use of use, construction of buildings and structures and filling of land.

Built Form

The proposed SRF will include a range of temporary facilities to enable the safe operations of the site for the duration of the filling activities. This is expected to include site office buildings with staff amenities, workshops and sheds for the storage of vehicles and goods, washdown facilities for trucks and trailers, weighbridges, aboveground water tanks and fuel storage facilities in the form of self-bunded fuel tanks.

The exact layout and design of these facilities will be further determined by the Alliance post lodgement, but permanent (albeit retained on-site temporarily) and relocatable buildings are anticipated in a form consistent with the character of the locality. Therefore, the attached plans and drawings (see Appendix B) are preliminary only for the purposes of the application's assessment and final plans are expected to be submitted in mid-2025 once these have been developed further.

As per the Lot 501 application, the Department is seeking that the provision of final plans and details (including materials and finishes) be conditioned as part of the Development Approval to allow for greater flexibility for the Alliance. Should significant departures arise in the detailed design phase, a variation development application may need to be lodged by the Alliance.

Buildings

The SRF will require buildings for satellite staff amenities and gatehouses, which are likely to be in the form of transportable buildings. Examples of typical buildings are provided below, although gatehouse buildings are likely to be smaller in scale.

Figure 18: Example of transportable site office and amenities building⁴



Fuel Storage Tanks

The proposed development will include provision of fuel storage and refuelling facilities for off-road plant and equipment. This will be in the form of self-bunded fuel tanks with a total volume less than 100m³ or 100,000L (see Figure 19). This storage amount is below the threshold for referral to the EPA outlined in Part 9.1 of the Code.

⁴ Source: <https://www.blueskymodularbuildings.com.au/what-we-do/portable-site-offices/>

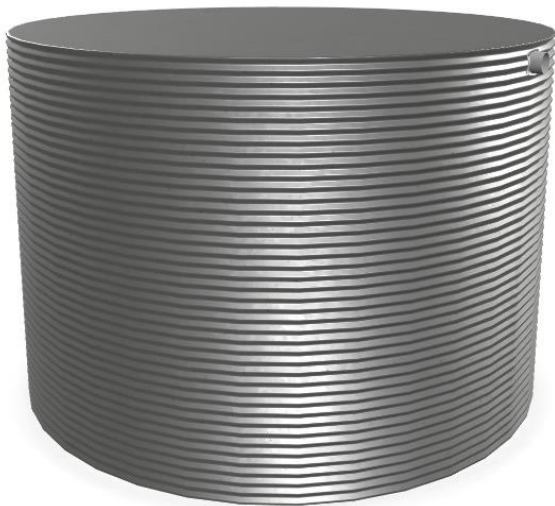
Figure 19: Example of a self-bunded aboveground fuel tank⁵



Water Tanks

The SRF may require on-site water storage in the form of aboveground polycarbonate or steel water tanks (see Figure 20), typically with up to 20,000L in capacity.

Figure 20: Example of aboveground water tank⁶



⁵ Source: <https://www.joyquip.com.au/larger-host-tank-packages>

⁶ Source: <https://kingspanwatertanks.com.au/product/20000-litre-round-tank/>

Water Treatment Plant

The SRF will require an on-site package WTP to treat water run-off for reuse on site or for disposal (see Figure 21). The WTP will have the capacity to treat more than 12.5ML per annum, above the threshold for referral to the EPA. It is anticipated that the volume of treatment will exceed 50ML per annum, requiring the Alliance to lodge an application for a wastewater treatment licence with the EPA in accordance with the EP Act.

Figure 21: Example of package WTP⁷



Other Structures and Fencing

There will also be structures constructed on-site, including weighbridges, facilities for truck washing (see Figure 22), storage bins for spoil comprising temporary walls, and internal fencing and signs.

Figure 22: Example of truck washdown facility⁸



⁷ Source: <https://www.alfalaval.com/products/process-solutions/wastewater-treatment-plants/package-treatment-plants/>

⁸ Source: <https://www.speedywash.com.au/projects>

It is noted that the SRF site will be fenced with typical 1.8m high chain mesh security fencing around the southwestern, southeastern and northeastern perimeter. The northwestern perimeter of the SRF impact area adjacent to the area of TEC will feature a 1m high rural post and wire fence. Construction of a post and wire fence, including a chain mesh fence, is exempt from approval under Clause 2(1)(r)(iv) of Schedule 13 of the PDI (General) Regulations.

Stormwater Infrastructure and Wastewater Treatment

The proposed development will accommodate stormwater drainage infrastructure to capture surface runoff from the fill formation and on-site facilities during rain events, as well as water released by the TBM spoil during storage in stockpile bins or during the treatment process on the drying pans. It will also provide for overland flow paths in the event of overtopping of the Range Wetlands in storm events.

Drainage will be managed using catch drains around the low side of the site compounds, storage bins and around the full perimeter of the fill formation's batters. The fill formations, compounds, spoil drying pans and spoil storage bins will be graded to induce runoff to the catch drains with sediment controls implemented downstream of all stockpiles.

Water infiltrating into the surface of the spoil would be directed towards the perimeter catch drains with some ponding below the drainage layer. About 10% of that water would be transported horizontally away from the spoil embankment as part of the existing groundwater flow system below the subject land. Approximately 90% of the infiltrated water is predicted to be intercepted in the perimeter drains.

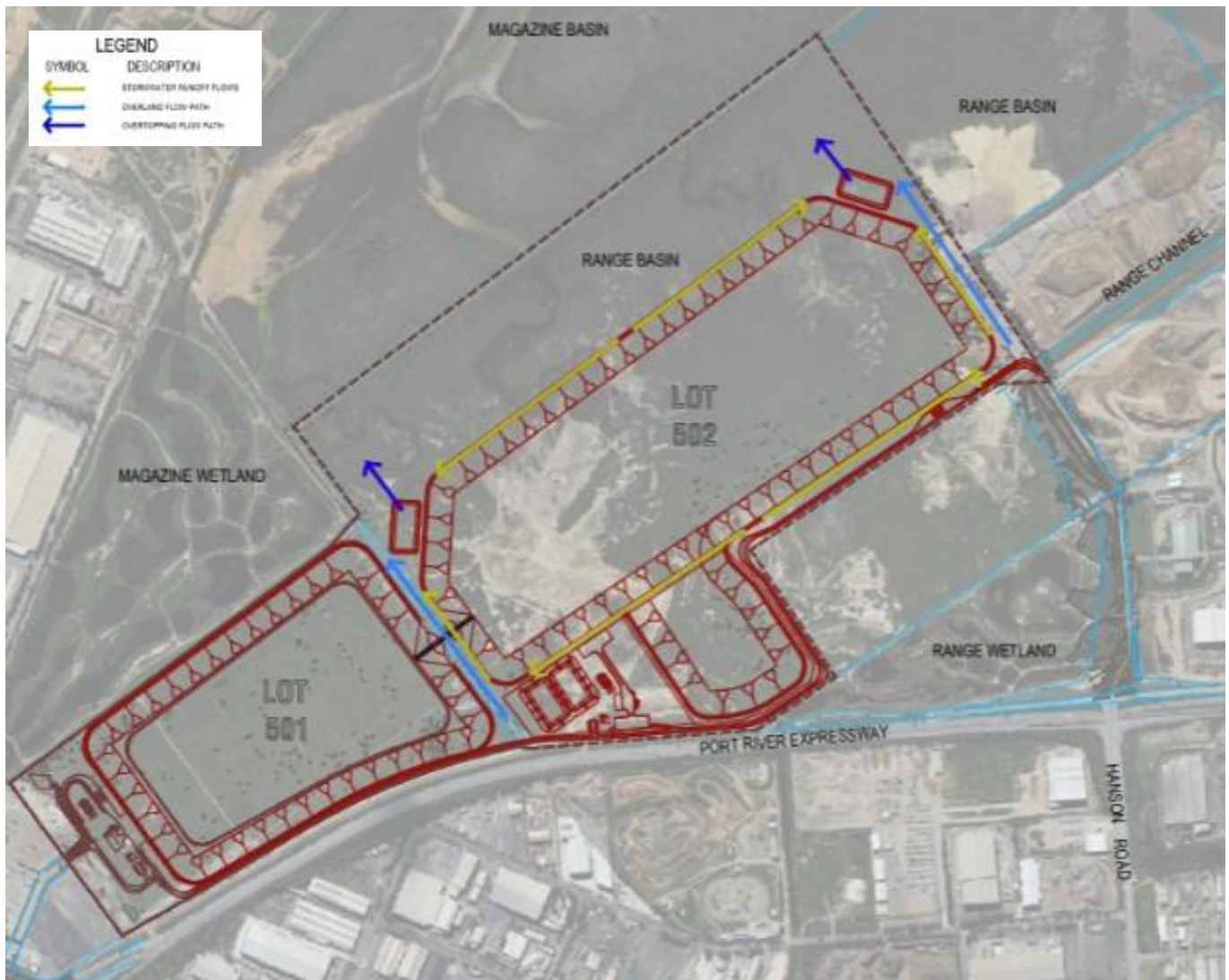
This runoff will then be directed into a close loop system of local storage, appropriate treatment on-site in the WTP and reused for dust control, wheel washes, wash out bays and material conditioning. This grey water will be re-captured during truck/plant washing and fed back into the system. The treated water will be tested to confirm it meets specifications for reuse.

The provision of sump pumps within storage bins will be in place to pump any discharged water to the WTP if a gravity system is not feasible. If required, filter packages of fine gravel will be placed around and between the soil and drum/pump. This gravel will act as a filter, preventing passage of materials which may block the pump, hoses and or pipelines. Pipes will be connected to these sump pumps with sedimentation bins or basins.

Fine soil particles suspended in the water will be allowed to settle. Water will be further collected in larger sized water storage areas at the WTP, which will have additional fine gravel/sand filters, alum flocculation and automatic pH-balance devices to treat the water.

While the intention is for a closed loop system, where as much as possible is reused, an outlet from the system will be required to discharge any surplus treated water. The discharge is to the watercourses on the subject land that have the potential to flow into the Magazine Creek basin and Barker Inlet or infiltrate groundwater. This discharge to the environment will potentially exceed 500kL per day in winter, but final volumes will be determined through detailed design and preparation of a Stormwater Management Plan (SWMP). As the water will be treated with alum for flocculation (potentially leaving trace chemicals in discharged water) and exceed 50kL per day, a referral to the EPA for discharge to marine or inland waters is required.

Figure 23: Gillman SRF drainage strategy



Importantly, the discharge point is downstream of and not connected to the Magazine Creek wetlands managed by Council and will not impact upon their function or performance. This is the same location where surface water runoff from the existing site already collects, and the volumes involved are weather dependent similar to the current conditions.

The approach to stormwater management will be further refined by the Alliance through detailed design and development of a SWMP and it is considered appropriate that conditions of approval address this.

Drainage following decommissioning

Final surface stormwater, following the decommissioning of the SRF and removal of on-site facilities, will be managed in accordance with the SMP requirements and directed to existing stormwater discharge points. This will be accomplished using the remaining passive drainage provisions (catch drains and storage basins) from the operational stage in conjunction with connections to existing stormwater discharge points.

There may be a need to update the SWMP at that point, but additional stormwater infrastructure requirements for future industrial and/or commercial development of the land will be subject to separate applications by Renewal SA.

Traffic and Parking

Traffic, Access and Parking for the Gillman SRF as a whole was assessed for the Lot 501 application, which has been approved. For this application there is no change to the access arrangement to the external road network from that approved for the Part 1 application, nor is there a change to the upper limit of traffic volumes, either daily average or peak. However, it should be noted that the Alliance anticipates spoil truck movements to be lower than previously applied for.

There is a change to the internal alignment of the haul road on the subject land, which is not development and does not impact the approval of Lot 501. This change does not impact upon the relevant referral triggers in the Code related to traffic.

For completeness, the information on traffic and parking from the prior application is repeated below and the previously submitted Driveway Assessment Report is included as Appendix F.

Access

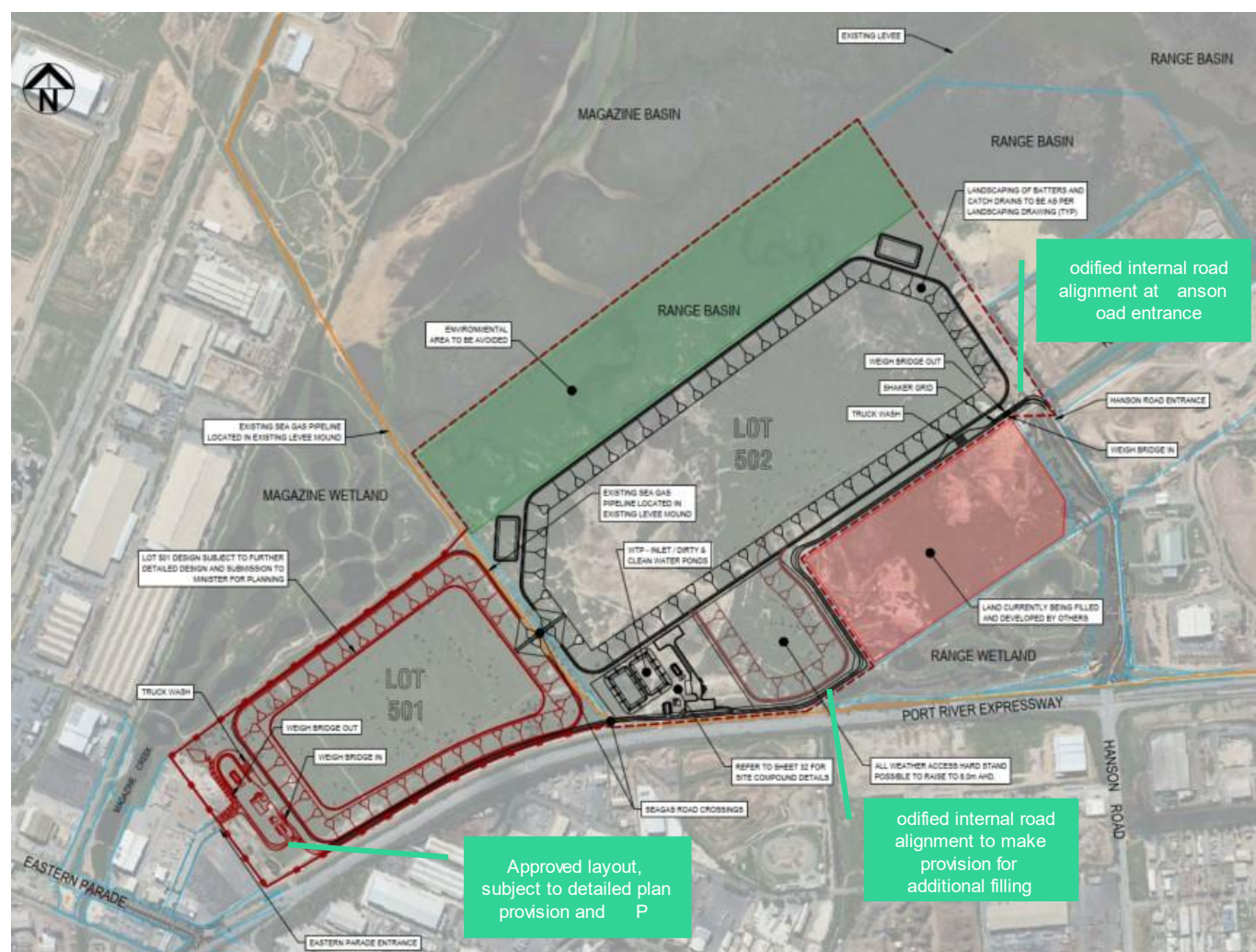
Access to the Gillman SRF, comprising the subject land and adjacent Lot 501, will be via both Hanson Road and Eastern Parade to accommodate the anticipated traffic volumes generated by the proposed development (see Figure 24). Under circumstances where either access point is impeded or unavailable, the SRF is to be capable of operating by either single access (both ingress and egress).

The access arrangements and approved upgrades are consistent with the Gillman Concept Plan and do not impede future access and active travel movements. However, the SRF is not delivering a formal road along the 'handle' of Lot 501 as envisaged in the Concept Plan, nor formal roads through Lot 502 (neither of which is development and subject to approval by this application); this will be the responsibility of Renewal SA or other proponents in the future development of the land once the filling of the land has ceased and the SRF discontinued.

Hanson Road north of the Port River Expressway is currently a single lane bidirectional road with no visible drainage or lighting. It accommodates an estimated 3,100 vehicles per day and is gazetted for 26m B-Double trucks. Similar size trucks to those anticipated to be accessing the SRF use this section of Hanson Road to access the waste and recycling centres on the eastern side of the road.

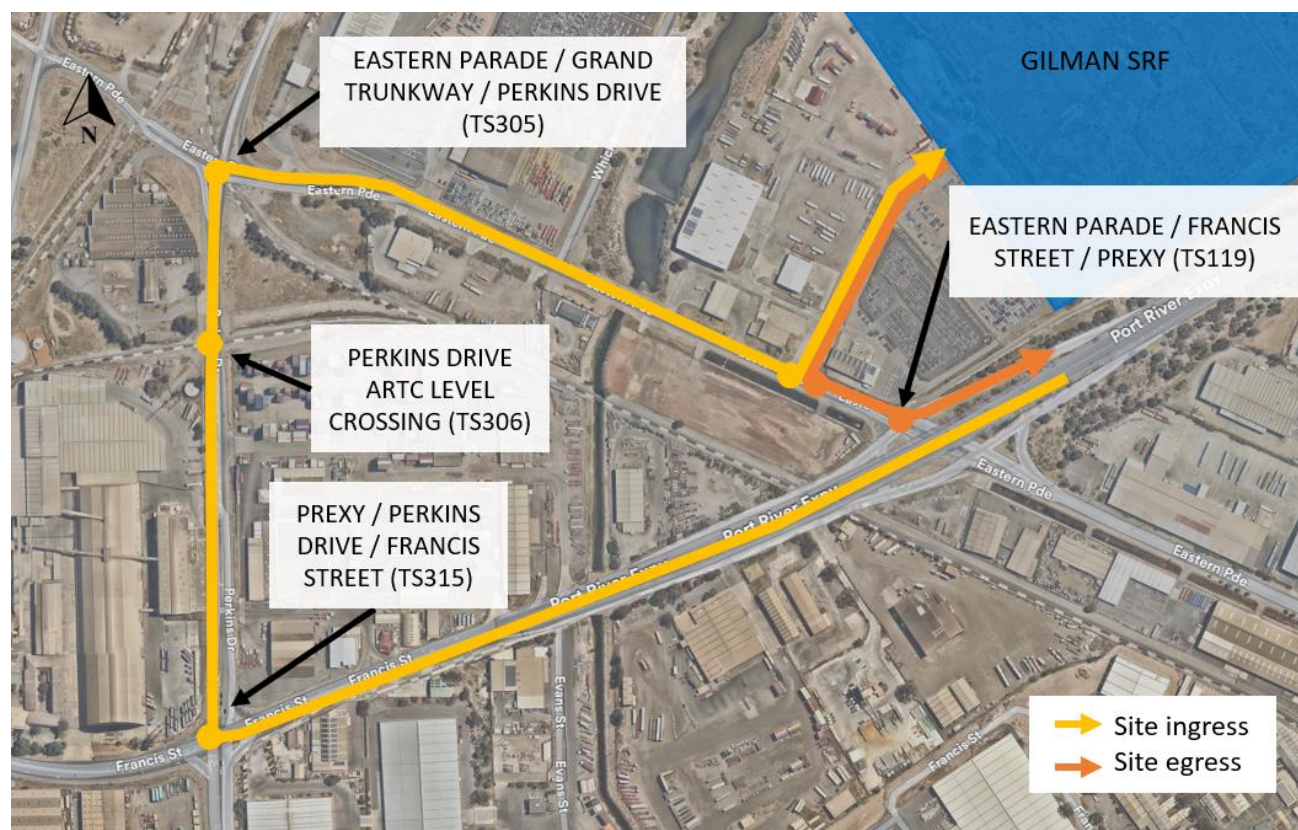
The Department proposes to upgrade Hanson Road north of the Port River Expressway as part of early works to support the SRF (not development and outside the scope of this application), while also retaining existing access arrangements for neighbouring properties and ensuring safe interfaces with the Port River Bikeway.

Figure 24: Proposed access to Lot 502



The Eastern Parade access for spoil haulage vehicles is to be via left in / left out movements only due to proximity to the Eastern Parade / Port River Expressway intersection, requiring a circuitous route from the Port River Expressway via Perkins Drive as shown in Figure 25. This will be governed by a traffic management approach with spoil truck drivers instructed on access arrangements, noting that a Traffic Management Plan (TMP) is a condition of approval for the previous application. General access to the SRF by staff and delivery vehicles (e.g. fuel deliveries), as well as access to the existing businesses adjacent to the SRF, will be provided via an unrestricted movement from Eastern Parade. The existing egress only point is being modified to suit as part of early works for the SRF.

Figure 25: Spoil haulage route from Port River Expressway to Eastern Parade driveway



Traffic Volumes

SRF traffic will consist of spoil trucks, staff vehicles, and deliveries (fuel and other necessary goods).

The anticipated maximum quantity of spoil trucks is estimated to occur in early 2028; at this point in the T2D construction program an estimated maximum excavation will be occurring with both surface excavation and tunnelling by three TBMs. 33 trucks per hour is estimated based on a 12-hour surface excavation shift per day (23 per hour if using a 24-hour excavation schedule).

At 33 vehicles per hour, a truck arrives at the SRF approximately every two minutes, with exit following unloading. At 23 vehicles per hour, a truck will be arriving approximately every 2-3 minutes.

Fuel and miscellaneous deliveries may be limited at peak hour. Staff trips are estimated at 30 per day for Lots 501 and 502 combined. For the purposes of the previous application, a conservative estimate of 100% of the staff car parking requirement being needed on Lot 501 was applied, with 100% arriving in single vehicles through the Eastern Parade entrance. In reality, the staff car parking demand will be split between Lots 501 and 502 and access split between the two entrances.

The previously anticipated maximum estimated total daily volumes for the Gillman SRF at the peak of construction, based on estimates of peak concurrent surface excavations and TBM spoil movements, is outlined in Table 2. Given the ability for either of the Eastern Parade or Hanson Road access to accommodate traffic movements, an assessment was done on the assumption that 100% of movements will be via Eastern Parade and considered movements from existing businesses adjacent to lot 501 and utilising the access point as a worst-case scenario.

However, the Alliance now anticipates total traffic volumes to be lower and access will be split between both the Eastern Parade and Hanson Road entrances. These details will be outlined in the TMP.

Table 2: Anticipated SRF Generated Traffic

Vehicle Purpose	Vehicle Type	Generated Trips Per Day (one-way)	Estimated Peak Hour Trips
Spoil Haulage	23m Rigid Truck and Dog	544 (Maximum) 280 (Average)	33 (Maximum) 17 (Average)
Staff Trips - On-site staff over two shifts	Light Vehicles	30	12
Fuel Delivery – fuel for on-site vehicles and machinery	19m Semi-Trailer	1	-
Miscellaneous deliveries	8.8m Heavy Vehicles	3	-

An estimate of 578 one-way trips will be generated by the T2D Project based on peak concurrent surface excavations and tunnelling by TBM, and daily deliveries to the SRF and staff arrivals (see Table 3). An average of 280 spoil trucks per day has been calculated across the construction program.

A total peak hour demand volume using the Eastern Parade Access can be found in Table 4.

Table 3: Anticipated Total Daily Volumes

Vehicle Type	Vehicle Purpose	Project Generated Trips (one-way)	Existing Business Trips (One Way)	Total Trips (one way)
Heavy Vehicles	Spoil Haulage, fuel, deliveries/ large and heavy large vehicle, etc	548 (Maximum) 280 (Average)	218 (Average)	766 (Maximum) 498 (Average)
Light Vehicles	Staff Vehicles	30	70 (Average)	100

Table 4: Anticipated Total Peak Hourly Volumes

Vehicle Type	Vehicle Purpose	Project Generated Trips (one-way)	Existing Business Trips (One Way)	Total Trips (one way)
Heavy Vehicles	Spoil Haulage, fuel, deliveries/ large and heavy large vehicle, etc	33 (Maximum) 17 (Average)	26	59 (Maximum) 43 (Average)
Light Vehicles	Staff Vehicles	12	9	21

For egress of the site at Eastern Parade, queues for spoil haulage vehicles turning left-out of the Lot 501 Access Driveway are to be contained within the SRF site boundary. The low Annual Average Daily Traffic (AADT) of this portion of Eastern Parade suggests that delays incurred waiting for a safe gap will not be significant. Given the low volumes of traffic on Hanson Road and the lack of development within Gillman at the point of intersection of Lot 502 with the road, there is not expected to be any impact upon traffic from trucks entering or exiting the site from that location.

The impact of project generated traffic at signalised intersections on the surrounding road network was undertaken by the Department in previous assessments. SIDRA Intersection traffic modelling for AM and PM peak hours indicated that for the SRF operational scenario:

- At the intersection of Hanson Road / Port River Expressway: Additional vehicles associated with spoil haulage (turning right onto Hanson Road north to ingress and left from Hanson Road north to egress) do not result in any queue overflow on the intersection and do not result in any significant impact to the intersection's performance.
- At the intersection of Eastern Parade / Port River Expressway: Additional vehicles associated with spoil haulage (turning left onto Port River Expressway to egress) do not result in any queue overflow on the intersection and do not result in any significant impact to the intersection's performance.
- For ingress via the Lot 501 Access Driveway, spoil haulage vehicles must turn right at the intersections of Port River Expressway / Perkins Drive / Francis Street and Eastern Parade / Grand Trunkway / Perkins Drive to enter the Lot 501 Access Driveway by turning left in. Modelling indicated that existing right turn short lane storage at both of these intersections was insufficient to contain project generated traffic at the peak spoil haulage rate during the intersection peak hours. The Department will consider whether intersection upgrades are required given the additional SRF access via Hanson Road and operational traffic requirements to be outlined in the TMP.

Any permits and/or adjustments to the Department's AVnet to accommodate the spoil haulage vehicles will be managed by the Department.

Public and Active Transport

There is no anticipated increase in pedestrian volumes or impact on active and public transport routes associated with the proposed development. No additional pedestrian or cyclist infrastructure has been proposed.

Car and Truck Parking

Sufficient area for truck and staff car parking will be provided on-site. Truck parking areas will be available adjacent to the spoil placement area, while staff car parking will be available near staff amenities buildings.

Landscaping

The SRF will be an operational site with movement of spoil over a number of years, including moving preload from different areas of the land. As such, the site will generally not be landscaped. However, there are a number of areas where landscaping can be introduced to assist with erosion and dust suppression. This includes the perimeter bunds and catch drains and the slopes of the fill mound.

This is conceptually represented in Figure 26 as it relates to the interface of the proposed development site with the area of the subject land to be avoided to mitigate any potential impacts on the TEC and EPBC Act protected migratory birds. Additional landscaping will be implemented along the southern boundary of the subject land adjacent to the Port River Bikeway (see Figure 27), consistent with the condition of approval for the Lot 501 application.

Figure 26: Conceptual landscaping section adjacent TEC

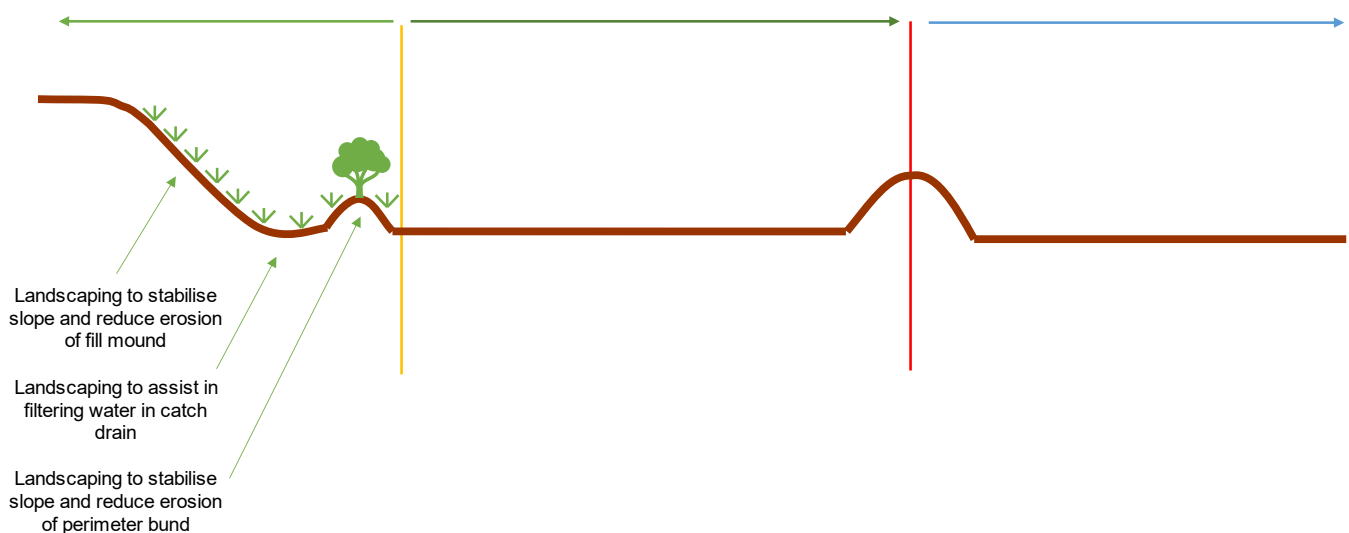
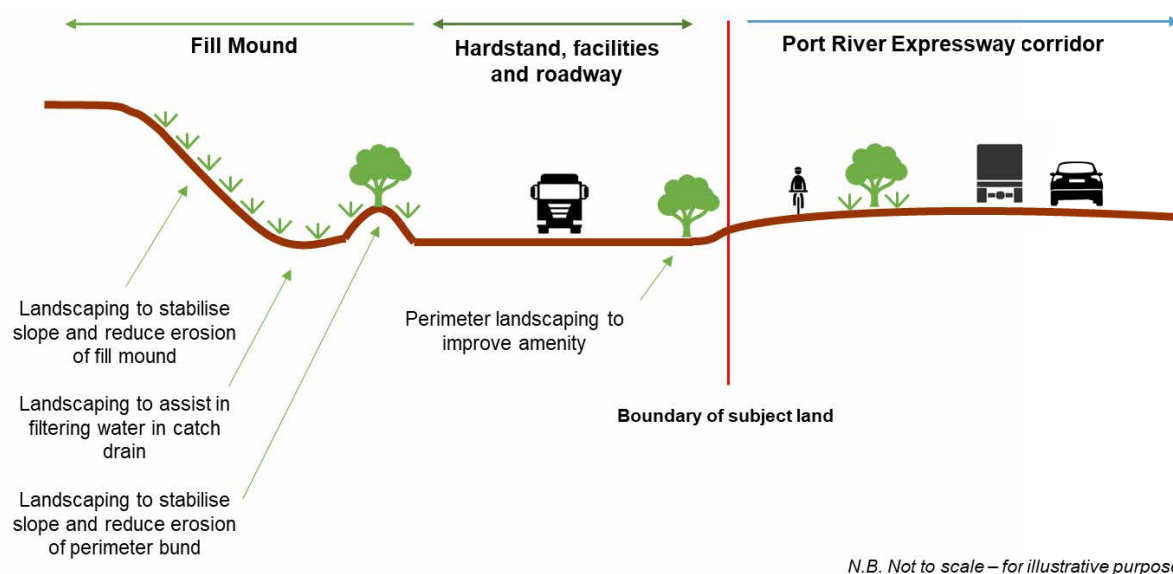


Figure 27: Conceptual landscaping section adjacent Port River Bikeway



It is proposed that additional landscaping details, including planting plans and schedules will be developed further through the detailed design phase. It is noted that a condition of approval on the previous application granted by the Minister required a detailed landscaping plan, and a similar approach is proposed to be adopted for this application.

Lighting and Services

Lighting

To enable 24-hour access and operation of the SRF both permanent (non-relocatable) and temporary (relocatable) lighting will be required for the duration of spoil delivery to the site. The anticipated lighting requirements are summarised in Table 5.

Table 5: Anticipated lighting requirements for the SRF

Location	Lighting requirement
Upgrades to Hanson Road and Eastern Parade (access roads) Permanent (non-relocatable)	<ul style="list-style-type: none"> Upgraded intersection and approach road - Eastern Parade Upgraded approach road - Hanson Road North These works are not development, being works associated with a road on land adjacent to the road.
Within Lot 502 Permanent (non-relocatable)	<ul style="list-style-type: none"> Gatehouse and vehicle weighing facilities Spoil delivery facilities including truck staging and truck turnaround areas Internal sealed access roads (for road-based trucks) Spoil handling and treatment area Vehicle, plant and equipment parking and storage Vehicle washdown, truck tub clean-out facility Site compound and amenities for operational staff and workforce (inc. crib facilities, office buildings, car parking, general storage and maintenance areas) LED or rotating light warning beacons

Location	Lighting requirement
Within Lot 502	<ul style="list-style-type: none"> Internal unsealed access roads (for off-road based trucks and machinery) Spoil placement area.
Temporary (relocatable)	

The proposed upgrades at the access points from Eastern Parade and Hanson Road will require the installation of permanent (non-relocatable) lighting, designed and operated in accordance with AS/NZS 1158 Standard Series: Lighting for roads and public spaces.

Permanent lighting for the operation of the infrastructure in the SRF will also be designed and operated in accordance with AS/NZS 1158 Standard Series: Lighting for roads and public spaces during detailed design. The distribution of light and light poles will be restricted only to the areas where absolutely required and lighting can be selected and installed to only have downward light distribution to minimise upward light ratio (direct spill light into the sky). In certain locations capability for smart lighting controls to dim lights to a lower output level during times of inactivity to improve energy efficiency and reduce unnecessary light output may be considered for the site.

Lighting for site facilities, and some aspects of external lighting in immediate proximity to the site facilities will be designed and operated in accordance with AS/NZS 1680 Interior and workplace lighting.

Temporary (relocatable) external lighting is anticipated, specifically for the changing internal unsealed access roads and spoil placement area. Mobile light towers are proposed as the lighting solution for these areas as they provide the flexibility required to accommodate the changing lighting conditions and locations over time.

Services

The proposed development will include internal utility service connections including electrical, communications and potable water from the site boundary to all required infrastructure and buildings. All human-derived waste (effluent) will be collected in holding tanks and disposed of by a licenced contractor.

Staging of Development

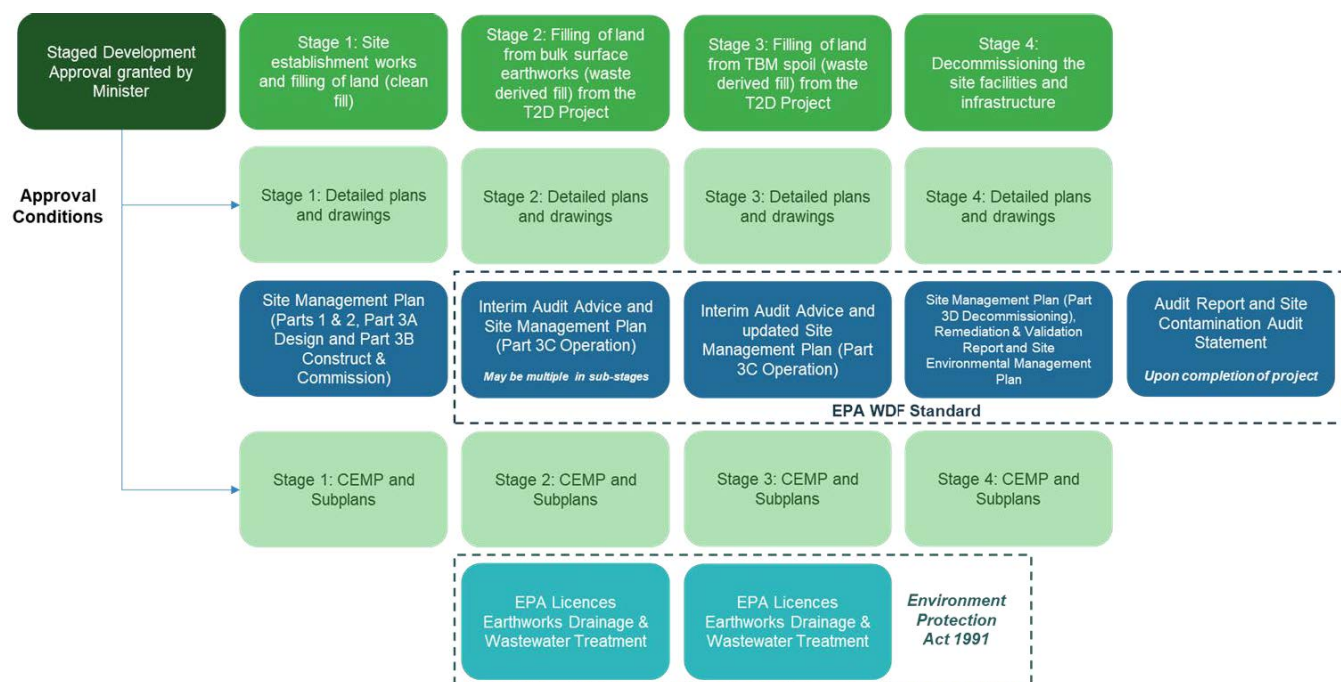
It is proposed that the SRF development will be staged in the same manner as the previous application, with four stages outlined below and illustrated in Figure 28, with the process for submission of plans in accordance with conditions should an approval for this application be granted by the Minister. At each stage it is proposed to provide additional plans and details, prepare a SMP and CEMP (or update) with associated relevant subplans.

This staging approach is consistent with section 131(20) of the PDI Act, which provides that the Minister may grant an approval to whole or part of a proposed development and impose such conditions as they see fit.

An IAA under the WDF Standard is only required in relation to stages 2, 3 and 4 where filling of land from waste spoil from the T2D Project is proposed, and for the decommissioning process. At the conclusion of the project the WDF Standard requires an Audit Report and Site Contamination Audit Statement.

This staged approach has been endorsed by the ASCA and was accepted by the EPA for the previous development application.

Figure 28: Approach to development staging and relationship to the WDF Standard



Stage 1 – Site Establishment

The first stage requires the change of use of the land, site establishment works and filling of land with clean fill for the purposes of site facilities and infrastructure construction. This will include:

- Clearing and grubbing of the required areas
- Utility connections
- Construction of the haul roads (not development) and compound pads
- Construction of stockpiling bins
- Construction of drying pans
- Establishment of the stormwater infrastructure and WTP
- Installation of security fencing, guard houses, signage, CCTV, lighting, wheel washes, weighbridges and washdown bays
- Establishment of the main compound offices and cribs, maintenance buildings, fuel storage tanks and other structures.

The IAA under the WDF Standard is not relevant to this stage, although the documents prepared at this stage to manage environmental risks will be reviewed by the ASCA as part of the WDF Auditor Protocol.

To enable this first stage to occur, the Alliance will be required to prepare detailed plans, including a SWMP, TMP and E P and relevant subplans. In line with the Department's Spoil Management Framework, the Alliance will also prepare the initial SMP (Parts 1 & 2, 3A Design and 3B Construct and Commission).

Stage 2 – Bulk earthworks spoil filling

Once the SRF site is established, the second stage involves the filling of land from bulk surface earthworks from the T2D project. This includes spoil from the excavation of the tunnel portals, TBM launch boxes and the lowered motorway and may require amended plans for the filling and details on engineering controls to protect the environment, filling operations and water treatment.

In accordance with the WDF Standard, there will be an associated IAA and updated SMP (Part 3C, Operation). Filling using waste fill, and construction of specific engineering controls related to that fill, cannot occur until this has been endorsed by the ASCA and accepted by the EPA. There may be more than one IAA and iterations to the SMP during this stage to reflect bulk earthworks from different parts of the T2D Project area.

The Department would anticipate conditions of development approval would require further detailed plans, and an updated SWMP, TMP and CEMP (and associated subplans).

There will also be a requirement for the Alliance to obtain EPA Licences for Earthworks Drainage and Wastewater Treatment, which is separate from the development application process.

Stage 3 – TBM spoil filling

The third stage involves the filling of land with spoil from the TBM tunnelling process and may require amended plans for the filling and details on engineering controls to protect the environment, filling operations and water treatment. Again, in accordance with the WDF Standard, there will be an associated IAA and updated SMP (Part 3C, Operation) that requires endorsement by the ASCA and acceptance by the EPA.

The Department would again anticipate conditions of development approval would require further detailed plans, and an updated SWMP, TMP and CEMP (and associated subplans).

Stage 4 – Decommissioning

The final stage comprises of the decommissioning of the on-site facilities and infrastructure, including the removal of temporary buildings, structures and infrastructure established in Stage 1 (or modified through subsequent stages). A final SMP (Part 3D Decommissioning) will be required, together with a Remediation and Validation Report and Site Environmental Management Plan that addresses the works undertaken and ongoing environmental management requirements. In accordance with the WDF Standard, there is also a requirement for an audit report and site contamination audit statement to be prepared at the conclusion of the project.

Submission of detailed plans and updates to the CEMP (and associated Subplans), and potential amendments to the SWMP (identifying the post-operations but pre-development drainage system) and TMP prior to the works occurring would again be anticipated as conditions of approval to be addressed.

Importantly, this stage does not include the future use of the land, which will be subject to future approval processes by Renewal SA.

Operative Timeframe of Approval

The SRF will be operative until 2031, and given the staged approval approach outlined above, it is requested that the operative timeframe of any approval from the Minister be seven years from the date of approval.

Procedural Matters

This section outlines the procedural matters for a Crown Development; elements of the proposal that require Development Approval; Public Notification Requirements; Statutory Referral Requirements; discusses the Land Management Agreement for the site; and outlines other approval requirements.

Highways Act

The subject land is owned by the Renewal SA. It has not been acquired by the Commissioner of Highways pursuant to Section 20(1) of the *Highways Act 1926*; therefore, exemptions from the PDI Act under Section 20(5) of the Highways Act do not apply to the development.

However, exemptions under the Highways Act applies to works on Commissioner of Highways roads outside of the footprint of the subject land, including the upgrade to Hanson Road. Construction of internal roads is exempt from the definition of development under the PDI Act where the Highways Act does not apply.

Planning and Design Code

The subject land is wholly located within the Gillman Subzone of the Strategic Employment Zone, for which Technical and Numerical Variations (TNV) for minimum finished ground level and minimum finished floor level are stipulated as 3.7m AHD and 3.95m AHD respectively. Concept Plan 102 – Gillman is applicable to the subject land.

The following Overlays are relevant to the proposed development site:

- Airport Building Heights (Regulated) – All structures over 110 metres
- Coastal Areas
- Defence Aviation Area – All structures over 90 metres
- Gas and Liquid Petroleum Pipelines
- Hazards (Acid Sulfate Soils)
- Hazards (Flooding)
- Hazards (Flooding – General)
- Major Urban Transport Routes
- Non-stop Corridor

- Prescribed Wells Area
- Regulated and Significant Tree
- Traffic Generating Development
- Water Resources.

Crown Development

As the proposed development is being undertaken by a State Agency the application is being lodged with the Commission as a Crown Development pursuant to Section 131 of the PDI Act. The Minister is the relevant authority for Crown Development, taking advice from the Commission; SCAP is the Commission's delegate for this advice.

A Crown Development need not be consistent with the Code, albeit a performance assessment approach is adopted in the assessment by SCAP and the Minister.

Section 131(20) provides that the Minister may give approval for the whole or part of a proposed development and impose such conditions as they think fit. This provides a greater degree of flexibility for the Minister to consider staging of approval and resolution of detailed matters through conditions.

Crown development applications are considered for Development Approval only (as opposed to Planning Consent and Building Rules Consent). The Department notes that the onus is for it to obtain building rules certification (BRC) separately and retain a copy of the BRC for the life of the asset. BRC is also required for certain elements that do not need approval in accordance with Schedule 13 of the PDI (General) Regulations.

Statutory Referrals

Council referral

The application must be referred to Council in accordance with Section 131(6) of the PDI Act. The Department provided a pre-lodgement briefing to the Council on this application on 17 December 2024.

Agency referrals

Section 131(10) of the PDI Act and Regulation 107(5) of the PDI (General) Regulations requires the Commission to refer an application of a prescribed class under Schedule 9 of the PDI (General) Regulations to the relevant body.

The subject land is within several Overlays in the Code that have statutory referrals under Schedule 9. However, as demonstrated in Table 6 below, not all referrals are required for the application arising from these Overlays. It is considered that the only referral required is to the Coast Protection Board (CPB) for filling of land within the Coastal Areas Overlay.

Table 6: Agency referral requirements

Overlay	Class of Development / Activity requiring referral	Referral Requirement
Airport Building Heights (Regulated) Overlay	Any of the following classes of development: building located in an area identified as 'All structures' (no height limit is prescribed) or will exceed the height specified in the Airport Building Heights (Regulated) Overlay building comprising exhaust stacks that generates plumes, or may cause plumes to be generated, above a height specified in the Airport Building Heights (Regulated) Overlay.	None required. The subject land is located within an area to which a 110m height limit applies for the purposes of the Overlay. The proposed buildings and fill is significantly less than this height.
Coastal Areas Overlay	Except where the development is, in the opinion of the relevant authority, minor in nature and would not warrant a referral when considering the purpose of the referral, the following: (a) excavation and/or filling where the total volume of material excavated and/or filled exceeds 9m ³ (b) – (f) not relevant	Referral required to CPB. The proposed development requires filling significantly more than 9m ³ .
Gas and Liquid Petroleum Pipelines Overlay	Except where the development is, in the opinion of the relevant authority, minor in nature and would not warrant a referral when considering the purpose of the referral, a class of development that does not satisfy Gas and Liquid Petroleum Pipelines Overlay DTS/DPF 1.1, 1.2 and 1.3.	None required. The proposed development satisfies DTS/DPF 1.1, 1.2 and 1.3 in that it does not comprise a class of development listed.
Major Urban Transport Routes Overlay	Except where all of the relevant deemed-to-satisfy criteria are met, development (including the division of land) that involves any of the following to/on a State Maintained Road or within 25 metres of an intersection with any such road: (a) creation of a new access or junction (b) alterations to an existing access or public road junction (except where deemed to be minor in the opinion of the relevant authority) (c) development that changes the nature of vehicular movements or increase the number or frequency of movements through an existing access (except where deemed to be minor in the opinion of the relevant authority).	None required. The proposed development does not create a new access, alter an existing access or public road junction or change the nature, number or frequency of movements through an existing access. The access arrangements for the Gillman SRF were assessed and approved in the previous application for Lot 501. That application considered all the traffic for the Gillman SRF, which does not change as a result of this application.

Overlay	Class of Development / Activity requiring referral	Referral Requirement
Non-Stop Corridors Overlay	<p>Except where all of the relevant deemed-to-satisfy criteria are met, development (including the division of land) that involves any of the following to/on a State Maintained Road or within 25 metres of an intersection with any such road:</p> <ul style="list-style-type: none"> (a) creation of a new access or junction (b) alterations to an existing access or public road junction (except where deemed to be minor in the opinion of the relevant authority) (c) development that changes the nature of vehicular movements or increase the number or frequency of movements through an existing access (except where deemed to be minor in the opinion of the relevant authority). 	<p>None required.</p> <p>The proposed development does not create a new access, alter an existing access or public road junction or change the nature, number or frequency of movements through an existing access.</p> <p>The access arrangements for the Gillman SRF were assessed and approved in the previous application for Lot 501. That application considered all the traffic for the Gillman SRF, which does not change as a result of this application.</p>
	<p>Except where all of the relevant deemed-to-satisfy criteria are met, an advertisement or advertising hoarding that is on a Non-Stop Corridor Road or is on land abutting a Non-Stop Corridor Road and:</p> <ul style="list-style-type: none"> (a) is within 100m of an on or off ramp to a Non-Stop Corridor Road as shown in the Non-Stop Corridors Overlay and (b) will: <ul style="list-style-type: none"> (i) be internally illuminated or (ii) incorporate a moving or changing display or message or (iii) incorporate a flashing light. 	<p>None required.</p> <p>The proposed development does not include an advertisement or advertising hoarding.</p>

Overlay	Class of Development / Activity requiring referral	Referral Requirement
Prescribed Wells Area Overlay	<p>Any of the following classes of development that require or may require water to be taken in addition to any allocation that has already been granted under the <i>Landscape South Australia Act 2019</i>:</p> <ul style="list-style-type: none"> (a) horticulture (b) activities requiring irrigation (c) aquaculture (d) industry (e) intensive animal husbandry (f) commercial forestry. <p>Commercial forestry that requires a forest water licence under Part 8 Division 6 of the <i>Landscape South Australia Act 2019</i>.</p>	<p>None required.</p> <p>The proposed development is not of a listed class.</p>
Traffic Generating Development Overlay	<p>Except where all of the relevant deemed-to-satisfy criteria are met, any of the following classes of development that are proposed within 250m of a State Maintained Road:</p> <ul style="list-style-type: none"> (a) except where a proposed development has previously been referred under clause (b) - a building, or buildings, containing in excess of 50 dwellings (b) except where a proposed development has previously been referred under clause (a) - land division creating 50 or more additional allotments (c) commercial development with a gross floor area of 10,000m² or more (d) retail development with a gross floor area of 2,000m² or more (e) a warehouse or transport depot with a gross leasable floor area of 8,000m² or more (f) industry with a gross floor area of 20,000m² or more (g) educational facilities with a capacity of 250 students or more. 	<p>None required.</p> <p>The proposed development is not of a listed class.</p>

The proposed development has been assessed against the classes of development captured by referrals outlined in Part 9 of the Code. Part 9.1 provides classes of development / activities that require a referral to the EPA, being activities of environmental significance under the EP Act. Relevant classes of development / activities contemplated for the SRF are outlined in Table 7.

Table 7: Classes of development / activities requiring referral to the EPA

Class of Development / Activity	Referral Trigger	Referral Requirement
Chemical storage and warehousing facilities	The storage or warehousing of chemicals or chemical products that are, or are to be, stored or kept in bulk or in containers having a capacity exceeding 200 litres at facilities with a total storage capacity exceeding 1,000 cubic metres.	<p>None required.</p> <p>The proposed development does not include storage of chemicals or chemical products with a total storage capacity exceeding 1,000m³.</p> <p>There is expected to be bulk storage of lime to mix with TBM spoil; however, this will be below the storage capacity that triggers referral.</p>
Hydrocarbon storage or production works	<p>The conduct of works or a facility:</p> <p>(a) for the storage of hydrocarbon or hydrocarbon products in tanks that, in aggregate, have a storage capacity exceeding 100m³ (EPA Licence required at more than 2000m³) or</p> <p>(b) for the production of hydrocarbon or hydrocarbon products, being works having a total capacity exceeding 20 tonnes per hour. (EPA Licence)</p>	<p>None required.</p> <p>The proposed development includes self-bunded fuel tanks and refuelling facilities for on-site plant that will not exceed 100m³.</p>
Resource recovery, waste disposal and related facilities	<p>Waste recovery facility</p> <p>The conduct of a waste recovery facility, being a depot, works or facility (including, but not limited to, a transfer station or material recovery facility) that, during a 12 month period, receives for preliminary treatment, or has the capacity for the preliminary treatment of:</p> <p>(a) more than 100 tonnes of solid waste or matter</p> <p>or</p> <p>(b) more than 100 kilolitres of liquid waste or matter</p> <p>prior to its transfer elsewhere for lawful reuse, further treatment or disposal.</p> <p>Landfill depot</p> <p>Being a depot, facility or works for the disposal of waste to land.</p>	<p>None required.</p> <p>The SRF will receive waste derived fill for beneficial reuse on the subject land. It does not fall within the classes of development / activities listed, in that it:</p> <ul style="list-style-type: none"> • does not process and treat spoil for transfer elsewhere • is not a landfill for disposal of waste <p>Use of the waste derived fill is governed by the WDF Standard under the EP Act.</p>

Class of Development / Activity	Referral Trigger	Referral Requirement
	<p>Wastewater treatment works</p> <p>Being sewage treatment works, a CWMS, winery wastewater treatment works or any other wastewater treatment works with the capacity to treat, during a 12 month period:</p> <p>(a) in the case of works located wholly or partly within a water protection area - more than 2.5 ML of wastewater (EPA Licence required at more than 5 ML)</p> <p>or</p> <p>(b) in the case of works located wholly outside of a water protection area - more than 12.5 ML of wastewater (EPA Licence required at more than 50 ML).</p>	<p>Referral required to EPA.</p> <p>The proposed development includes a package WTP that has capacity to treat more than 50 ML of wastewater in a 12-month period, which will require a licence from the EPA.</p>
Other	<p>Discharges to marine or inland waters</p> <p>The conduct of operations (other than a desalination plant referred to above) involving discharges into marine waters or inland waters where:</p> <p>(a) the discharges:</p> <ul style="list-style-type: none"> (i) raise the temperature of the receiving waters by more than 2 degrees Celsius at any time at a distance of 10m or more from the point of discharge or (ii) contain antibiotic or chemical water treatments <p>and</p> <p>(b) the total volume of the discharges exceeds 50kL per day. (EPA Licence)</p>	<p>Referral required to EPA.</p> <p>The proposed development is expected to discharge treated wastewater potentially containing chemical treatments (alum used as a flocculant) to the watercourses on the subject land at a volume that exceeds 50kL per day (an average of more than 500kL is anticipated).</p>

Referrals on Part 1 Application

It is noted that the previous application for Lot 501 was referred to the Department for Energy and Mining (DEM), Australian Rail Track Corporation (ARTC) and the EPA, notwithstanding that these referrals were not triggered by the PDI Act, PDI (General) Regulations or the Code. The Department considers that there is no need for this application to be referred to ARTC or DEM on account of the comments provided on the Part 1 application:

- ARTC did not provide any comment on the proposed development, access arrangements for this application do not differ from those approved and previously considered, and the Key Railway Crossings Overlay does not apply to the subject land. Therefore, referral of this application to ARTC for advice is not relevant.
- DEM requested a number of conditions regarding protection of the SEAGas pipeline, which were adopted by the Minister in the approval of the previous application. The Department would expect that DEM would recommend similar conditions as relevant and considers that a referral is not required and appropriate conditions from the previous approval can be adopted for this application. The Alliance is also engaging with SEAGas as part of addressing those conditions in the detailed design for the SRF.

Public Notification

Pursuant to Section 131(13) of the PDI Act, Crown applications are subject to public notification where the development cost is more than \$10 million. The development cost is more than \$38 million; therefore, the application will be subject to public notification.

Notification of the Part 1 application prompted three submissions, of which two were opposed to the application on environmental grounds. It is anticipated that the Friends of Port River (FoPR) and the Port Adelaide Residents Environmental Protection Group (PAREPG) will be similarly interested in this application and provide submissions. As such, the Department has sought to provide additional information in this Planning Report on the issues raised by FoPR and PAREPG.

The Department has not undertaken specific broad community engagement activities for the Gillman SRF, although consultation has been held with local businesses and landowners regarding the Part 1 application and the works for the Eastern Parade driveway.

Planning Assessment

This section outlines the assessment undertaken of the proposed development against the relevant provisions of the Code.

Code Version

At the time of lodgement, the relevant version of the Code against which the proposed development is to be assessed is Version 2025.3, published 13 February 2025.

Approach to Assessment

The subject land is located within the Strategic Employment Zone and the Gillman Subzone. The proposed development site is also subject to several Overlays and relevant General Development Policies (GDPs) have been considered for assessment. A summary assessment of the key planning issues is provided below.

For brevity, only the identifying number of the relevant Desired Outcome (DO) and Performance Outcome (PO) is listed in this section. Relevant provisions of the Code considered in the assessment is provided in Appendix A.

The assessment considers the relevant POs, noting that recent decisions of the Environment, Resources and Development Court and 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. This has also influenced the assessment, noting that the type of development proposed is generally not contemplated by the Code.

Summary Planning Assessment

Land Use and Built Form

Relevant policies

Coastal Areas Overlay	
Desired Outcomes	DO 1, 2
Performance Outcomes	PO 2.2, 4.2, 4.3, 4.4

Strategic Employment Zone	
Desired Outcomes	DO 1, DO 2, DO 3
Performance Outcomes	PO 1.1, PO 3.1, PO 3.3, PO 3.4, PO 3.5, PO 6.1, PO 7.1, PO 8.1

Gillman Zone	
Desired Outcomes	DO 1, DO 2
Performance Outcomes	PO 1.1, 2.1, 2.2, 2.3, 2.4

Design GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 1.3, 1.5, 2.1, 2.2, 2.3, 2.4

Interface between Land Uses GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 2.1, 4.1, 4.2, 6.1, 6.2

Land Use

The Coastal Areas Overlay seeks to protect the coastal environment and ensure there is provision for natural coastal processes, with policies that seek to minimise hazards from coastal flooding and avoid areas of high environmental value. These policies need to be tempered against the policies of the Strategic Employment Zone and the Gillman Subzone, with Concept Plan 102 – Gillman a reference point for the spatial considerations of coastal areas and land for development.

The Zone predominantly envisages industrial, logistical and warehousing types of development as well as compatible business activities that generate employment for the state that take advantage of transport infrastructure, including roads, rail and ports. In doing so, PO 1.1 for the Zone specifically contemplates a range of higher-impacting land uses that do not unduly impede the use of land within the zone for employment generating uses, with DO 2 of the Gillman Subzone envisaging the co-location of waste, resource recovery and related processing and industrial activities. The Subzone policies generally seek a range of major logistics, manufacturing, high technology and research land uses that generate wealth and employment for the state and takes advantage of road, rail and ports infrastructure, together with compatible business activities that support an expanding workforce.

In the zoning of the land for development, the State Government has considered the balance between environmental protections, the coastal environment and realising the economic advantages of the land. It has broadly been established through past strategic planning activities that the subject land would be filled and developed. DPF 1.1 of the Subzone specifically lists filling of land and associated stockpiling

suitable for land reclamation as a use to meet PO 1.1, with DPF 2.4 specifying minimum site and floor levels of 3.7m AHD and 3.95m AHD respectively.

The proposed development is for the reuse of spoil material within a currently vacant and underutilised site at Gillman and associated facilities. The proposed development will serve the dual purpose of providing a suitable location to dispose of spoil derived from bulk earthworks and tunnelling associated with the T2D Project, while also filling to site to an appropriate level to enable future development of the land as an industrial precinct. The development will assist in realising the DOs for the Zone and Subzone, whilst being consistent in a land use sense during operations.

The proposed development will generally meet the intent of Concept Plan 102 – Gillman (refer Figure 6), including the location of proposed access points and protection of nearby wetlands. It will not preclude the subject land and surrounding land from being developed in accordance with the Concept Plan. Where the proposed development differs from the Concept Plan, which was informed by the Gillman Master Plan, is in not filling the subject land in its entirety. However, in taking this approach, it is consistent with the policies of the Coastal Areas Overlay and PO 2.1 of the Zone in seeking to protect existing remnant samphire habitat.

The operations of the SRF will be consistent with the Interface between Land Uses GDPs in terms of noise, dust and light spill and will have minimal impact upon the nearest sensitive receivers located more than 900m south of the subject land. This reinforces the appropriateness of the SRF, notwithstanding its proposed 24-hour operation. However, the Alliance will be required to prepare a CEMP that addresses these interface matters as part of conditions of approval (as per the Part 1 application) and the Department's Contract Scope and Contract Requirements (SRF). The SRF includes the Department's Master Specifications for Environmental Management.

Built Form

The Zone policies also encourage new development to provide pleasant visual amenity from arterial roads, as well as adjoining zones and residential areas. The Design GDPs provide a number of policies related to built form, setbacks and appearance of buildings and structures, including fencing.

No permanent buildings or structures are proposed part of this application. However, temporary buildings and structures are considered to be similar in form and scale to those evident in the locality and contemplated by the Subzone and Zone. The proposed facilities and infrastructure will be setback significantly from public roads and not be readily visible from adjoining land so as to compromise the amenity of the locality.

The filling of the land will alter the appearance of the land, from a low-lying, vacant site with low vegetation, to a raised development pad up to 4.2m AHD with embankments. This form is to be expected by the finished site level requirements of the Subzone and is one evident in the wider locality. The visual impact of this form can be ameliorated to a limited degree by landscaping, including along the Port River Bikeway that provides the most unobstructed view of the subject land. However, the change in visual amenity for cyclists should be viewed in the context of the bikeway location immediately adjacent to the Port River Expressway and the Wingfield Resource Recovery Precinct.

The larger visual impact of the higher mounds to facilitate preload, which will be up to 8m AHD, will be temporary. In this regard, any impacts can be considered acceptable, particularly as the preload is

required to ensure the engineered fill layers settle appropriately with existing ground conditions and is necessary to achieve the required site level for future industrial development.

The temporary buildings will be highly functional ones for the operations of the SRF, generally consistent with the character of buildings on construction sites. The need for architectural treatments has been considered in this context and can be deemed to be unnecessary. Given the specialised functions of the site and its temporary nature, there is also little opportunity to build in orientation and environmental POs sought by the Design GDPs. Departures from these policies is considered acceptable.

Fencing around the perimeter of the subject land will be chain mesh security fencing consistent with expected in an industrial environment, noting that a post and wire fence, including a chain mesh fence, does not require approval in accordance with Clause 2(1)(r)(iv) of Schedule 13 of the PDI (General) Regulations.

Landscaping

Relevant policies

Strategic Employment Zone	
Desired Outcomes	DO 3
Performance Outcomes	PO 3.1, 5.1, 5.2, 5.3, 8.1

Design GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 3.1, 3.2, 5.1, 7.2, 7.4, 7.5, 7.6, 7.7

The Zone policies encourage landscaping to enhance the visual appearance of land and screen service areas. The Design GDPs provide a number of policies regarding the provision of landscaping to improve the environmental performance of development sites and car parking areas through the provision of shade, filtering stormwater and contributing to biodiversity.

Opportunities for landscaping within the proposed development site will be limited to areas at the periphery of the fill mounds, including the slopes, catch drains and perimeter bunds, and along the Port River Bikeway to assist in screening and improved amenity for cyclists. This proposed landscaping will be consistent with the relevant policies, but further developed through the detailed design phase with determination of suitable plants and landscape methods.

However, there is limited opportunity to landscape the surface of the fill mounds through the operational phases of the SRF, and the temporary facilities and car parking areas will not be landscaped reflecting their temporary nature and the potential for these areas to transition to different use, or further filling of land by Renewal SA once the SRF ceases. Departures from relevant policies are considered acceptable.

Environment and Water

Relevant policies

Coastal Areas Overlay	
Desired Outcomes	DO 1, 2
Performance Outcomes	PO 4.1, 4.2, 4.3, 4.4, 4.5, 4.6

Prescribed Wells Area Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1

Water Resources Overlay	
Desired Outcomes	DO 1, DO 2
Performance Outcomes	PO 1.1, PO 1.2, PO 1.3, PO 1.4, PO 1.5, PO 1.6, PO 1.7, PO 1.8, PO 1.9

Regulated and Significant Trees Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, 1.2, 1.3, 1.4, 2.1

Strategic Employment Zone	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1

Gillman Subzone	
Desired Outcomes	DO 2
Performance Outcomes	PO 2.1

Design GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 3.1, 3.2, 5.1, 7.2, 7.4, 7.5, 7.6, 7.7, 31.1, 32.1

Site Contamination GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1

Prescribed Wells and Regulated and Significant Trees

The proposed development does not involve the taking of water for which a licence would be required under the *Landscape South Australia Act 2019* and there are no regulated or significant trees on the subject land or adjacent land that are impacted by the proposed development. Therefore, the Prescribed Wells Area Overlay and Regulated and Significant Tree Overlay policies are considered met.

Water Resources

The Water Resources Overlay has been spatially applied to existing water bodies and watercourses to protect them from development that might damage or modify them or interfere with the existing hydrology or water regime. In this instance, the Overlay applies to the three watercourses on the subject land that existed before the flood levee was constructed, which historically flowed unimpeded into the Magazine Creek to the north. It also covers the Magazine Creek, Magazine Wetlands, Range Wetlands and Range Channel to the immediate west, southeast and east of the subject land, as shown in Figure 29.

The three watercourses on the subject land are not identified as such on Concept Plan 102 – Gillman, reflecting the strategic intent for the land to be filled in its entirety to facilitate industrial/employment development (see Figure 6 and Figure 7). In this regard, it is considered that impacts to the watercourses was anticipated by the Code. However, the proposed filling profile will only impact the southeastern portions of the watercourses, generally avoiding the samphire habitat closer to the levee at the edge of the subject land.

Given the significantly modified hydrological function of the watercourses, the proposed development will be consistent with policies of the Code related to protection of watercourses.

Consideration is also given in the policies regarding water quality and ensuring that stormwater from development sites does not have a detrimental impact downstream. The proposed development includes a closed system for stormwater, capturing and treating run-off for re-use on-site, with treated water discharges to the low-lying areas of the subject land averaging more than 500kL per day. Measures to address water management and quality will be further detailed in a SWMP and CEMP, but it is considered that the proposed development can meet the relevant POs of the Code. As per the previous application, provision of these plans for approval by the Minister would be appropriate as conditions.

Figure 29: Water Resources Overlay extract⁹

Biodiversity

Overall, the consideration of the environmental value of the subject land has been determined by decisions made by State Government during the DPA and prior investigations for the Gillman Master Plan. These decisions have prioritised the filling and development of the subject land, with areas of environmental habitat within the Magazine basin and parts of the Range basin north of Lots 201, 202 and 507 prioritised for protection. The filling of the subject land as proposed will not impact upon the habitat north of the bund or north of the subject land where the Range Wetlands discharge.

However, through the Department's investigations it is evident the portions of the watercourses on the subject land contain TECs that are important habitat to migratory birds protected under the EPBC Act. The potential impact upon these protected species through filling of the area with the TEC is unknown and further investigations are being conducted by the Department, including additional bird surveys. As such, using the precautionary principle, the Department has sought to avoid the areas of most environmental value in the proposed filling of the land subject to this application. In doing so, the

⁹ Source: SAPPA, 3 December 2024

proposed development is considered to be consistent with the relevant policies of the Code related to environment and protection of habitat, notwithstanding that there will be some impact to the southeastern extents of the watercourses.

An EPBC Self-Assessment has been undertaken to assess the level of impact upon threatened terrestrial EPBC Act listed species as a result of the Gillman SRF. The Self-Assessment found that if the design, construction and operation of the SRF occurs within the boundaries of the impact area and other mitigations are in place then no EPBC referral will be required. Further consideration of a wider footprint indicates that there is unlikely to be a significant impact, allowing for the small intrusion that will provide an improved future development outcome from filling the land.

However, there is a future potential for the filling of the remainder of the land in accordance with the Gillman Master Plan that is outside of the scope of this current application. Renewal SA will make its own decisions on the merits of this having regard to the developability of and need for industrial land in the locality. The Department's continued investigations on the potential impact to EPBC Act listed species will assist in determining the future of filling the balance of the subject land.

Environmental Protection and Sustainability Measures

A CEMP will be prepared for the proposed development consistent with the endorsed SMP, which will address environmental matters associated with the use of waste fill from the T2D Project in accordance with the requirements of the WDF Standard. This will have regard to the classification of the waste fill and the additives used in the TBM tunnelling process. There are sufficient environmental protections under the Auditor Protocol of the WDF Standard, including review and acceptance of the IAA and SMP by the EPA, to give assurance that the SRF will be appropriately operated and land filled in a manner that reflects the receiving environment.

The CEMP will also include sections or subplans that address noise, air quality (dust) and light spill that will be consistent with the POs of the Interface between Land Uses GDPs. However, it should be noted that noise from truck movements and 24-hour operations is a specific outcome of the zoning of the site, whereby industrial, warehousing and logistics uses are intended to operate. This is a distinct strategic advantage of the land, being significantly separated from residential land uses. It is also a feature of land already developed within the locality, including directly adjacent to the Magazine Creek Wetlands, while the Port River Expressway is also adjacent.

The proposed temporary buildings have not been designed in accordance with the environmental performance policies of the Design GDPs, reflecting their temporary and utilitarian nature for the purposes of the operations of the SRF. This departure from the Code is considered acceptable.

Site Contamination

The Site Contamination GDPs seek to ensure that land is suitable for the proposed use when the land use changes to a more sensitive use. Currently the land has no use, and the filling of land in and of itself does not represent a land use. The use of the land as a SRF is not considered to be a sensitive use. Post-filling of the land, the intended use is for industrial development, which is listed in Practice Direction 14 (Site Contamination) as the least sensitive class of land uses.

The Department has completed a Preliminary Site Investigation (PSI) and a Detailed Site Investigation (DSI) of the subject land and Lot 501 to inform the audit process under the WDF Standard. The PSI

identified several potentially contaminating activities (PCAs), as defined in the Schedule 3 of the *Environment Protection Regulations 2023*, for the SRF site as well as various chemicals (substances) of interest (COI) commonly associated with these PCAs. A conceptual site model (CSM) detailing potential contaminant sources, pathways and receptors was developed as part of the PSI.

The subsequent DSI comprised of soil sampling and groundwater / surface water monitoring works, which assessed for the presence of COIs identified in the PSI, thereby allowing a determination as to whether a potential unacceptable risk to human health, terrestrial ecosystems, groundwater and/or surface currently exists at the site. The DSI concluded that:

- There is no potential unacceptable risk to human health based on a future commercial/industrial land use, including the SRF operations.
- There is a potential unacceptable risk (arsenic, copper, lead and zinc) to terrestrial ecosystems based on the site being within an area of ecological significance. Arsenic concentrations may be naturally occurring, but copper, lead and zinc may have been attributable to past Defence and rifle range activities.
- There is a potential unacceptable ecological risk to groundwater and surface water (metals, ammonia and perfluorooctanesulfonic acid). However, the COI concentrations returned were potentially attributable to off-site sources. Fluoride was identified as a potential unacceptable risk to off-site recreational users.

The CSM was updated following the completion of the DSI and further assessment of surface water and groundwater was deemed warranted. These investigations are continuing and will inform the IAA and SMP. However, the DSI provides a reasonable baseline of the existing conditions present on the site. It is included as Appendix H.

The existing contamination status of the subject land does not hinder the change of land use to an SRF, the filling of land or the future potential commercial/industrial land use contemplated by the Code. The soil contamination will be covered by spoil, which will limit potential exposure. Future development for commercial/industrial land uses will likely cap the fill with hardstands to support the future land use, further limiting exposure and infiltration.

The re-use of waste derived materials as fill must be undertaken in accordance with the WDF Standard. The WDF Standard identifies the testing, submission and approval requirements for waste derived fill and details the process of the Auditor Protocol and defines the role of the ASCA. In accordance with the Auditor Protocol, the Department has engaged an ASCA and independent Assessing Consultant and has prepared a Preliminary SMP in accordance with EPA guidelines. Updated SMPs, together with IAA, will be required for each stage of filling.

As per the Part 1 application, if necessary, the Department is prepared to accept conditions of approval requiring the submission of IAA and an updated SMP endorsed (by the ASCA) and accepted (by the EPA) before stages 2, 3 and 4 of the proposed development.

Flooding and Coastal Hazards

Relevant policies

Coastal Areas Overlay	
Desired Outcomes	DO 1, DO 2
Performance Outcomes	PO 2.2, 2.3, 2.4, 3.1, 3.2, 3.3

Hazards (Acid Sulfate Soils) Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1

Hazards (Flooding) Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 2.1, 3.1, 3.2, 3.4, 3.5, 3.6, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2

Hazards (Flooding – General) Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 2.1, 3.1

Flooding

The entirety of the subject land is covered by the Coastal Areas Overlay in recognition of its proximity to the coast, the low-lying nature of the land and its interaction with coastal processes. The land is currently susceptible to inundation in storm events and high tides, with water pooling in and around the low-lying watercourses on the land (as shown in Figure 9). The land is also subject to the Hazards (Flooding) and Hazards (Flooding – General) Overlays for specific areas (see Figure 30) that do not correspond with the lowest lying areas and reflect potential overtopping of the Range Wetlands.

Figure 30: Subject land subject to Hazards (Flooding) and Hazards (Flooding - General) Overlays¹⁰



Filling of the land will raise the ground level of much of the subject land, as envisaged by the Gillman Subzone. Current filling of Lot 403 (subject to a separate development approval by a private proponent) will change the nature of flood flows previously modelled to apply the Hazards (Flooding) and Hazards (Flooding – General) Overlays to the subject land.

The filling of the subject land and adjoining land was modelled to be appropriate from a flooding perspective as part of investigations for the Gillman Master Plan. However, the Department has undertaken its own modelling of the impacts of filling the subject land as proposed by this application, as well as a scenario of completely filling the land. The filling scenarios also consider the filling of other land in the locality.

It was assessed that Lot 501 filling activity does not reduce the floodplain storage potential for the 1% AEP events modelled (across the varying tidal waterbody receiving conditions).

¹⁰ Source: SAPPA, 3 December 2024

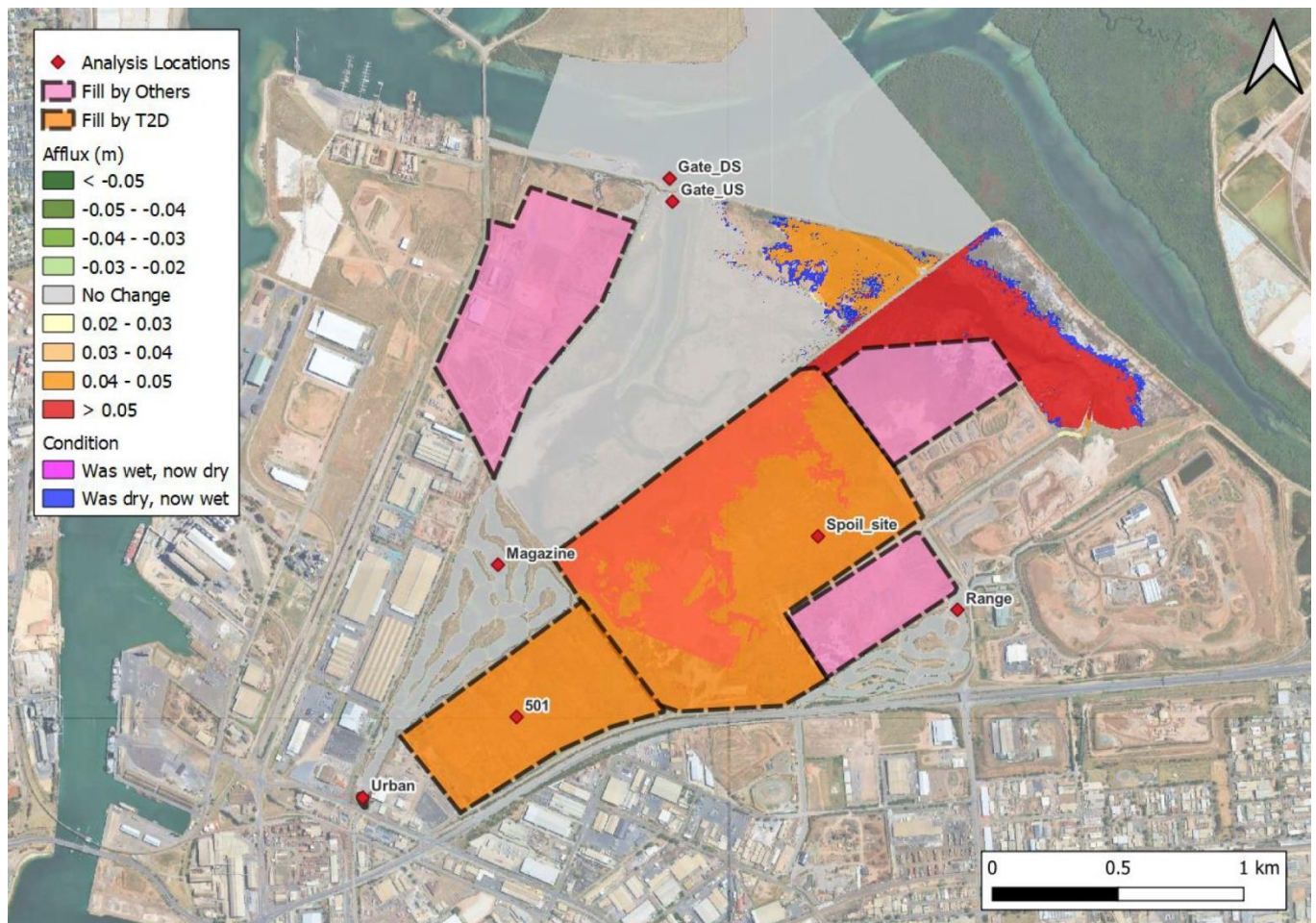
The change in water level attributed to the filling activity is termed afflux and is a comparison of the top water level with and without the filling activity.

With filling all of Lot 502, which is greater than proposed by this application but consistent with the Gillman Master Plan, and no change made to the tidal gates, an increase in peak water level up to 70mm is predicted around Lot 507 under current sea levels in a 1% AEP event with 1% AEP tidal tailwater (see Figure 31). A tidal surge event representing the receiving watercourse in North Arm Creek experiencing a 1% AEP magnitude flood tidal curve (provided by DEW's prior modelling) coincident with the storm flow was assessed.

The increase flood levels are the result of the proposed fill blocking the existing southwest flow path from the Range Channel that allows ponding flood water to disperse across Lot 502. Instead, it is being concentrated around Lot 507. The increase in peak level is also translated through the existing culvert connecting the Range and Magazine ponding basins, leading to an increase of 40mm in the adjacent ponding area.

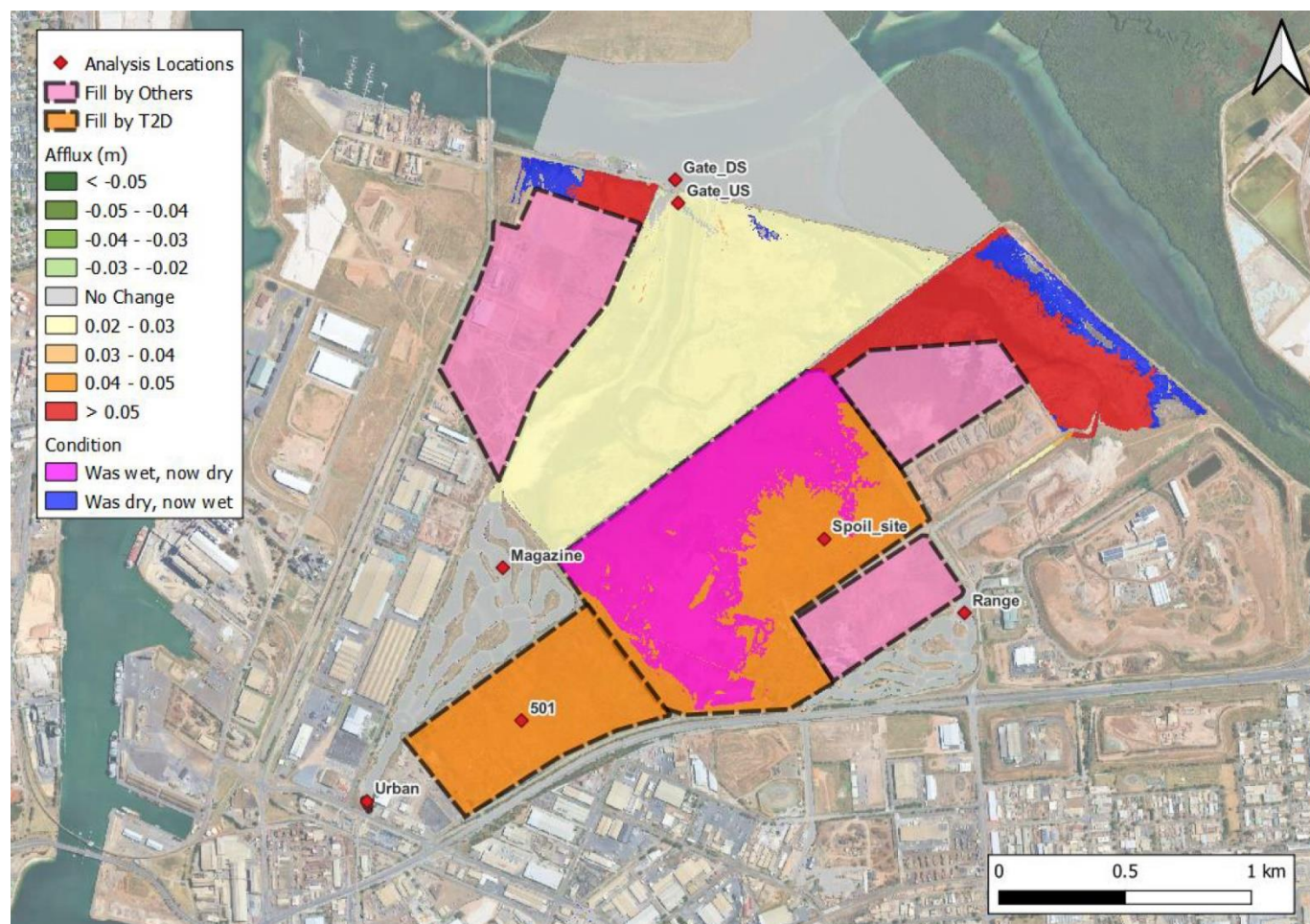
The flood model predicts no impacts to the remaining Magazine ponding basin or areas upstream of the Range and Magazine Creek wetland inlets (within the urban drainage system). This is extended to the upstream stormwater network, which has no observable impact from filling related to this option.

Figure 31: 1% AEP impact with 1% AEP tidal tailwater



An assessment was also completed assuming MHWS plus sea level rise from climate change as the receiving tailwater conditions, adopting the AGRD methodology for assessing sea level rise. With ultimate filling of the subject land, and no change made to the tidal gates, afflux is generally seen to increase across the ponding areas both north and south as shown in Figure 32. Increases of up to approximately 25mm are observed in the Magazine ponding basin and 110mm in the Range ponding basin around Lot 507. There are no impacts to areas upstream of the Range and Magazine Creek wetland inlets nor the upstream stormwater network.

Figure 32: 1% AEP impact with MHWS and sea level rise



Potential tidal gate size increases have been modelled to offset level impacts of fill scenarios. It was found that four 2.44m tidal gates (an increase of one) will provide for the discharge of additional flood volumes in the climate change scenario for MHWS, such that there is a halving of the impact around Lot 507, with further improvements available through widening the Range channel.

The potential upgrades to the tidal gates is not directly related to the filling of the subject land in its own right, particularly as proposed by this application. There is no justification for the implementation of upgrades to the tidal gates from the perspective of mitigating afflux of peak flood levels, as the various filling scenarios for the subject land peak flood conditions are not significantly affected by potential tidal gate capacity upgrades.

The modelled flood impact from filling the subject land is considered to demonstrate adherence to relevant POs related to flooding.

Protection of on-site buildings from flooding

The proposed site and finished floor levels for the temporary development area, including the office, sheds, mechanical workshop and fuel storage area will be subject to detailed design. The development application seeks a condition that final plans and drawings be submitted for consideration for approval by the Minister prior to construction occurring, as per the previous application.

However, it is noted that these facilities are likely to be at a level that is only slightly elevated above current site levels, owing to the need for establishment of these facilities on-site prior to the filling of land. These are temporary facilities that are not intended to reflect the final finished site and floor levels sought by the Gillman Subzone (3.7m and 3.95m respectively). This is considered appropriate for the purposes of the operations of the SRF.

Acid Sulfate Soils

The Hazards (Acid Sulphate Soils) Overlay seeks to protect the environment and development from release of acid water resulting from the disturbance of ASS.

The primary mitigation to minimise the impact of PASS during establishment and operation of the SRF is to minimise any disturbance at the existing ground surface and limit any excavation below existing natural ground level. Any proposal to disturb soils or interfere with the water table, where PASS or AASS materials exist must consider the mitigation measures documented in the:

- South Australian Coastal Protection Board's (CPB) Strategy for Implementing CPB Policies on Coastal Acid Sulfate Soils in South Australia (2023) (the CPB Strategy)
- Department's Environment South Australia Attachment 9B 'Guideline for the Assessment and Management of Acid Sulfate Soils' (2021), which aligns with the CPB's Strategy
- EPA's Site Contamination – Acid Sulfate Soils Guideline (2007).

Overall, the likelihood for encountering PASS for the subject land will be low because the existing soil profile will not be modified as the land will be filled with spoil, retaining the PASS further below the ground surface.

Traffic and Access

Relevant policies

Traffic Generating Development Overlay	
Desired Outcomes	DO 1, DO2
Performance Outcomes	PO 1.1, PO 1.2, PO 1.3

Major Urban Transport Routes Overlay	
Desired Outcomes	DO 1, DO 2
Performance Outcomes	PO 1.1, PO 2.1, PO 3.1, PO 5.1, PO 6.1, PO 7.1, PO 8.1, PO 9.1, PO 10.1

Non-Stop Corridor Overlay	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1

Transport, Access and Parking GDPs	
Desired Outcomes	DO 1
Performance Outcomes	PO 1.1, PO 1.2, PO 1.3, PO 1.4, PO 2.1, PO 2.2, PO 3.1, PO 3.3, PO 3.8, PO 3.9, PO 5.1, PO 6.5, PO 6.6

The Traffic Generating Development and Major Urban Transport Routes Overlays aim to ensure safe and efficient vehicle movement and access along urban transport routes and major urban transport routes. The overlays apply to all land abutting a State Maintained Road and is intended to ensure the safe and efficient operation of that road, and the safe and efficient access to and from that road, for all road users. The SRF will gain access from Hanson Road and Eastern Parade, which are both State Maintained Roads.

The Non-Stop Corridor Overlay seeks to ensure safe and efficient operation of non-stop corridors, where free-flowing traffic movement is prioritised. The Port River Expressway is a Non-Stop Corridor, with existing grade separated junctions at Hanson Road and Eastern Parade.

The proposed development does not change the access arrangements nor volumes or types of traffic assessed and approved in the Part 1 application. That application considered the worst-case scenario of traffic movements from concurrent tunnelling and bulk earthworks excavation and demonstrated that the SRF could function with a single access point to Eastern Parade in the event of disruptions to Hanson Road. Nonetheless, this assessment considers that the relevant POs are met.

Access for the spoil deliveries to the SRF from Hanson Road will be by a continuation of the direction of travel through modifications to Hanson Road. Access for the spoil deliveries when required from Eastern Parade will be via left in/left out turns only, with no right turns permitted.

However, general access through the modified driveway from Eastern Parade will permit all movements for general SRF traffic (e.g. staff) and existing businesses. The Department is upgrading the access driveway as part of early works to support the proposed development, while ensuring that existing access arrangements for neighbouring properties are retained. These access arrangements will not jeopardise the continued safe and efficient operation of either Hanson Road or Eastern Parade and therefore are consistent with the POs of the relevant overlays.

The relevant policies seek to limit access points to minimise interference with traffic flow along the State Maintained Road; ensure that access points are appropriately located to allow vehicles to queue without impacting traffic flow; and to maintain the safe and efficient operating conditions of the road. All loading and unloading will occur within the subject land, which has sufficient area to accommodate the truck and car parking requirements of the SRF.

The proposed development will utilise two State Maintained Roads – Hanson Road and Eastern Parade – for traffic movements. It is generally anticipated that the SRF will operate via both access points, but consideration was given in the Part 1 application to either access point accommodating all traffic. The worst-case scenario requires all traffic for the Gillman SRF to utilise the Eastern Parade access, together with traffic for existing adjacent businesses. For spoil trucks, the Eastern Parade driveway will provide egress from the SRF via a left-turn only traffic movement and is anticipated to have little effect on traffic on Eastern Parade.

The Department intends to upgrade Hanson Road as part of early works to support the SRF; upgrades to the Eastern Parade driveway are underway to accommodate the anticipated increase in traffic movements. The Department will also consider whether wider network upgrades are warranted.

Infrastructure

Relevant policies

Airport Building Heights (Regulated) – all structures over 110 metres

Desired Outcomes	DO 1
Performance Outcomes	PO 1.2, PO 1.2

Gas and Liquid Petroleum Pipelines Overlay

Desired Outcomes	DO 1
Performance Outcomes	PO 1.3

Clearance From Overhead Powerlines GDPs

Desired Outcome	DO 1
Performance Outcomes	PO 1.1

The Airport Building Heights (Regulated) Overlay seeks to ensure building height does not pose a hazard to the operation and safety requirements of commercial and military airfields. The proposed SRF buildings and structures will not exceed 110 metres in height nor does the development include exhaust stacks, therefore the proposed development will not pose a hazard to the operations of certified or registered aerodromes within the locality.

The Gas and Liquid Petroleum Pipelines Overlay seeks to manage the risk to public safety and the environment and secure the energy supply from the encroachment of development on gas and liquid petroleum pipelines and associated infrastructure. The location of the Gas and Liquid Petroleum Pipelines Overlay relative to the subject land is along the southern and western boundaries. The proposed development does not comprise one of the land uses listed in DTS/DPF 1.3 and will not involve the manufacture, collection, handling or bulk storage of flammable, explosive or otherwise hazardous material, therefore the relevant PO is met. However, the Alliance will engage with SEAGas on the design of the roadways over the pipeline and meet the relevant conditions applied to the Lot 501 approval.

There are no aboveground powerlines in the vicinity of the subject land that would be impacted by the proposed development. A declaration has been provided to this effect pursuant to section 86 of the *Electricity Act 1996* and the Clearance From Overhead Powerlines GDPs are met.

Conclusion

The proposed SRF at Gillman is considered appropriate at this location, within the current strategic planning framework of State and local government and consistent with the relevant provisions of the Code for the following reasons:

- The subject land is within the Strategic Employment Zone of the Code and within an area designated as a State Significant Industrial Employment Precinct in the draft GARP, which was released for public consultation in September 2024. Filling the land will unlock the development opportunity envisaged for the Gillman and Dry Creek area since the 1962 *Report on the metropolitan area of Adelaide*. It is unlikely that there will be another opportunity like the T2D Project to acquire the required volume of fill material.
- The subject land is located within the Gillman Subzone of the Code, which specifically anticipates and requires the filling of land to a minimum site level of 3.7m AHD to ensure that future development is not inundated by seawater in the future due to storm events and sea level rise. The act of filling is consistent with this desire and existing filling activities occurring on neighbouring land and the wider locality.
- The temporary buildings and structures to be constructed to facilitate the receipt and processing of spoil and the filling of land are appropriate in the locality and consistent with the form of infrastructure and facilities on neighbouring land. As temporary facilities, their location on land with a finished site level below that envisaged by the Gillman Subzone is appropriate.
- Access to the SRF will be via established access points to the arterial road network (Eastern Parade and Hanson Road), which the Department demonstrated as able to accommodate the expected volume of traffic to be generated by spoil trucks as part of the previous approved development for Lot 501. There is no proposed change in access arrangement approved by the Minister for Lot 501, nor the volume of trucks (albeit there is anticipated to be lower peak volumes), with the prior application considering a worst-case traffic and access scenario.
- Areas of sensitive environmental habitat on the subject land, including TECs associated with existing watercourses, are largely avoided to minimise the potential impact upon migratory bird species protected under the EPBC Act. No referral is deemed required to DCCEEW under the EPBC Act.
- Stormwater infrastructure and a WTP will ensure that water runoff from the site is captured, retained and treated for reuse on-site. Discharge volumes of treated wastewater will vary by season but average more than 500kL per day. The proposed outfall will be downstream of the Magazine Creek and Range wetlands and will not compromise their function, nor will the water quality impact upon the marine environment of the Barker Inlet. This will be reinforced by submission of a detailed SWMP or equivalent at detailed design stage.

- The subject land, together with other land in the Range Wetland and Magazine Wetland ponding basins, provides flood storage capacity in a 1% AEP storm event with elevated tidal levels. Filling of the whole of the subject land (beyond the scope of this application), together with other land identified for development at Gillman and Dry Creek within the Gillman Subzone, will result in flood impacts upstream of the tidal gates due to displaced storage, particularly in the vicinity of the Range Wetlands. However, the impacts are modest with 25 to 110 millimetre (mm) increase during Mean High Water Springs (MHWS), considering future sea level rise from climate change and no change to tidal gates.
- Filling of the subject land does not trigger the need for upgrades to the tidal gates located to the north of the SRF on land owned by Renewal SA. There is a need for replacement of the tidal gates in the foreseeable future, with longer term upgrades required to protect from inundation risk with future sea level rise. Upgrades to the tidal gates is separate from and independent to the requirements of this application and is the future responsibility of Renewal SA as the broader landowner and developer.
- Landscaping of the site perimeter along the Port River Bikeway, and the fill mounds, stormwater bunds and swales, will minimise the visual impact when viewed from adjoining land. It will also contribute to improved environmental outcomes during the operations of the SRF and the subsequent development of the land for industrial and/or commercial purposes by Renewal SA (outside the scope of this application). A detailed landscaping plan and planting schedule is proposed to be provided at detailed design stage.
- Environmental matters can be appropriately addressed through a CEMP for the SRF that will be consistent with the Department's EIA for the site and an endorsed SMP under the WDF Standard. The environmental matters associated with the source of the fill are appropriately governed by the Auditor Protocol under the WDF Standard.

The proposed development merits the support of the SCAP and approval from the Minister.

Appendix A – Assessment Against Relevant Planning & Design Code Policies

Overlays

Airport Building Height – all structures over 110 metres

Desired Outcomes

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 Outcomes

PO 1.1	Building height does not pose a hazard to the operation of a certified or registered aerodrome.	Consistent The proposed buildings will be below the 110m height limit identified in SAPPA.
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Coastal Areas Overlay Policies

Desired Outcomes

DO 1	The natural coastal environment (including environmentally important features such as mangroves, wetlands, saltmarsh, sand dunes, cliff tops, native vegetation, wildlife habitat, shore and estuarine areas) is conserved and enhanced.
DO 2	Provision is made for natural coastal processes; and recognition is given to current and future coastal hazards including sea level rise, flooding, erosion and dune drift to avoid the need, now and in the future, for public expenditure on protection of the environment and development.

Performance Outcomes

Hazard Risk Minimisation		
PO 2.2	<p>Development, including associated roads and parking areas, but not minor structures unlikely to be adversely affected by flooding, is protected from the standard sea flood risk level and 1m of sea level rise.</p> <p><u>DPF 2.2 Finished Ground and Floor Levels</u></p> <ul style="list-style-type: none"> Minimum finished ground level is 3.70m AHD Minimum finished floor level is 3.95m AHD 	<p>Partially Consistent</p> <p>The proposed development will fill land to 3.7-4.2m AHD, enabling a development platform for future employment land uses.</p> <p>However, it is acknowledged that the temporary buildings and facilities to be constructed for the purposes of the operations of the SRF will not be elevated to finished site levels in accordance with DPF 2.4. This departure is considered acceptable noting their temporary nature, the protection afforded to the subject land by the sea wall and a separate levee and the largest risk of</p>

		sea flood risk is associated with future sea level rise that occurs outside the operating timeframe for the SRF.
PO 2.3	Development will not create or aggravate coastal erosion or require coast protection works that cause or aggravate coastal erosion.	Consistent The development will not contribute to coastal erosion or require coast protection works.
PO 2.4	Development is set back a sufficient distance from the coast to provide an erosion buffer in addition to a public reserve that will allow for at least 100 years of coastal retreat for single buildings or small-scale developments, or 200 years of coastal retreat for large scale developments unless: (a) the development incorporates appropriate private coastal protection measures to protect it from anticipated erosion; or (b) there are formal commitments to protect the existing or proposed public reserve and development from anticipated coastal erosion.	Consistent The subject land is protected by a seawall and separate levee and has not been identified as an area for coastal retreat.
Coastal Protection Works		
PO 3.1	Development avoids the need for coast protection works through measures such as setbacks to protect development from coastal erosion, sea or stormwater flooding, sand drift or other coastal processes.	Consistent The subject land is protected by a seawall and separate levee and filling of the land will assist in protecting future development.
PO 3.2	Development does not compromise the structural integrity of any sea wall or levee bank or the ability to maintain, modify or upgrade any sea wall or levee bank.	Consistent The filling of the land will not impact the existing levee or sea wall.
Environment Protection		
PO 4.1	Development will not unreasonably affect the marine and onshore coastal environment by pollution, erosion, damage or depletion of physical or biological resources; interference with natural coastal processes; or the introduction of and spread of marine pests or any other means.	Consistent The proposed development will seek to protect the coastal and marine environment through a closed system of water capture, treatment and reuse and avoidance of sensitive coastal habitat.
PO 4.2	Development avoids delicate or environmentally sensitive coastal areas such as sand dunes, cliff tops, estuaries, wetlands or substantially intact strata of native vegetation.	Consistent The proposed development will avoid sensitive coastal habitat on the land.
PO 4.3	Development allows for ecological and natural landform adjustment to changing climatic conditions and sea levels, by allowing landward migration of dunes, coastal wetlands, mangrove and samphire areas.	Consistent The proposed development will avoid sensitive coastal samphire habitat on the land and allow for its potential expansion between the fill profile and the levee – subject to future consideration and applications for development by Renewal SA that are not part of this application.
PO 4.4	Development avoids, or in built up areas minimises, impacts on important habitat areas that support the nesting, breeding and	Consistent

	movement/migration patterns of fauna, including threatened shorebirds.	The proposed development will avoid sensitive coastal habitat on the land.
PO 4.5	<p>Development is designed so that wastewater is disposed of in a manner that avoids pollution or other detrimental impacts on the marine and on-shore environment of coastal areas.</p> <p><u>DPF 4.5</u></p> <p>Development is connected, or will be connected, to an approved common wastewater disposal service with the capacity to meet the requirements of the development or on-site wastewater systems set back a minimum of 100m from the Mean High Water Mark at spring tide.</p>	<p>Consistent</p> <p>The proposed development will incorporate a closed system of water capture, treatment and reuse, including a WTP. There will be discharged of treated water to the environment at a rate of more than 500kL per day on average, although this will be seasonally dependent. Treatment of the water will be with alum for flocculation and is not anticipated to have any significant impact upon the receiving environment.</p> <p>A detailed SWMP will be prepared to demonstrate how water quality will be managed to ensure detrimental impacts to the environment are avoided.</p>
PO 4.6	<p>Development is designed so that stormwater runoff is disposed of in a manner that avoids pollution or other detrimental impacts on the marine and on-shore environment of coastal areas.</p>	
Access		
PO 5.1	<p>Development maintains or enhances appropriate public access to and along the foreshore.</p>	<p>Consistent</p> <p>No public access exists to the subject land and the proposed development will not alter existing access arrangements on other land, including the Magazine Creek Wetlands.</p>
PO 5.2	<p>Public access through sensitive coastal landforms, particularly sand dunes, wetlands and cliffs, is restricted to defined pedestrian paths and constructed to minimise adverse environmental impact.</p>	
PO 5.4	<p>Development on land adjoining a coastal reserve is sited and designed to be compatible with the purpose, management and amenity of the reserve and to prevent inappropriate access to or use of the reserve.</p>	

Gas and Liquid Petroleum Pipelines Overlay

Desired Outcomes

DO 1	Management of risk to public safety, the environment and security of energy supply from the encroachment of development on strategic gas and liquid petroleum pipelines.
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Performance Outcomes

PO 1.1	<p>Community exposure to a potential hazard from the failure of a gas or liquid petroleum pipeline is mitigated by locating development that may accommodate or result in large congregations of people, buildings for housing and / or caring for vulnerable people and community facilities outside areas that pose an unacceptable risk to protect life.</p> <p><u>DPF 1.1</u></p> <p>Development satisfies one of the following:</p> <p>(a) it does not comprise:</p> <ul style="list-style-type: none"> (i) child care facility (ii) caravan and tourist park (iii) educational facility (iv) buildings comprising 3 or more building levels (v) land division creating allotments under 1ha for residential purposes (except where the existing allotment is less than 1ha) (vi) prison (vii) residential park (viii) retirement facility (ix) student accommodation (x) supported accommodation (xi) shop or shops with a gross leasable floor area of 1000m² or greater (xii) tourist accommodation (xiii) stadium <p>(b) a class of development referred to in part (a), or any combination thereof, which will occur in accordance with an agreement under section 123 of the <i>Planning, Development and Infrastructure Act 2016</i></p>	<p>Consistent</p> <p>The proposed development is not a listed class in DPF 1.1 and does not involve large numbers of people.</p>
PO 1.3	<p>Development involving the manufacture, collection, handling or bulk storage of flammable, explosive, or otherwise hazardous materials is located and designed to avoid escalating the potential for and effects of a gas or liquid petroleum pipeline failure.</p> <p><u>DPF 1.3</u></p> <p>Development satisfies one of the following:</p> <p>(a) it does not comprise:</p> <ul style="list-style-type: none"> (i) general industry (ii) special industry (iii) landfill (iv) renewable energy facility (v) electricity substation (vi) fuel depot (vii) retail fuel outlet 	<p>Consistent</p> <p>The proposed development is not a listed class in DPF 1.3 and does not involve bulk storage of flammable materials. Fuel storage is proposed, but is limited in scale (<100m³), is in the form of self-bunded fuel storage tanks that will be located sufficiently distant from the SEAGas pipeline that it will not present a risk to escalating the effects of pipeline failure.</p>

	<p>(viii) store</p> <p>(ix) warehouse</p> <p>(x) waste treatment facility</p> <p>(b) a class of development referred to in part (a), or any combination thereof, which will occur in accordance with an agreement under section 123 of the <i>Planning, Development and Infrastructure Act 2016</i></p>	
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Hazards (Acid Sulphate Soils) Overlay

Desired Outcomes

DO 1	Development is located and undertaken to minimise disturbance of potential or actual acid sulfate soils and / or the release of acid drainage.
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Performance Outcomes

PO 1.1	<p>Development that involves excavation or a change to a water table where potential or actual acid sulfate soils are present is undertaken to minimise soil disturbance or drainage; prevent or minimise oxidation; and contain and treat any acid drainage to prevent harm or damage to the environment, primary production, buildings, structures and infrastructure or public health.</p> <p><u>DPF 1.1</u></p> <p>Development does not involve or cause:</p> <ul style="list-style-type: none"> (a) excavation of land (b) change to a water table. 	<p>Consistent</p> <p>The primary mitigation to minimise the impact of PASS during establishment and operation of the SRF is to minimise any disturbance at the existing ground surface and limit any excavation below existing natural ground level. Any proposal to disturb soils or interfere with the water table, where PASS or AASS materials exist must consider the mitigation measures documented in the:</p> <ul style="list-style-type: none"> • South Australian Coastal Protection Board's (CPB) Strategy for Implementing CPB Policies on Coastal Acid Sulfate Soils in South Australia (2023) (the CPB Strategy) • Department's EIA Attachment 9B 'Guideline for the Assessment and Management of Acid Sulfate Soils' (2021), which aligns with the CPB's Strategy • EPA's Site Contamination – Acid Sulfate Soils Guideline (2007). <p>Overall, the likelihood for encountering PASS for the subject land will be low because the existing soil profile will not be modified as the land will be filled with spoil, retaining the PASS further below the ground surface</p>
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Major Urban Transport Routes Overlay

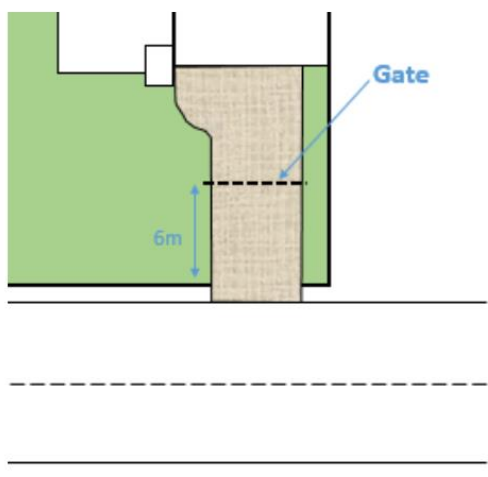
Desired Outcomes

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.

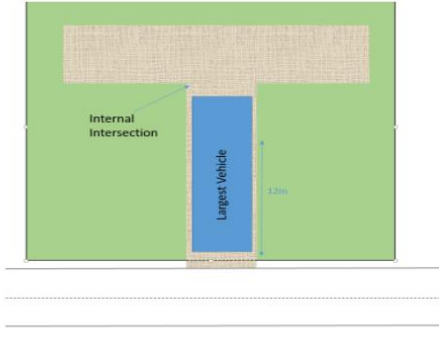
Performance Outcomes

PO 1.1	<p>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.</p> <p><u>DPF 1.1</u></p> <p>An access point satisfies (a), (b) or (c):</p> <p>(a) where servicing a single (1) residential dwelling / residential allotment:</p> <ul style="list-style-type: none"> (i) it will not result in more than one access point (ii) vehicles can enter and exit the site in a forward direction (iii) vehicles can cross the property boundary at an angle between 70 degrees and 90 degrees (iv) passenger vehicles (with a length up to 5.2m) can enter and exit the site wholly within the kerbside lane of the road (v) have a width of between 3m and 4m (measured at the site boundary). <p>(b) where the development will result in 2 and up to 6 dwellings:</p> <ul style="list-style-type: none"> (i) it will not result in more than one access point servicing the development site (ii) entry and exit movements are left turn only (iii) vehicles can enter and exit the site in a forward direction (iv) vehicles can cross the property boundary at an angle between 70 degrees and 90 degrees; (v) passenger vehicles (with a length up to 5.2m) can enter and exit the site wholly within the kerbside lane of the road (vi) have a width of between 5.8m to 6m (measured at the site boundary) and an access depth of 6m (measured from the site boundary into the site). <p>(c) where the development will result in over 7 dwellings, or is a non-residential land use:</p>	<p>Consistent</p> <p>The proposed will utilise the same access arrangements for the approved application for Lot 501, which requires preparation of a TMP. The site can be accessed safely from Hanson Road and Eastern Parade, with either being able to take all access to and egress from the site if required. The development will not unduly interfere with movements along State Maintained Roads.</p>
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	<ul style="list-style-type: none"> (i) it will not result in more than one access point servicing the development site (ii) vehicles can enter and exit the site using left turn only movements (iii) vehicles can enter and exit the site in a forward direction (iv) vehicles can cross the property boundary at an angle between 70 degrees and 90 degrees (v) have a width of between 6m and 7m (measured at the site boundary), where the development is expected to accommodate vehicles with a length of 6.4m or less (vi) have a width of between 6m and 9m (measured at the site boundary), where the development is expected to accommodate vehicles with a length from 6.4m to 8.8m (vii) have a width of between 9m and 12m (measured at the site boundary), where the development is expected to accommodate vehicles with a length from 8.8m to 12.5m (viii) provides for simultaneous two-way vehicle movements at the access; <ul style="list-style-type: none"> A. with entry and exit movements for vehicles with a length up to 5.2m vehicles being fully within the kerbside lane of the road, and B. with entry movements of 8.8m vehicles (where relevant) being fully within the kerbside lane of the road and the exit movements of 8.8m vehicles do not cross the centreline of the road. 	
PO 2.1	<p>Sufficient accessible on-site queuing adjacent to access points is provided to meet the needs of development so that all vehicle queues can be contained fully within the boundaries of the development site, to minimise interruption of the functional performance of the road and maintain safe vehicle movements.</p> <p><u>DPF 2.1</u></p> <p>An access point in accordance with one of the following:</p> <ul style="list-style-type: none"> (a) will not service, or is not intended to service, more than 6 dwellings and there are no internal driveways, intersections, car parking spaces or gates within 6.0m of the access point (measured from the site boundary into the site) as shown in the following diagram: 	<p>Consistent</p> <p>All vehicle queuing will be internal to the site and will not interfere with the functional performance of Eastern Parade or Hanson Road.</p>



- (b) will service, or is intended to service, development that will generate less than 60 vehicle movements per day and:
 - (i) is expected to be serviced by vehicles with a length no greater than 6.4m
 - (ii) there are no internal driveways, intersections, parking spaces or gates within 6.0m of the access point (measured from the site boundary into the site).
- (c) will service, or is intended to service, development that will generate less than 60 vehicle movements per day and:
 - (i) is expected to be serviced by vehicles with a length greater than a 6.4m small rigid vehicle
 - (ii) there are no internal driveways, intersections, parking spaces or gates within 6.0m of the access point (measured from the site boundary into the site)
 - (iii) any termination of, or change in priority of movement within the main car park aisle is located far enough into the site so that the largest vehicle expected on-site can store fully within the site before being required to stop
 - (iv) all parking or manoeuvring areas for commercial vehicles are located a minimum of 12m or the length of the largest vehicle expected on site from the access (measured from the site boundary into the site) as shown in the following diagram:

	 <p>The diagram shows a top-down view of a road intersection. A green rectangular area represents the road surface. A blue rectangle, labeled 'Largest Vehicle', is positioned vertically in the center. To its left, a brown rectangular area is labeled 'Internal Intersection'. A dimension line to the right of the blue rectangle indicates a width of '1.2m'. Below the road area, there are several horizontal lines representing a road boundary or sidewalk.</p>	
<p>PO 3.1</p>	<p>Existing access points designed to accommodate the type and volume of traffic likely to be generated by the development.</p> <p><u>DPF 3.1</u></p> <p>An existing access point satisfies (a), (b) or (c):</p> <ul style="list-style-type: none"> (a) it will not service, or is not intended to service, more than 6 dwellings (b) it is not located on a Controlled Access Road and will not service development that will result in a larger class of vehicle expected to access the site using the existing access (c) it is not located on a Controlled Access Road and development constitutes: <ul style="list-style-type: none"> (i) a change of use between an office <500m² gross leasable floor area and a consulting room <500m² gross leasable floor area or vice versa (ii) a change in use from a shop to an office, consulting room or personal or domestic services establishment (iii) a change of use from a consulting room or office <250m² gross leasable floor area to shop <250m² gross leasable floor area (iv) a change of use from a shop <500m² gross leasable floor area to a warehouse <500m² gross leasable floor area (v) an office or consulting room with a gross leasable floor area <500m² (vi) a change of use from residential dwelling to a shop, office, consulting room or personal or domestic services establishment with <250m² gross leasable floor area. 	<p>Consistent</p> <p>The proposed will utilise the same access arrangements for the approved application for Lot 501, which includes modifications to the Eastern Parade driveway access to facilitate two-way movements. These works are not development and can occur without approval.</p>
<p>PO 5.1</p>	<p>Access points are located and designed to accommodate sight lines that enable drivers and</p>	<p>Consistent</p>

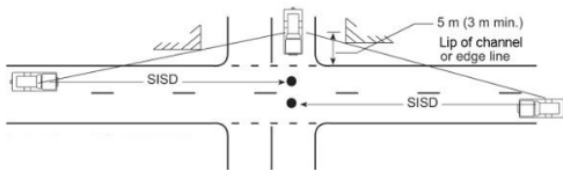
pedestrians to navigate potential conflict points with roads in a controlled and safe manner.

DPF 5.1

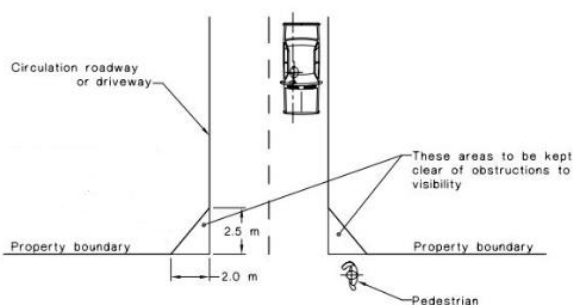
An access point satisfies (a) and (c) or (b) and (c):

- (a) the development site does or is intended to serve between 1 and 6 dwellings and utilises an existing access point or
- (b) drivers approaching or exiting an access point have an unobstructed line of sight in accordance with the following (measured at a height of 1.1m above the surface of the road):

Speed Limit	Access Point serving 1-6 dwellings	Access point serving all other development
40 km/h or less	47m	73m
50 km/h	63m	97m
60 km/h	81m	123m
70 km/h	100m	151m
80 km/h	121m	181m
90 km/h	144m	226m
100 km/h	169m	262m
110km/h	195m	300m



- (c) pedestrian sightlines in accordance with the following diagram:



Safe access and egress will be provided through upgrade to the Eastern Parade driveway access and Hanson Road. These locations do not create conflict points with pedestrians.

PO 6.1


Access points constructed to minimise mud or other debris being carried or transferred onto the road to ensure safe road operating conditions.

DPF 6.1

Where the road has an unsealed shoulder and the road is not kerbed the access way is sealed from the edge of seal on the road for a minimum

Consistent

Wheel washes for trucks will occur within the SRF site and the access points to roads will be sealed.

	of 10m or to the property boundary (whichever is closer)	
PO 7.1	<p>Access points designed to minimise negative impact on roadside drainage of water.</p> <p><u>DPF 7.1</u></p> <p>Development does not:</p> <ul style="list-style-type: none"> (a) decrease the capacity of an existing drainage point (b) restrict or prevent the flow of stormwater to an existing drainage point and system (c) results in access points becoming stormwater flow paths directly onto the road. 	<p>Consistent</p> <p>The upgrades to the Eastern Parade driveway access and Hanson Road will incorporate appropriate drainage.</p>
PO 9.1	<p>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.</p> <p><u>DPF 9.1</u></p> <p>Development does not comprise any of the following:</p> <ul style="list-style-type: none"> (a) creating a new junction with a public road (b) opening an unmade public road junction (c) modifying an existing public road junction. 	<p>Consistent</p> <p>See above</p>
PO 10.1	<p>Development is located and designed to maintain sightlines for drivers turning into and out of public road junctions to contribute to driver safety.</p> <p><u>DPF 10.1</u></p> <p>Development does not involve building work, or building work is located wholly outside the land shown as 'Corner Cut-Off Area' in the following diagram:</p> 	<p>Consistent</p> <p>See above</p>

Non-stop Corridor Overlay

Desired Outcomes

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

PO 1.1	The safety, efficiency and functional performance of non-stop corridors is maintained.	Consistent See above
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Traffic Generating Development Overlay

Desired Outcomes

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 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 See above
PO 1.2	Access points sited and designed to accommodate the type and volume of traffic likely to be generated by development.	Consistent See above
PO 1.3	Sufficient accessible on-site queuing provided to meet the needs of the development so that queues do not impact on the State Maintained Road network.	Consistent See above

Prescribed Wells Area Overlay

Desired Outcomes

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

PO 1.1	<p>All development, but in particular involving any of the following:</p> <ul style="list-style-type: none"> (a) horticulture (b) activities requiring irrigation (c) aquaculture (d) industry (e) intensive animal husbandry (f) commercial forestry <p>has a lawful, sustainable and reliable water supply that does not place undue strain on water resources in prescribed wells areas.</p> <p><u>DPF 1.1</u></p> <p>Development satisfies either of the following:</p> <ul style="list-style-type: none"> (g) the applicant has a current water licence in which sufficient spare capacity exists to accommodate the water needs of the proposed use or (h) the proposal does not involve the taking of water for which a licence would be required under the <i>Landscape South Australia Act 2019</i>. 	<p>Consistent</p> <p>The proposed SRF will be supplied with water from the existing SA Water network. Water from operations will be captured, treated and reused on-site. There is no requirement for groundwater use.</p>
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Water Resources Overlay

Desired Outcomes

DO 1	<p>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.</p>
DO 2	<p>Maintain the conveyance function and natural flow paths of watercourses to assist in the management of flood waters and stormwater runoff.</p>

Performance Outcomes

PO 1.1	<p>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.</p>	<p>Partially consistent</p> <p>Existing watercourses identified on the subject land will be modified through the filling of the site. However, these are not functional watercourses from a hydrology perspective due to the past modifications to water flows through the construction of levees, the Range Wetlands and the Port River Expressway. They remain low-lying areas that are inundated by water flowing from the north along the eastern side of the levee.</p> <p>The watercourses are not identified as such on Concept Plan 102 – Gillman and were assumed</p>
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		to be filled in the Gillman Master Plan that informed the concept plan. However, the proposed development does not completely fill these areas due to the presence of samphire habitat for protected bird species.
PO 1.2	Development avoids interfering with the existing hydrology or water regime of swamps and wetlands other than to improve the existing conditions to enhance environmental values.	Consistent See above
PO 1.3	Wetlands and low-lying areas providing habitat for native flora and fauna are not drained, except temporarily for essential management purposes to enhance environmental values.	Consistent See above
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	<p>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:</p> <ul style="list-style-type: none"> (a) reduce the impacts on native aquatic ecosystems (b) minimise soil loss eroding into the watercourse. <p><u>DPF 1.5</u></p> <p>A strip of land 20m or more wide measured from the top of existing banks on each side of the watercourse is free from development, livestock use and revegetated with locally indigenous vegetation.</p>	Consistent The proposed development will incorporate perimeter bunds and catch drains around the fill mounds to catch surface runoff and intercept groundwater. Treated wastewater will be discharged to the subject land, but this will be akin to runoff volumes under current rainfall events.
PO 1.6	<p>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:</p> <ul style="list-style-type: none"> (a) the construction of an erosion control structure (b) devices or structures used to extract or regulate water flowing in a watercourse (c) devices used for scientific purposes (d) the rehabilitation of watercourses. 	Partially consistent See above
PO 1.7	Watercourses, floodplains (1% AEP flood extent) and wetlands protected and enhanced by retaining and protecting existing native vegetation.	Consistent See above
PO 1.8	Watercourses, floodplains (1% AEP flood extent) and wetlands are protected and enhanced by stabilising watercourse banks and reducing	Consistent See above

	sediments and nutrients entering the watercourse.	
PO 1.9	Dams, water tanks and diversion drains are located and constructed to maintain the quality and quantity of flows required to meet environmental and downstream needs.	Consistent The proposed development will capture, treat and reuse water on-site. It will not be intercepting or capturing natural water flows into the Range or Magazine basins.

Zones

Strategic Employment Zone

Desired Outcomes

DO 1	A range of major logistics, manufacturing, high technology and research land uses generating wealth and employment for the state that takes advantage of road, rail and ports infrastructure together with compatible business activities that support an expanding workforce.
DO 2	Employment-generating uses are arranged to: <ul style="list-style-type: none"> (a) support the efficient movement of goods and materials on land in the vicinity of major transport infrastructure such as ports and intermodal freight facilities (b) maintain access to waterfront areas for uses that benefit from direct water access including harbour facilities, port related industry and warehousing, ship building and related support industries (c) create new and enhance existing business clusters (d) support opportunities for the convenient co-location of rural related industries and allied businesses that may detract from scenic rural landscapes (e) be compatible with its location and setting to manage adverse impacts on the amenity of land in adjacent zones.
DO 3	A pleasant visual amenity from adjacent arterial roads, adjoining zones and entrance ways to cities, towns and settlements.

Performance Outcomes

PO 1.1	Development primarily for a range of higher-impacting land uses including general industry, warehouse, transport distribution and the like is supplemented by other compatible development so as not to unduly impede the use of land in other ownership in the zone for employment-generating land uses, particularly those parts of the zone unaffected by an interface with another zone that would be sensitive to impact-generating uses.	Consistent The SRF proposed development is of an industrial type nature in itself, while the filling of the land will support the future development of land uses consistent with the PO and DOs. The activities of the proposed development will not impede the use of other land or cause negative impacts to sensitive uses.
PO 3.1	Development includes distinctive building, landscape and streetscape design to achieve high visual and environmental amenity particularly along arterial roads, zone boundaries and public open spaces.	Inconsistent The development does not include distinctive building or streetscape design, reflecting the temporary nature of the facilities to be established. Landscaping of parts of the land, in particular the embankments, catch drains and along the southern edge of the subject land
PO 3.2	Building facades facing a boundary of a zone primarily intended to accommodate sensitive	

	<p>receivers, a public road, or public open space incorporate design elements to add visual interest by considering the following:</p> <ul style="list-style-type: none"> (a) using a variety of building finishes (b) avoiding elevations that consist solely of metal cladding (c) using materials with a low reflectivity (d) using techniques to add visual interest and reduce large expanses of blank walls including modulation and incorporation of offices and showrooms along elevations visible to a public road. 	<p>adjacent to the Port River Bikeway will assist in mitigating some of the impacts, but will not contribute to a high visual and environmental amenity or add visual interest.</p> <p>The future detailed master planning of land development by Renewal SA post the filling of the land and decommissioning of the SRF will incorporate greater consideration of built form and landscaping treatments to meet the POs.</p>
PO 3.3	Buildings are set back from the primary street boundary to contribute to a consistent streetscape.	<p>Consistent</p> <p>The buildings and facilities are setback significantly from public roads, noting there is no consistent streetscape character in the locality.</p>
PO 3.5	Buildings are sited to accommodate vehicle access to the rear of a site for deliveries, maintenance and emergency purposes.	Consistent
PO 5.1	Landscaping is provided along public roads and thoroughfares and zone boundaries to enhance the visual appearance of development and soften the impact of large buildings when viewed from public spaces and adjacent land outside the zone.	<p>Consistent</p> <p>Landscaping of parts of the land, in particular the embankments, catch drains and along the southern edge of the subject land adjacent to the Port River Bikeway will assist in mitigating some of the impacts, but will not contribute to a high visual and environmental amenity or add visual interest.</p>
PO 5.2	Development incorporates areas for landscaping to enhance the overall amenity of the site and locality.	
PO 6.1	Fencing exceeding 2.1m in height is integrated and designed to complement the appearance of land and buildings and does not form a dominant visual feature from adjacent streets to enhance the character of employment areas.	<p>Consistent</p> <p>The perimeter security fencing will be lower than 2.1m. Regardless, the fencing will not be a dominant feature and will be consistent with fencing for industrial premises and infrastructure within the locality.</p>
PO 8.1	<p>Development is compatible with the outcomes sought by any relevant Concept Plan contained within Part 12 - Concept Plans of the Planning and Design Code to support the orderly development of land through staging of development and provision of infrastructure.</p> <p><u>DPF 8.1</u></p> <p>The site of the development is wholly located outside any relevant Concept Plan boundary. The following Concept Plans are relevant:</p> <p>Concept Plan 102 – Gillman</p>	<p>Consistent</p> <p>The proposed development is entirely consistent with the spatial allocation of land uses, environmental protection areas and infrastructure illustrated in Concept Plan 102 – Gillman.</p>

Gillman Subzone Policies

Desired Outcome

DO 1	A range of major logistics, manufacturing, high technology and research land uses generating wealth and employment for the state that takes advantage of road, rail and ports infrastructure together with compatible business activities that support an expanding workforce.
DO 2	Co-location of the management of Adelaide's waste, resource recovery and related processing and industrial activities to provide operational efficiencies and the economic provision of infrastructure, and provision of land for stormwater management and enhancement of tidal flow and habitat function of Magazine Creek, Range wetlands, samphire and mangroves.

Performance Outcomes

Land Use and Intensity		
PO 1.1	<p>Development primarily for a range of major logistics and manufacturing plants, high technology and research.</p> <p><u>DPF 1.1</u></p> <p>Development comprises one or more of the following:</p> <ul style="list-style-type: none"> Filling of land and associated stockpiling suitable for land reclamation Stormwater retention / detention basin 	<p>Consistent</p> <p>The proposed development comprises filling of land and associated stockpiling suitable for land reclamation, which will facilitate the future development of the land for uses consistent with the PO and DOs.</p>
Hazard Risk Minimisation		
PO 2.1	<p>Land identified for stormwater management and habitat rehabilitation in the subzone is not developed for industrial use unless:</p> <ol style="list-style-type: none"> there is sufficient land capable of managing the regional and local stormwater catchment function in the location the land unlikely to be inundated by tidal flows as a result of the periodic opening of the tidal gates, taking into account long term sea-level rise it does not result in the removal of existing remnant samphire habitats or threaten the ability for expansion and inland migration of such habitats the provision of a new or the expansion of an existing sea flood protection levee or sea wall infrastructure can be accommodated into the future. 	<p>Consistent</p> <p>The subject land is not identified in Concept Plan 102 – Gillman as an area for stormwater management and habitat rehabilitation. However, the proposed development will avoid low-lying areas of the subject land that contains a TEC that is habitat for birds, including protected species under the EPBC Act.</p>

PO 2.2	Development minimises adverse disturbance to existing sea flood protection levees and infrastructure.	<p>Consistent</p> <p>The proposed development does not disturb existing levees or impact upon the tidal gates.</p>
PO 2.3	Development is designed and sited to provide sufficient land for flood mitigation, including the establishment of new sea walls or sea flood protection levees to provide protection from stormwater and seawater flooding.	<p>Consistent</p> <p>The proposed filling of the subject land is consistent with the Gillman Master Plan. Sufficient storage capacity remains within the Range basin to accommodate stormwater flows as modelled by Tonkin Consulting for the Gillman Master Plan and the Western Adelaide Region Climate Adaptation Plan and by Mott MacDonald for this application.</p>
PO 2.4	<p>Development is protected against sea flood risk and sea level rise.</p> <p><u>DPF 2.4</u></p> <p>Development achieves one of the following:</p> <ul style="list-style-type: none"> (a) where no sea flood protection levee or seawall exists, minimum site and floor levels are at least 3.7m AHD and 3.95m AHD respectively, to provide protection from coastal flooding to the year 2050 and it allows for the practical establishment of protection measures against a further sea level rise of 0.7m and land subsidence to the year 2100 (b) a sea flood protection levee or sea wall has been constructed, which will provide the development with protection from coastal flooding to the year 2050, has a height of at least 3.7m AHD and is capable of being adapted to accommodate for a further sea level rise of 0.7m and land subsidence to the year 2100. 	<p>Partially Consistent</p> <p>The proposed development will fill land to 3.7-4.2m AHD, enabling a development platform for future employment land uses.</p> <p>However, it is acknowledged that the temporary buildings and facilities to be constructed for the purposes of the operations of the SRF will not be elevated to finished site levels in accordance with DPF 2.4. This departure is considered acceptable noting their temporary nature, the protection afforded to the subject land by the sea wall and a separate levee and the largest risk of sea flood risk is associated with future sea level rise that occurs outside the operating timeframe for the SRF.</p>

General Development Policies

Clearance from Overhead Powerlines

Desired Outcomes

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

PO 1.1	<p>Buildings are adequately separated from aboveground powerlines to minimise potential hazard to people and property.</p> <p><u>DPF 1.1</u></p> <p>One of the following is satisfied:</p> <ul style="list-style-type: none"> (a) a declaration is provided by or on behalf of the applicant to the effect that the proposal would not be contrary to the regulations prescribed for the purposes of section 86 of the Electricity Act 1996 (b) there are no aboveground powerlines adjoining the site that are the subject of the proposed development. 	<p>Consistent</p> <p>There are no overhead powerlines that are impacted by the proposed development.</p>
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Design

Desired Outcomes

DO 1	<p>Development is:</p> <ul style="list-style-type: none"> (a) contextual - by considering, recognising and carefully responding to its natural surroundings or built environment and positively contributes to the character of the immediate area (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.
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Performance Outcomes

PO 1.5	<p>The negative visual impact of outdoor storage, waste management, loading and service areas is minimised by integrating them into the building design and screening them from public view (such as fencing, landscaping and built</p>	<p>Consistent</p> <p>The proposed development will be akin in appearance to existing land uses and will not create a negative visual impact. Landscaping of</p>
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	form) taking into account the form of development contemplated in the relevant zone.	the fill mounds and along the Port River Bikeway will assist in softening their impact.
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 will operate 24-hours a day with trucks regularly arriving to site. This will provide passive surveillance of the approaches to the site from Eastern Parade and Hanson Road.
PO 2.2	Development is designed to differentiate public, communal and private areas.	Consistent The SRF will be closed to the public with gatehouses to intercept people seeking to access the site.
PO 2.3	Buildings are designed with safe, perceptible and direct access from public street frontages and vehicle parking areas.	Consistent The functional nature of the development will suit its intended purpose for on-site staff.
PO 3.1	Soft landscaping and tree planting is 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 (e) contribute to biodiversity.	Partially consistent Opportunities for landscaping within the proposed development site will be limited to areas at the periphery of the fill mounds, including the slopes, catch drains and perimeter bunds, and along the Port River Bikeway to assist in screening and improved amenity for cyclists. This proposed landscaping will be consistent with the relevant policies, but further developed through the detailed design phase with determination of suitable plants and landscape methods. However, there is limited opportunity to landscape the surface of the fill mounds through the operational phases of the SRF, and the temporary facilities and car parking areas will not be landscaped reflecting their temporary nature and the potential for these areas to transition to different use, or further filling of land by Renewal SA once the SRF ceases. Departures from relevant policies is considered acceptable.
PO 3.2	Soft landscaping and tree planting maximises the use of locally indigenous plant species, incorporates plant species best suited to current and future climate conditions and avoids pest plant and weed species.	Consistent Landscaping will utilise local species suitable for the coastal environment, noting that the CPB sought a condition to that effect for the Part 1 application.
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.	Inconsistent The temporary buildings will be highly functional ones for the operations of the SRF, generally consistent with the character of buildings on construction sites. The need for architectural treatments has been considered in this context and can be deemed to be unnecessary. Given

		the specialised functions of the site and its temporary nature, there is also little opportunity to build in orientation and environmental performance outcomes sought by the Design GDPs. Departures from these policies is considered acceptable.
PO 4.2	Buildings are sited and designed to maximise passive environmental performance and minimise energy consumption and reliance on mechanical systems, such as heating and cooling.	Inconsistent See above
PO 4.3	Buildings incorporate climate-responsive techniques and features such as building and window orientation, use of eaves, verandahs and shading structures, water harvesting, at ground landscaping, green walls, green roofs and photovoltaic cells.	Inconsistent See above
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.	Partially consistent Existing watercourses identified on the subject land will be modified through the filling of the site. However, these are not functional watercourses from a hydrology perspective due to the past modifications to water flows through the construction of levees, the Range Wetlands and the Port River Expressway. They remain low-lying areas that are inundated by water flowing from the north along the eastern side of the levee. The watercourses are not identified as such on Concept Plan 102 – Gillman and were assumed to be filled in the Gillman Master Plan that informed the concept plan. However, the proposed development does not completely fill these areas due to the presence of samphire habitat for protected bird species.
PO 7.2	Vehicle parking areas are appropriately located, designed and constructed to minimise impacts on adjacent sensitive receivers through measures such as ensuring they are attractively developed and landscaped, screen fenced and the like.	Inconsistent See above
PO 7.3	Safe, legible, direct and accessible pedestrian connections are provided between parking areas and the development.	Consistent See above
PO 7.4	Street level vehicle parking areas incorporate tree planting to provide shade and reduce solar heat absorption and reflection.	Inconsistent See above
PO 7.5	Street level parking areas incorporate soft landscaping to improve visual appearance when	Inconsistent

	viewed from within the site and from public places.	See above
PO 7.6	Vehicle parking areas and associated driveways are landscaped to provide shade and positively contribute to amenity.	Inconsistent See above
PO 7.7	Vehicle parking areas and access ways incorporate integrated stormwater management techniques such as permeable or porous surfaces, infiltration systems, drainage swales or rain gardens that integrate with soft landscaping.	Inconsistent Internal areas of the site will direct stormwater to catch drains for treatment and reuse. In the car parking areas, this will not incorporate landscaping due to the temporary nature and potential future intent of further filling of these areas of land following the decommissioning of the SRF.
PO 8.1	<p>Development, including any associated driveways and access tracks, minimises the need for earthworks to limit disturbance to natural topography.</p> <p><u>DPF 8.1</u></p> <p>Development does not involve any of the following:</p> <ul style="list-style-type: none"> (a) excavation exceeding a vertical height of 1m (b) filling exceeding a vertical height of 1m (c) a total combined excavation and filling vertical height of 2m or more. 	Inconsistent This PO is superseded by the Subzone policies that seek the filling of land to a site level of 3.7m AHD.
All non-residential development – Water Sensitive Design		
PO 31.1	Development likely to result in significant risk of export of litter, oil or grease includes stormwater management systems designed to minimise pollutants entering stormwater.	Consistent The proposed development will incorporate perimeter bunds and catch drains around the fill mounds to catch surface runoff and intercept groundwater. It will capture, treat and reuse water on-site, with treated wastewater discharged to the environment.
PO 31.2	Water discharged from a development site is of a physical, chemical and biological condition equivalent to or better than its pre-developed state.	Consistent See above
All non-residential development – Wash-down and Waste Loading and Unloading		
PO 32.1	<p>Areas for activities including loading and unloading, storage of waste refuse bins in commercial and industrial development or wash-down areas used for the cleaning of vehicles, vessels, plant or equipment are:</p> <ul style="list-style-type: none"> (a) designed to contain all wastewater likely to pollute stormwater within a bunded and roofed area to exclude the entry of external surface stormwater run-off 	Consistent The proposed development will incorporate perimeter bunds and catch drains around washdown areas to catch surface runoff, where it will be captured, treated and reused on-site.

	<p>(b) paved with an impervious material to facilitate wastewater collection</p> <p>(c) of sufficient size to prevent 'splash-out' or 'over-spray' of wastewater from the wash-down area</p> <p>(d) designed to drain wastewater to either:</p> <ul style="list-style-type: none"> (i) a treatment device such as a sediment trap and coalescing plate oil separator with subsequent disposal to a sewer, private or Community Wastewater Management Scheme or (ii) a holding tank and its subsequent removal off-site on a regular basis. 	
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Interface Between Land Uses

Desired Outcomes

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

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.	Consistent The nearest sensitive receiver is 900m from the subject land. Measures in the CEMP will address noise from machinery operating 24-hours per day.
PO 2.1	<p>Non-residential development does not unreasonably impact the amenity of sensitive receivers (or lawfully approved sensitive receivers) or an adjacent zone primarily for sensitive receivers through its hours of operation having regard to:</p> <ul style="list-style-type: none"> (a) the nature of the development (b) measures to mitigate off-site impacts (c) the extent to which the development is desired in the zone (d) measures that might be taken in an adjacent zone primarily for sensitive receivers that mitigate adverse impacts without unreasonably compromising the intended use of that land. 	<p>Consistent</p> <p>The Strategic Employment Zone contemplates land uses that operate 24-hours a day. The strategic location of the land away from sensitive receivers is a big part of the intent for the land to be developed for industrial/commercial uses.</p> <p>Nonetheless, measures in the CEMP will address noise from machinery operating 24-hours per day.</p>
PO 4.1	<p>Development that emits noise (other than music) does not unreasonably impact the amenity of sensitive receivers (or lawfully approved sensitive receivers).</p> <p><u>DPF 4.1</u></p>	<p>Consistent</p> <p>See above</p>

	Noise that affects sensitive receivers achieves the relevant Environment Protection (Commercial and Industrial Noise) Policy criteria.	
PO 4.2	<p>Areas for the on-site manoeuvring of service and delivery vehicles, plant and equipment, outdoor work spaces (and the like) are designed and sited to not unreasonably impact the amenity of adjacent sensitive receivers (or lawfully approved sensitive receivers) and zones primarily intended to accommodate sensitive receivers due to noise and vibration by adopting techniques including:</p> <ul style="list-style-type: none"> (a) locating openings of buildings and associated services away from the interface with the adjacent sensitive receivers and zones primarily intended to accommodate sensitive receivers (b) when sited outdoors, locating such areas as far as practicable from adjacent sensitive receivers and zones primarily intended to accommodate sensitive receivers (c) housing plant and equipment within an enclosed structure or acoustic enclosure (d) providing a suitable acoustic barrier between the plant and / or equipment and the adjacent sensitive receiver boundary or zone. 	<p>Consistent</p> <p>See above</p>
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 zones primarily intended to accommodate sensitive receivers.	<p>Consistent</p> <p>Measures in the CEMP will address dust management.</p>
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).	<p>Consistent</p> <p>Lighting of the site, incorporating permanent and moveable light structures, will not unreasonably impact adjoining land.</p>
PO 6.2	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.	<p>Consistent</p> <p>All built infrastructure will be sufficiently distant from public roads that there will be limited impact from their materiality.</p>

Site Contamination

Desired Outcomes

DO 1	Ensure land is suitable for the proposed use in circumstances where it is, or may have been, subject to site contamination.
-------------	---

Performance Outcomes

PO 1.1	<p>Ensure land is suitable for use when land use changes to a more sensitive use.</p> <p><u>DPF 1.1</u></p> <p>Development satisfies (a), (b), (c) or (d):</p> <ul style="list-style-type: none"> (a) does not involve a change in the use of land (b) involves a change in the use of land that does not constitute a change to a more sensitive use (c) involves a change in the use of land to a more sensitive use on land at which site contamination is unlikely to exist (as demonstrated in a site contamination declaration form) (d) involves a change in the use of land to a more sensitive use on land at which site contamination exists, or may exist (as demonstrated in a site contamination declaration form), and satisfies both of the following: <ul style="list-style-type: none"> (i) a site contamination audit report has been prepared under Part 10A of the Environment Protection Act 1993 in relation to the land within the previous 5 years which states that- <ul style="list-style-type: none"> A. site contamination does not exist (or no longer exists) at the land or B. the land is suitable for the proposed use or range of uses (without the need for any further remediation) or C. where remediation is, or remains, necessary for the proposed use (or range of uses), remediation work has been carried out or will be carried out (and the applicant has provided a written undertaking that the remediation works will be implemented in association with the development) <p>and</p>	<p>Consistent</p> <p>The site is vacant and is not proposed for a sensitive use, either for the operations of the SRF or the future industrial/commercial development of the land (outside the scope of this application).</p> <p>The future suitability of the site for industrial/commercial use following the completion of the filling of the land with spoil from the T2D Project will be confirmed by the ASCA as part of the Auditor Protocol under the WDF Standard.</p>
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	(ii) no other class 1 activity or class 2 activity has taken place at the land since the preparation of the site contamination audit report (as demonstrated in a site contamination declaration form)	
--	--	--

Transport, Access and Parking

Desired Outcomes

DO 1	A comprehensive, integrated and connected transport system that is safe, sustainable, efficient, convenient and accessible to all users.
-------------	--

Performance Outcomes

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 See above
PO 1.2	Development is designed to discourage commercial and industrial vehicle movements through residential streets and adjacent other sensitive receivers.	Consistent Haul routes for spoil trucks will be on the arterial road network.
PO 1.3	Industrial, commercial and service vehicle movements, loading areas and designated parking spaces are separated from passenger vehicle car parking areas to ensure efficient and safe movement and minimise potential conflict.	Consistent Staff car parking areas will be separate from truck parking and spoil unloading areas.
PO 1.4	Development is sited and designed so that loading, unloading and turning of all traffic avoids interrupting the operation of and queuing on public roads and pedestrian paths. <u>DPF 1.4</u> All vehicle manoeuvring occurs onsite.	Consistent See above
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 See above
PO 2.2	Walls, fencing and landscaping adjacent to driveways and corner sites are designed to provide adequate sightlines between vehicles and pedestrians.	Consistent See above
PO 3.1	Safe and convenient access minimises impact or interruption on the operation of public roads. <u>DPF 3.1</u>	Consistent See above

	<p>The access is:</p> <ul style="list-style-type: none"> (a) provided via a lawfully existing or authorised driveway or access point or an access point for which consent has been granted as part of an application for the division of land or (b) not located within 6m of an intersection of 2 or more roads or a pedestrian activated crossing. 	
PO 3.3	Access points are sited and designed to accommodate the type and volume of traffic likely to be generated by the development or land use.	<p>Consistent</p> <p>See above</p>
PO 3.8	Driveways, access points, access tracks and parking areas are designed and constructed to allow adequate movement and manoeuvrability having regard to the types of vehicles that are reasonably anticipated.	<p>Consistent</p> <p>See above</p>
PO 3.9	Development is designed to ensure vehicle circulation between activity areas occurs within the site without the need to use public roads.	<p>Consistent</p> <p>All internal vehicle movements will be on internal haul roads.</p>
PO 5.1	<p>Sufficient on-site vehicle parking and specifically marked accessible car parking places are provided to meet the needs of the development or land use having regard to factors that may support a reduced on-site rate such as:</p> <ul style="list-style-type: none"> (a) availability of on-street car parking (b) shared use of other parking areas (c) in relation to a mixed-use development, where the hours of operation of commercial activities complement the residential use of the site, the provision of vehicle parking may be shared (d) the adaptive reuse of a State or Local Heritage Place. <p><u>DPF 5.1</u></p> <p>Development provides a number of car parking spaces on-site at a rate no less than the amount calculated using one of the following, whichever is relevant:</p> <ul style="list-style-type: none"> (a) Transport, Access and Parking Table 2 - Off-Street Vehicle Parking Requirements in Designated Areas if the development is a class of development listed in Table 2 and the site is in a Designated Area (b) Transport, Access and Parking Table 1 - General Off-Street Car Parking Requirements where (a) does not apply 	<p>Consistent</p> <p>Sufficient car parking area will be provided for staff.</p>

	(c) if located in an area where a lawfully established carparking fund operates, the number of spaces calculated under (a) or (b) less the number of spaces offset by contribution to the fund.	
PO 6.5	Vehicle parking areas that are likely to be used during non-daylight hours are provided with sufficient lighting to entry and exit points to ensure clear visibility to users.	Consistent The SRF facility will operate 24-hours per day and be appropriately lit for staff and truck movements on-site.
PO 6.6	<p>Loading areas and designated parking spaces for service vehicles are provided within the boundary of the site.</p> <p><u>DPF 6.6</u></p> <p>Loading areas and designated parking spaces are wholly located within the site.</p>	Consistent All spoil unloading will occur on-site in dedicated areas.

Appendix B – Plans and Drawings

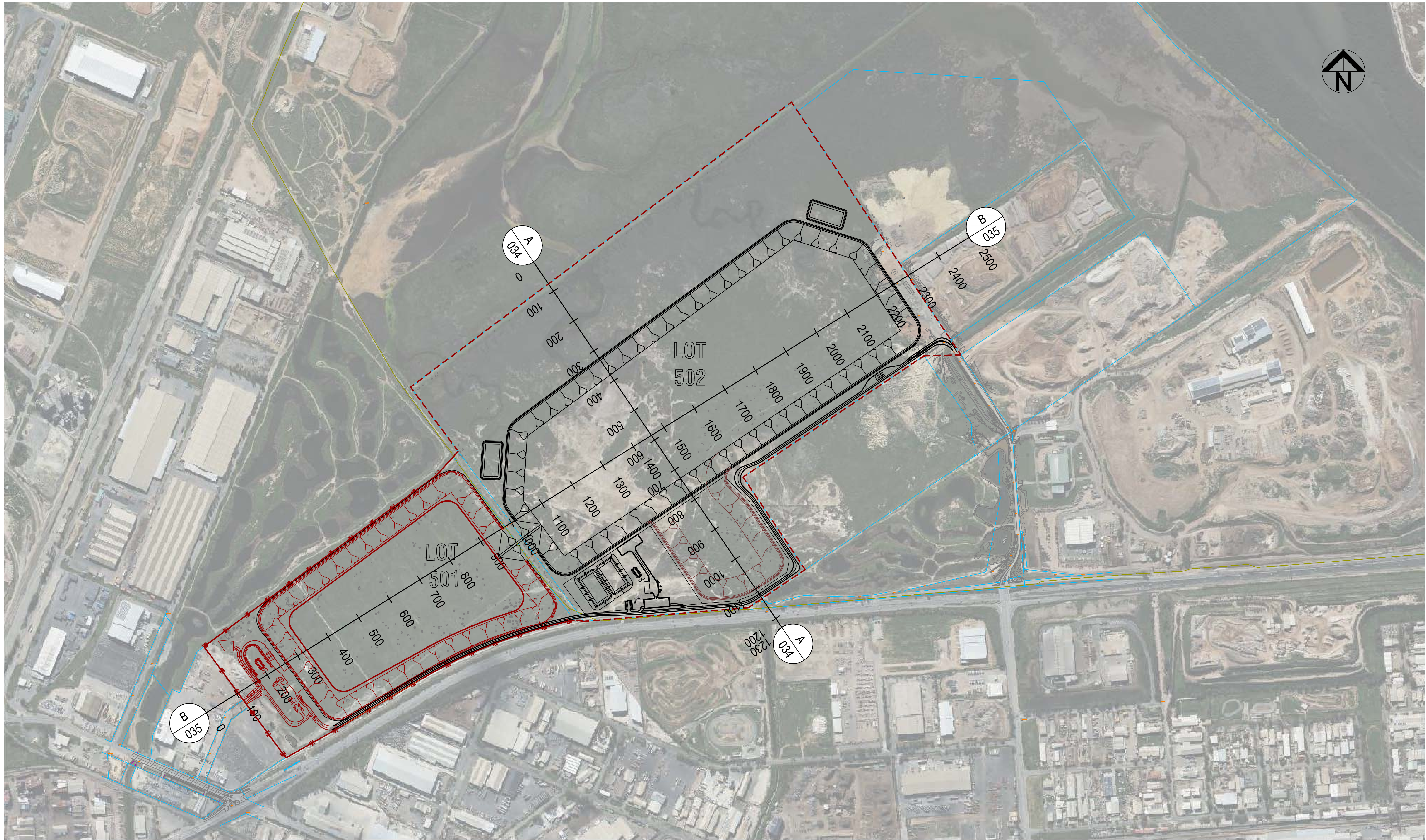


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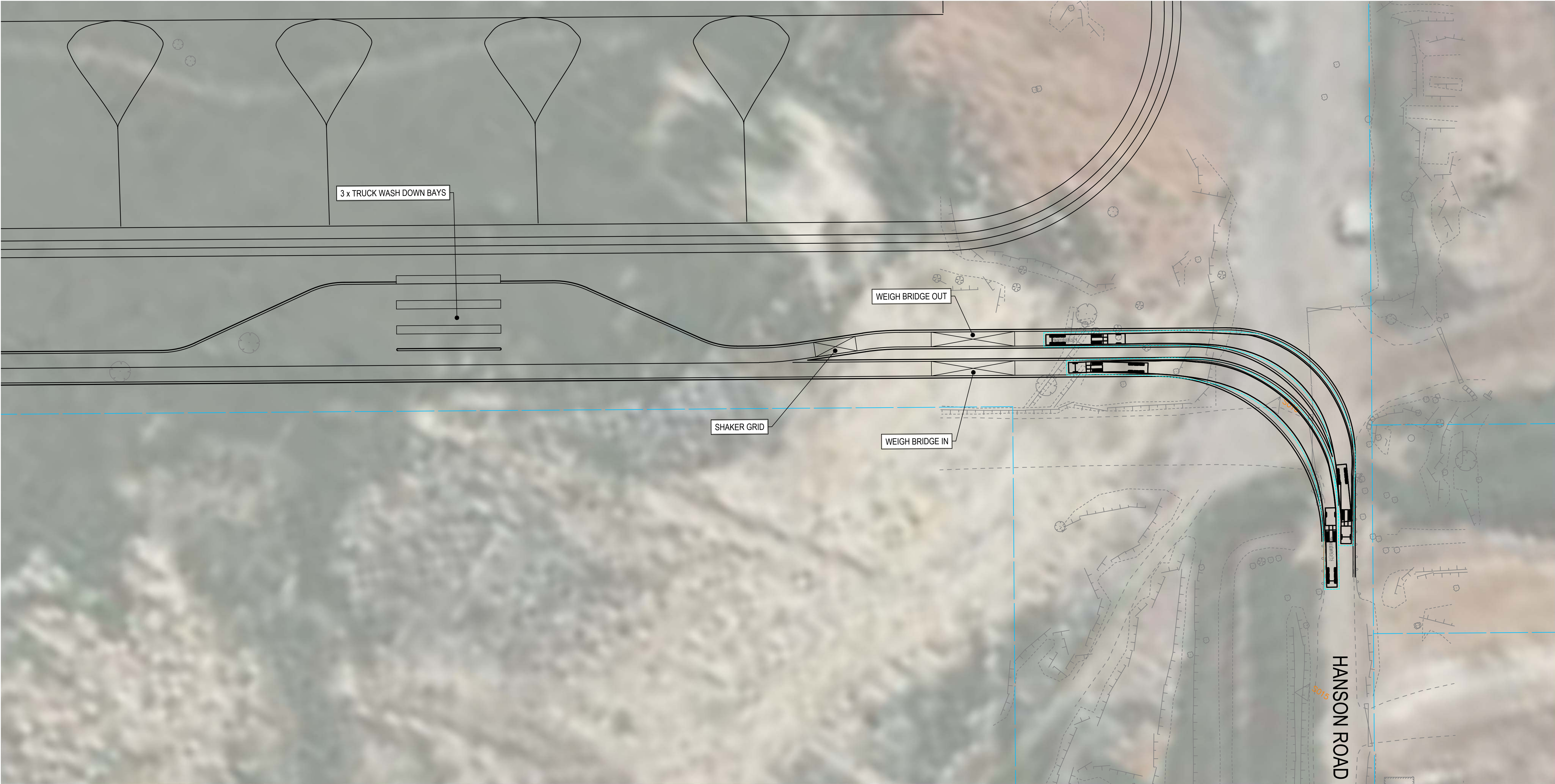


PLAN
SCALE 1:5000

PROJECT DOCUMENT REFERENCE
NSC-MMD-SKT-0000-00-037033

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CAD FILE NAME: NSC-MMD-SKT-0000-00-037033.DWG



PLAN
SCALE 1:500

<div>NOT FOR CONSTRUCTION</div>										INDEX SHEET REFERENCE: SHEET										<div>DESIGNED</div> <div>QUALIFICATION DATE:</div> <div>REVIEWER</div> <div>QUALIFICATION DATE:</div> <div>INDEPENDENT DESIGN CERTIFIER (IF REQUIRED)</div> <div>QUALIFICATION DATE:</div>		<div><div><div><div>SOUTH AUSTRALIA</div></div><div>Government of South Australia</div><div>Department for Infrastructure and Transport</div></div></div>		<div>PROJECT No.:</div> <div>FILE No.:</div> <div>DESIGN No.:</div> <div>SURVEY No.:</div> <div>PROJECT START ROAD RUNNING DISTANCE:</div> <div>PROJECT END ROAD RUNNING DISTANCE:</div> <div>SCALES:</div> <div><div>10</div><div>0</div><div>5</div><div>10</div><div>15</div><div>20</div></div>		<div>PROJECT DOCUMENT REFERENCE</div> <div>NSC-MMD-SKT-0000-00-037036</div> <div>SIGNAL No.:</div> <div>GILLMAN SPOIL FACILITY</div> <div>HANSON ROAD ENTRANCE</div> <div>CONCEPT LAYOUT</div> <div>DESIGNED:</div> <div>DRAFTED:</div> <div>ACCEPTED FOR USE:</div> <div>ACCEPTANCE FORM KNET No.:</div> <div>DRAWING No.:</div> <div>SHEET No.:</div> <div>AMEND No.:</div> <div>TITLE:</div> <div>DATE:</div> <div>IN ACCORDANCE WITH DP013</div> <div>SHEET LATITUDE</div> <div>SHEET LONGITUDE</div> <div>036</div> <div>A</div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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LEGEND

SYMBOL	DESCRIPTION
	STORMWATER RUNOFF FLOWS
	OVERLAND FLOW PATH
	OVERTOPPING FLOW PATH

PLAN
SCALE 1:5000

PROJECT DOCUMENT REFERENCE
NSC-MMD-SKT-0000-00-037037

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Appendix C – Certificate of Title

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6239 Folio 959

Parent Title(s) CT 6209/321, CT 6209/323

Creating Dealing(s) RTC 13314694

Title Issued 09/07/2020 Edition 2 Edition Issued 25/05/2022

Estate Type

FEE SIMPLE

Registered Proprietor

URBAN RENEWAL AUTHORITY
OF GPO BOX 698 ADELAIDE SA 5001

Description of Land

ALLOTMENT COMPRISING PIECES 501 AND 502 DEPOSITED PLAN 121878
IN THE AREAS NAMED DRY CREEK AND GILLMAN
HUNDRED OF PORT ADELAIDE

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED D ON D121878 FOR DRAINAGE PURPOSES (RTC 12618080)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED Q ON D121878 (TG 10408821)

SUBJECT TO FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED A ON D121878 (RTC 11406711)

SUBJECT TO FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED C ON D121878 (RTC 11383394)

SUBJECT TO FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED F ON D121878 (RTC 12945553)

SUBJECT TO FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED G ON D121878 (RTC 13314694)

Schedule of Dealings

Dealing Number	Description
12621329	AGREEMENT UNDER DEVELOPMENT ACT, 1993 PURSUANT TO SECTION 57(1)
13247810	CAVEAT BY REGISTRAR-GENERAL OVER PORTION

Notations

Dealings Affecting Title NIL

Priority Notices NIL

Notations on Plan NIL


Registrar-General's Notes

APPROVED D122961

APPROVED D124601

Administrative Interests

NIL

PURPOSE:		DIVISION		AREA NAME:		GILLMAN, DRY CREEK		RE-APPROVED:		<div><div>D121878</div><div>SHEET 1 OF 9</div><div>68360_text_01_v08_Version_8</div></div>
MAP REF:		6628/31		COUNCIL:		CITY OF PORT ADELAIDE ENFIELD		17/06/2020		
LAST PLAN:				DEVELOPMENT NO:				DEPOSITED:		
								26/06/2020		

AGENT DETAILS:

ALEXANDER & SYMONDS PTY LTD
1ST FLOOR 11 KING WILLIAM ST
KENT TOWN SA 5067
PH: 81301666
FAX: 83620099

AGENT CODE:

ALSY

REFERENCE:

A021218LTO1(A)

SURVEYORS
CERTIFICATION:

I DAMIAN JOHN HOLLAND , a licensed surveyor do hereby certify - 1) That this plan has been made from surveys carried out by me or under my personal supervision and in accordance with the Survey Act 1992. 2) That the field work was completed on the 10th day of July 2019
17th day of June 2020 Damian Holland Licensed Surveyor

SUBJECT TITLE DETAILS:										
PREFIX	VOLUME	FOLIO	OTHER	PARCEL	NUMBER	PLAN	NUMBER	HUNDRED / IA / DIVISION	TOWN	REFERENCE NUMBER
CT	6175	407		ALLOTMENT(S)	102	D	95728	PORT ADELAIDE		
CT	6209	321		ALLOTMENT(S) COMPRISING PIECES	(401*,402*)	D	118894	PORT ADELAIDE		
CT	6209	323		ALLOTMENT(S) COMPRISING PIECES	(404*,405*,406*)	D	118894	PORT ADELAIDE		

OTHER TITLES AFFECTED:

EASEMENT DETAILS:									
STATUS	LAND BURDENED	FORM	CATEGORY	IDENTIFIER	PURPOSE	IN FAVOUR OF	CREATION		
EXTINGUISH	502*	SHORT	FREE AND UNRESTRICTED RIGHT(S) OF WAY	F		507	RTC 12945553		
EXISTING	501*	SHORT	FREE AND UNRESTRICTED RIGHT(S) OF WAY	A			RTC 11406711		
EXISTING	506	LONG	EASEMENT(S)	B			T 6260006		
EXISTING	502*	SHORT	FREE AND UNRESTRICTED RIGHT(S) OF WAY	C			RTC 11383394		
EXISTING	502*. 506	SHORT	EASEMENT(S)	D	FOR DRAINAGE PURPOSES		RTC 12618080		
EXISTING	502*	SHORT	FREE AND UNRESTRICTED RIGHT(S) OF WAY	F		506	RTC 12945553		
EXISTING	506	LONG	EASEMENT(S)	P			TG 9635398		



D121878

SHEET 2 OF 9

68360_text_01_v08_Version_8

EASEMENT DETAILS:

STATUS	LAND BURDENED	FORM	CATEGORY	IDENTIFIER	PURPOSE	IN FAVOUR OF	CREATION
EXISTING	502*	LONG	EASEMENT(S)	Q			TG 10408821
EXISTING	506	LONG	EASEMENT(S)	R			TG 9635398
NEW	502*	SHORT	FREE AND UNRESTRICTED RIGHT(S) OF WAY	G		507	

ANNOTATIONS: NO OCCUPATION EXISTS ON THE SURVEYED SUBJECT LAND BOUNDARIES UNLESS SHOWN OTHERWISE.
MEDIUM HIGH WATER MARK PLOTTED FROM PREVIOUS SURVEYS
SECTION 90C OF THE REAL PROPERTY ACT 1886 APPLIES TO THIS PLAN

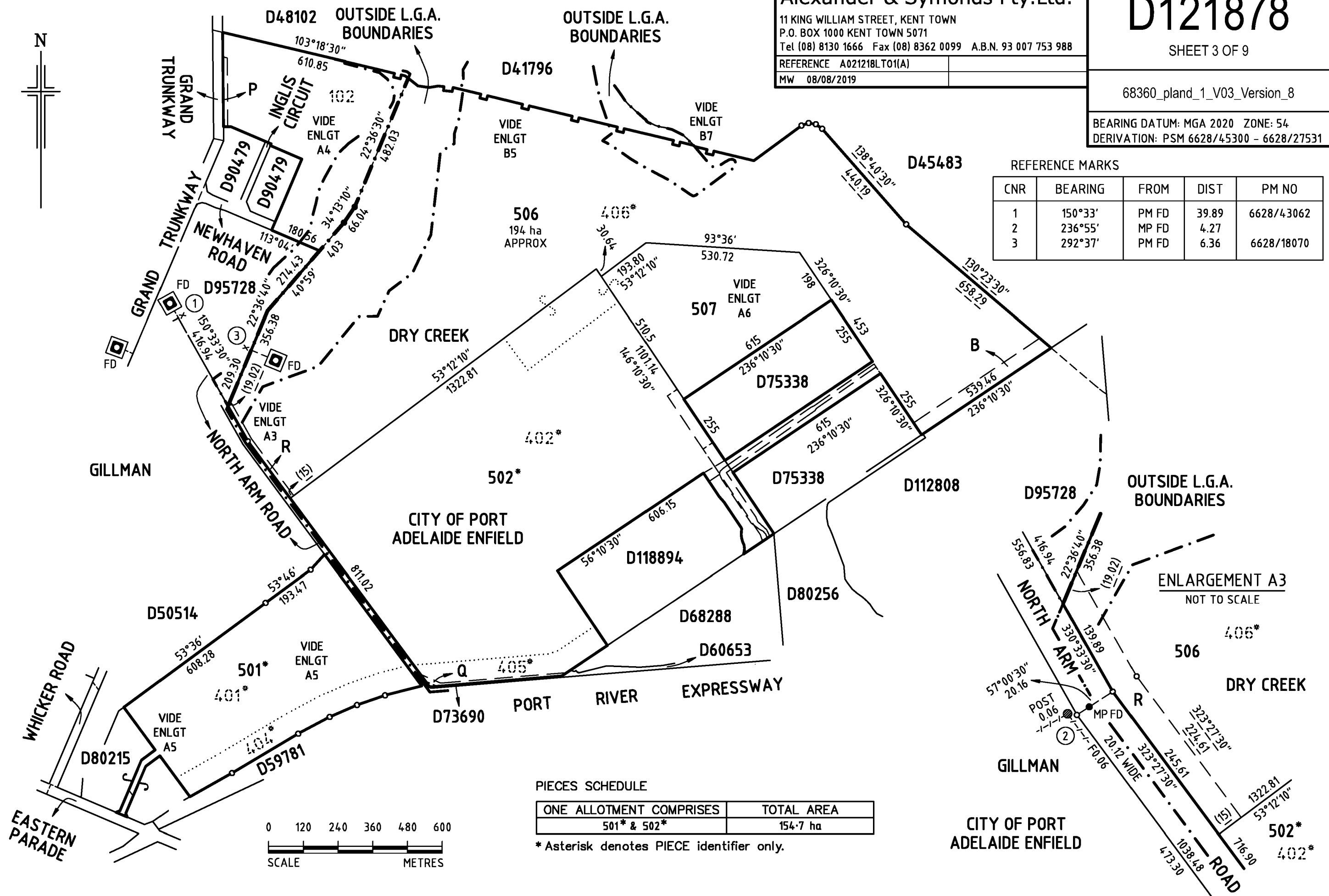
11 KING WILLIAM STREET, KENT TOWN
P.O. BOX 1000 KENT TOWN 5071
Tel (08) 8130 1666 Fax (08) 8362 0099 A.B.N. 93 007 753 988

REFERENCE A021218LT01(A)	
MW 08/08/2019	

SHEET 3 OF 9

BEARING DATUM: MGA 2020 ZONE: 54
DERIVATION: PSM 6628/45300 - 6628/27531

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3	292°37'	PM FD	6.36	6628/18070



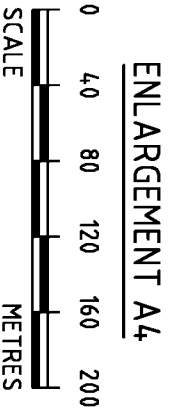
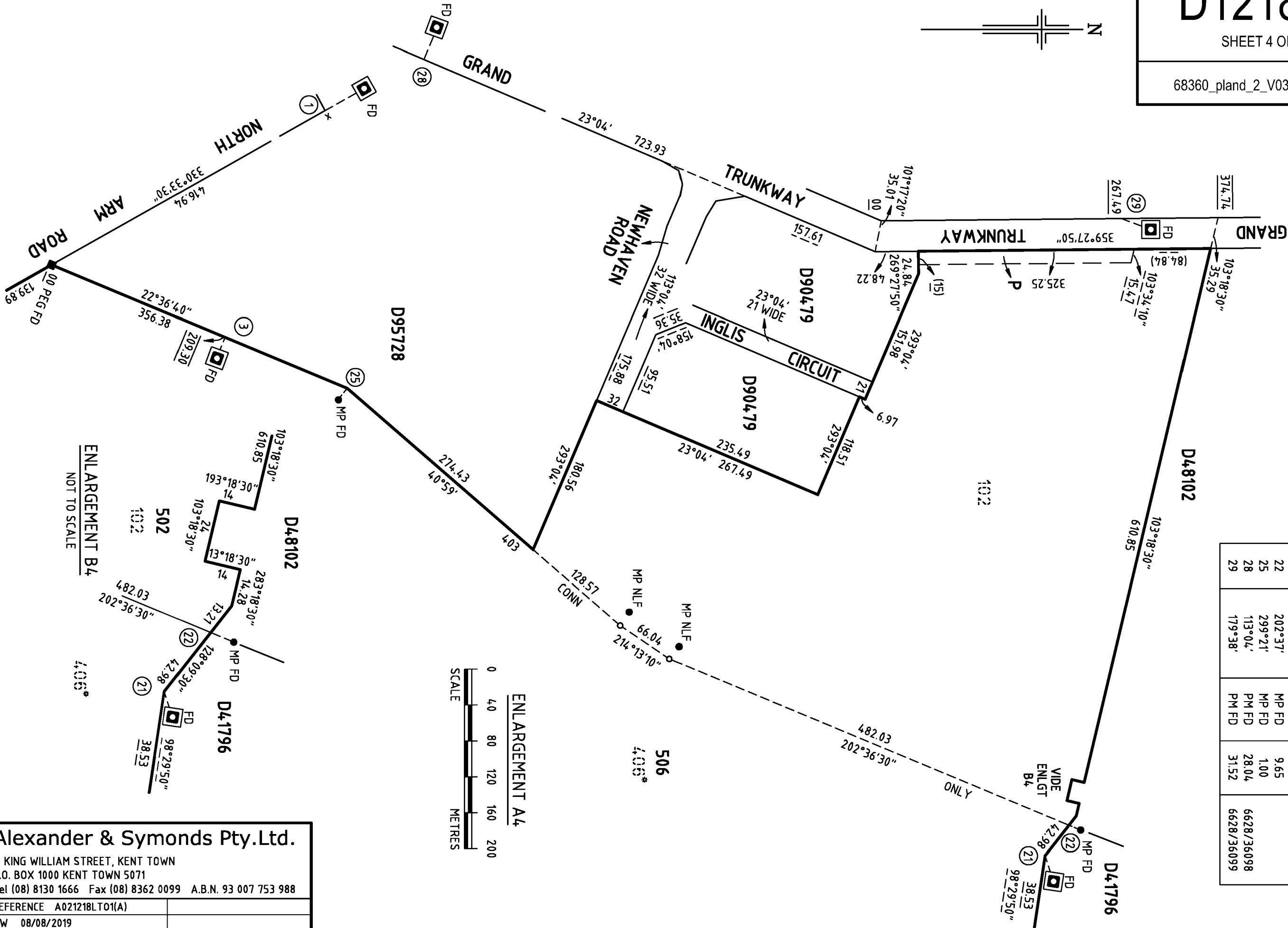
D121878

SHEET 4 OF 9

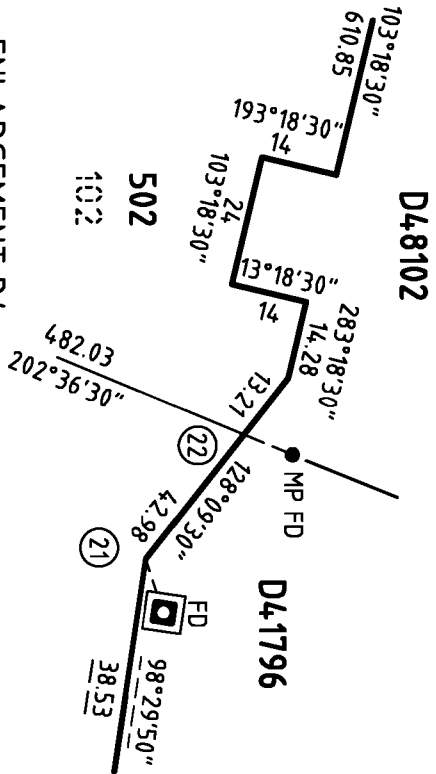
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22	202°37'	MP FD	9.65	
25	299°21'	MP FD	1.00	
28	113°04'	PM FD	28.04	6628/36098
29	179°38'	PM FD	31.52	6628/36099



ENLARGEMENT B4
NOT TO SCALE



Alexander & Symonds Pty.Ltd.

11 KING WILLIAM STREET, KENT TOWN
P.O. BOX 1000 KENT TOWN 5071
Tel (08) 8130 1666 Fax (08) 8362 0099 A.B.N. 93 007 753 988

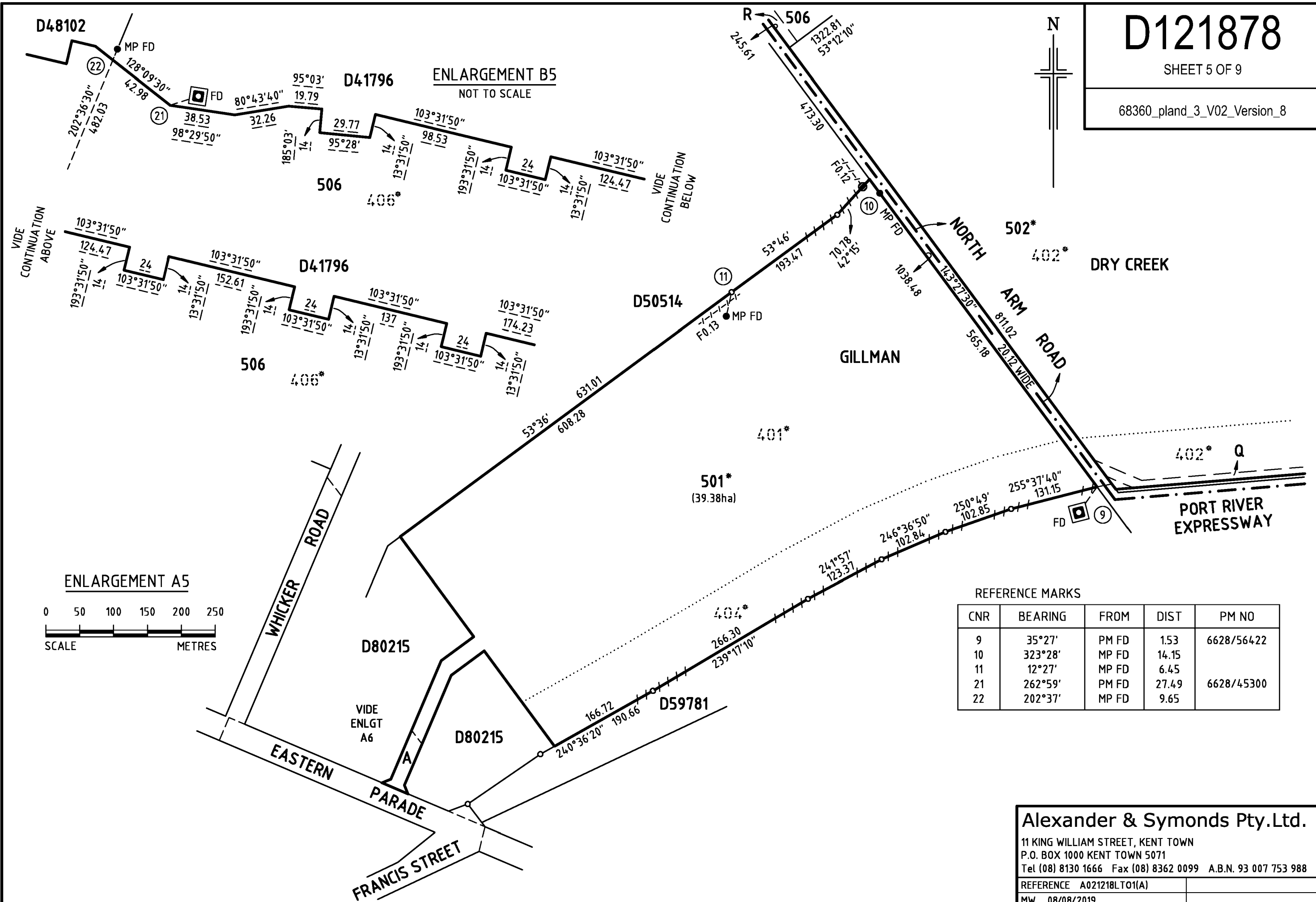
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MW 08/08/2019

D121878

SHEET 5 OF 9

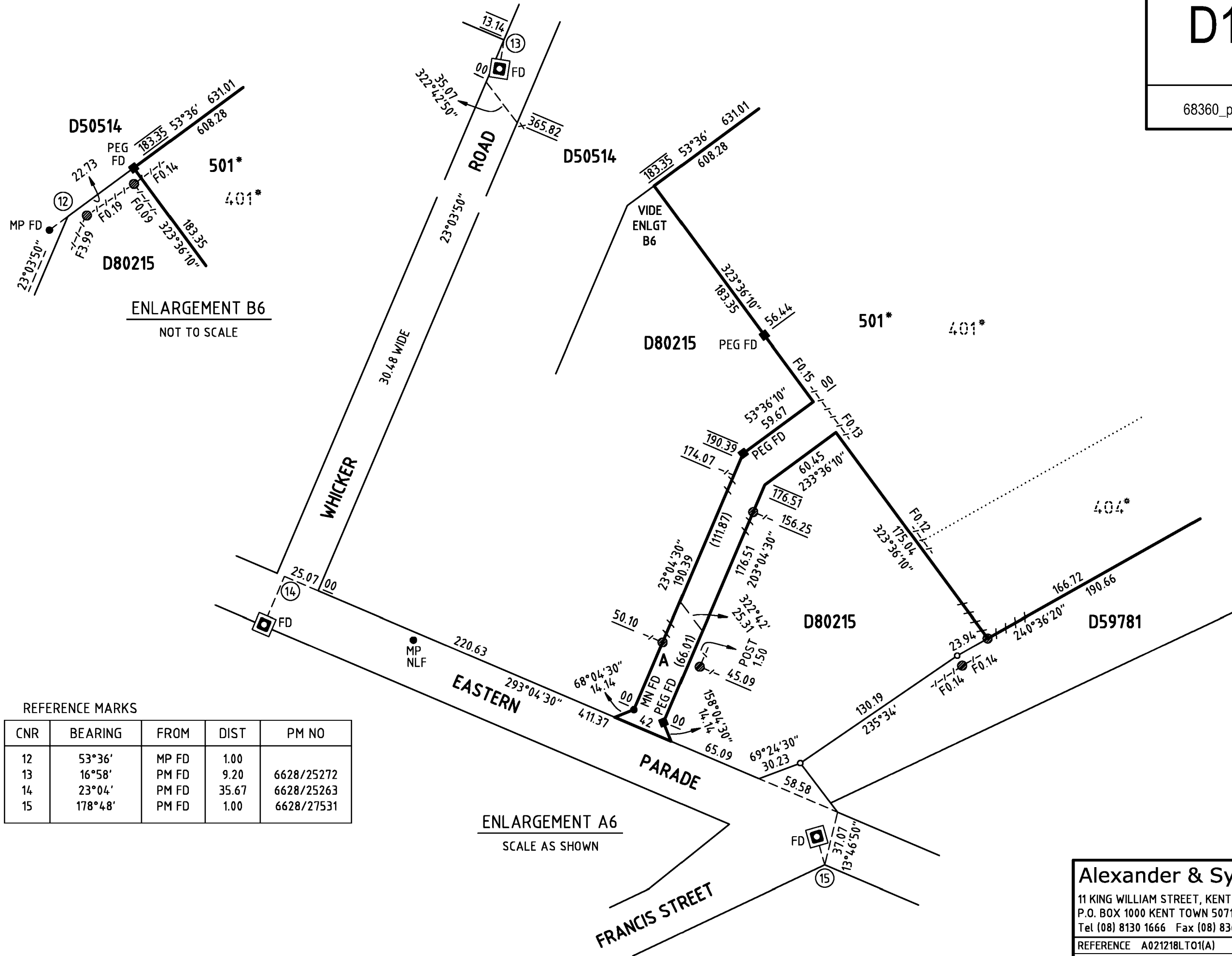
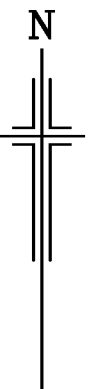
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D121878

SHEET 6 OF 9

68360_pland_4_V02_Version_8



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13	16°58'	PM FD	9.20	6628/25272
14	23°04'	PM FD	35.67	6628/25263
15	178°48'	PM FD	1.00	6628/27531

Alexander & Symonds Pty.Ltd.

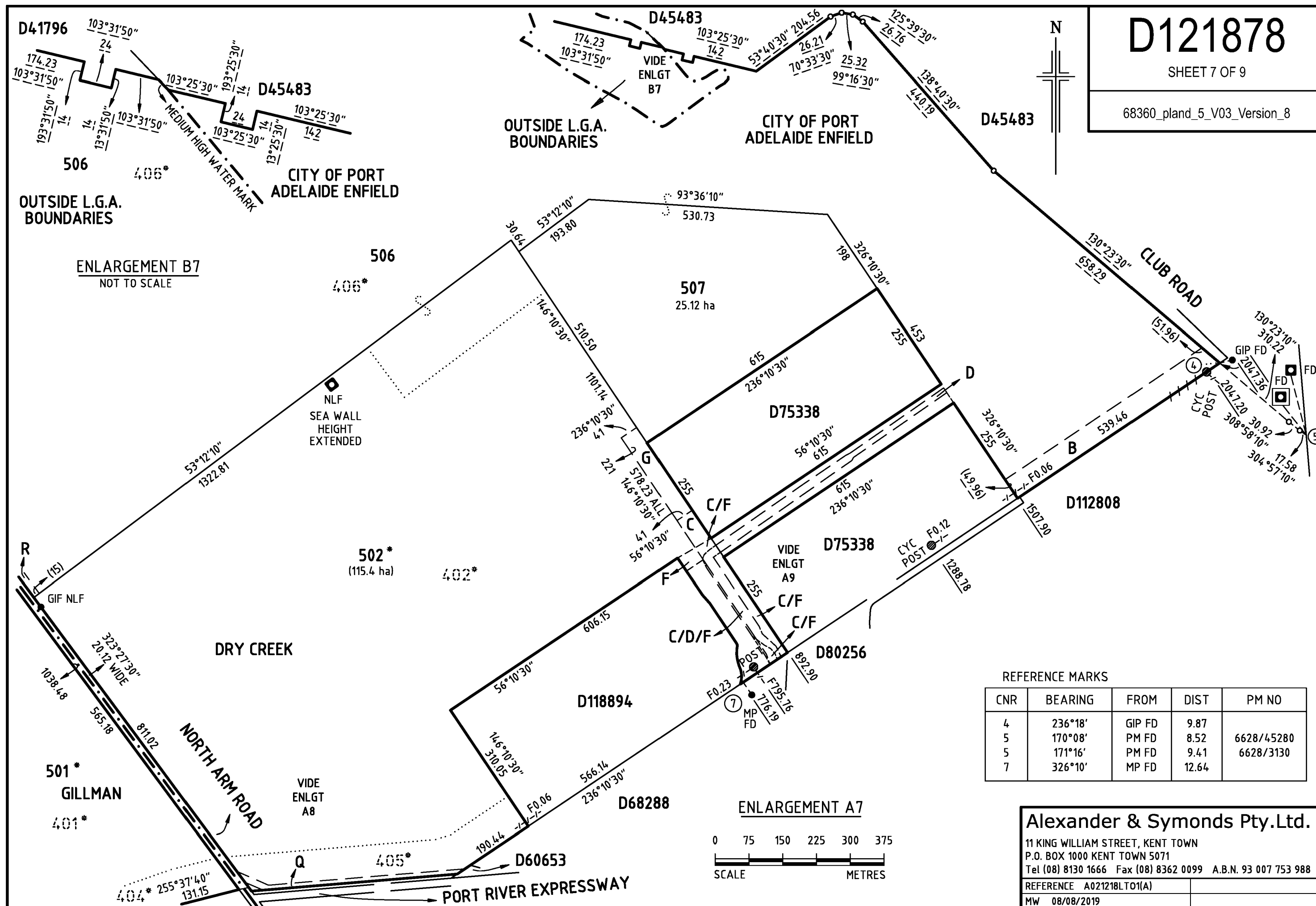
11 KING WILLIAM STREET, KENT TOWN

P.O. BOX 1000 KENT TOWN 5071

Tel (08) 8130 1666 Fax (08) 8362 0099 A.B.N. 93 007 753 988

REFERENCE A021218LTO1(A)

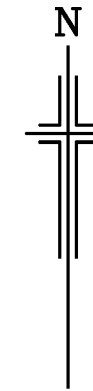
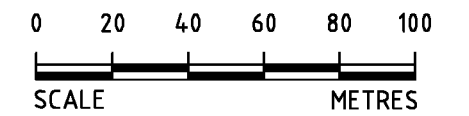
MW 08/08/2019



D121878

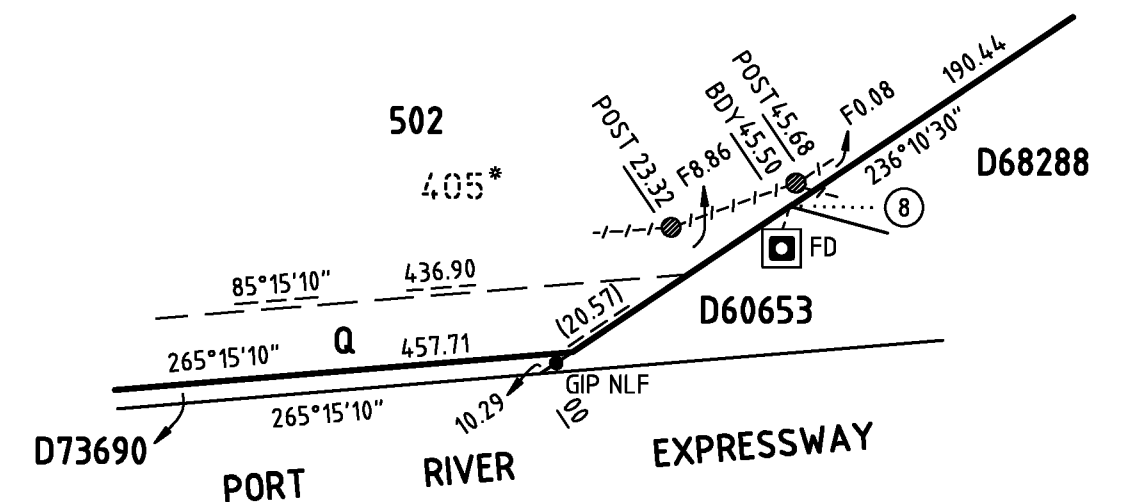
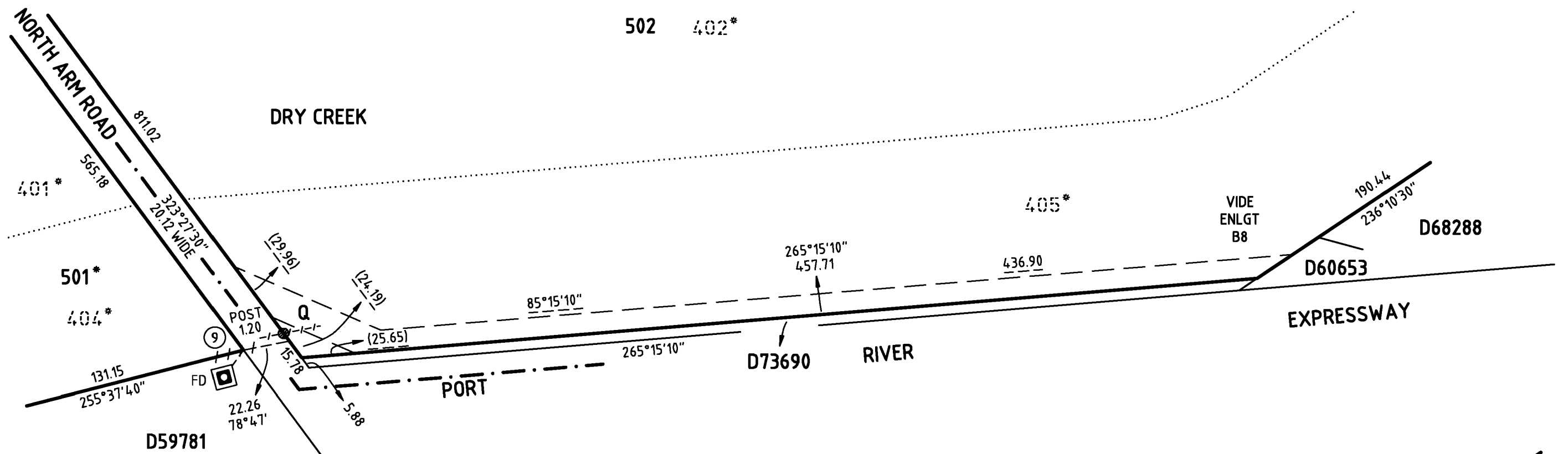
SHEET 8 OF 9

68360_pland_6_V02_Version_8



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9	35°27'	PM FD	1.53	6628/56422



Alexander & Symonds Pty.Ltd.

11 KING WILLIAM STREET, KENT TOWN
P.O. BOX 1000 KENT TOWN 5071
Tel (08) 8130 1666 Fax (08) 8362 0099 A.B.N. 93 007 753 988

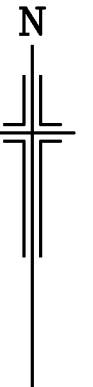
REFERENCE A021218LT01(A)

MW 08/08/2019

D121878

SHEET 9 OF 9

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ENLARGEMENT B9
NOT TO SCALE

ENLARGEMENT A9
NOT TO SCALE

REFERENCE MARKS

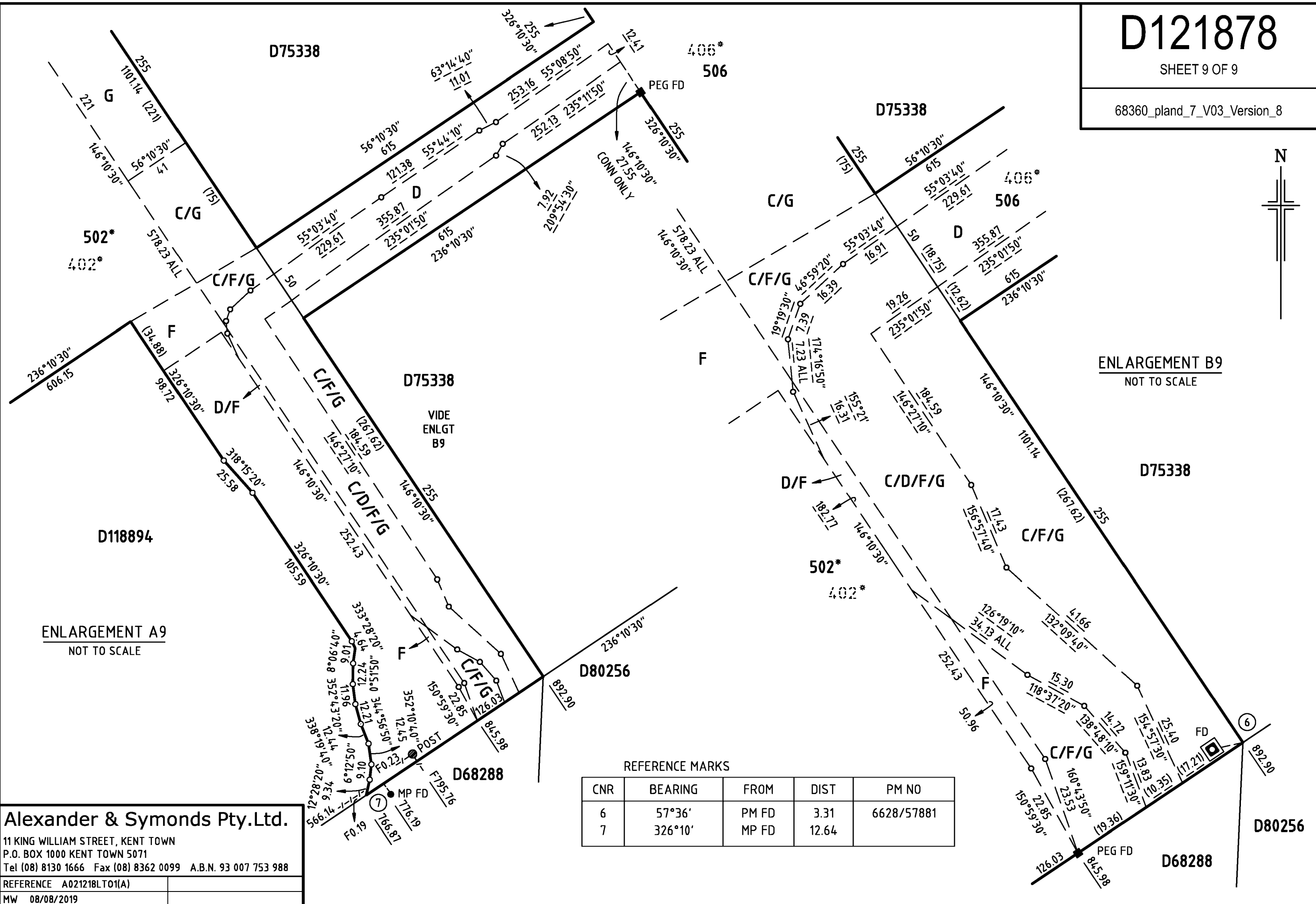
CNR	BEARING	FROM	DIST	PM NO
6	57°36'	PM FD	3.31	6628/57881
7	326°10'	MP FD	12.64	

Alexander & Symonds Pty.Ltd.

11 KING WILLIAM STREET, KENT TOWN
P.O. BOX 1000 KENT TOWN 5071
Tel (08) 8130 1666 Fax (08) 8362 0099 A.B.N. 93 007 753 988

REFERENCE A021218LT01(A)

MW 08/08/2019



Appendix D – Land Management Agreement

Orig. **AG 12621329**



10:49 27-Oct-2016
1 of 1

Prefix
Series No.

LANDS TITLES REGISTRATION
OFFICE
SOUTH AUSTRALIA

FORM APPROVED BY THE REGISTRAR GENERAL

**BELOW THIS LINE FOR OFFICE &
STAMP DUTY PURPOSES ONLY**

BELOW THIS LINE FOR AGENT USE ONLY

CERTIFIED CORRECT FOR THE PURPOSES
OF THE REAL PROPERTY ACT 1886

~~SOLICITOR~~ Solicitor/Registered Conveyancer/Applicant

DAVID VEDIS

AGENT CODE

Lodged by:) Crown Solicitor's Office
) GPO Box 464
Correction to:) ADELAIDE SA 5001

CSOL-22

**CROWN INSTRUMENT
NO FEES OR STAMP DUTY
PAYABLE**

TITLES, CROWN LEASES, DECLARATIONS ETC. LODGED WITH
INSTRUMENT (TO BE FILLED IN BY PERSON LODGING)

1.
2.
3.
4.

PLEASE ISSUE NEW CERTIFICATE(S) OF TITLE AS FOLLOWS

1.
2.
3.
4.

DELIVERY INSTRUCTIONS (Agent to complete)
PLEASE DELIVER THE FOLLOWING ITEM(S) TO THE
UNDERMENTIONED AGENT(S)

ITEM(S)	AGENT CODE

R-G 250505

CSO 149336

CORRECTION

PASSED

REGISTERED

14 NOV 2016

REGISTRAR GENERAL
SOUTH AUSTRALIA

APPLICATION TO NOTE LAND MANAGEMENT AGREEMENT

(Pursuant to s 57(5) of the Development Act 1993)

To the Registrar General

1. The **MINISTER FOR PLANNING** a body corporate pursuant to s 7(1) of the Administrative Arrangements Act 1994 ("the Minister") of Adelaide 5000 has entered into the attached Land Management Agreement dated the 26TH day of OCTOBER 2016 ("the Agreement") with **URBAN RENEWAL AUTHORITY** (ABN 86 832 349 553) of Level 9 West, Riverside Centre, North Terrace, Adelaide SA 5000 and the **MINISTER FOR TRANSPORT AND INFRASTRUCTURE** of Level 8, 178 North Terrace, Adelaide, South Australia 5000 pursuant to s 57(1) of the Development Act 1993 ("the Act")
2. The Agreement relates to the whole of the land comprised in a Certificates of Title Volume 5329 Folio 121, Volume 5601 Folio 991, ~~Volume 5921 Folio 106~~, Volume 6175 Folio 406, Volume 6175 Folio 407, Volume 6054 Folio 510, ~~Volume 6058 Folio 238~~ and ~~Volume 6060 Folio 577~~ ("the land").

Volume 6182 Folios 260, 261 and 262

NOW WHOLE OF LAND IN CT. VOL 6182 FOL 876

NOW THEREFORE the Minister applies pursuant to s 57(5) of the Act to note the Agreement against the land.

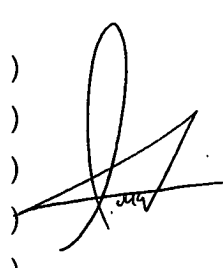
DATED the 26 day of October 2016

SIGNED

by the Chief Development Officer of the
Department of Planning, Transport
and Infrastructure as an authorised delegate of

MINISTER FOR PLANNING

in the presence of:



Witness Signature

PHILIP LAWES

Print Full Name (BLOCK LETTERS)

MANAGER, INFRASTRUCTURE & SERVICES PLANNING

Position Held

77 GRENFELL ST

ADELAIDE

Address

Business Hours Telephone No. 0401 124 100

Land Management Agreement

PARTIES

MINISTER FOR PLANNING a body corporate pursuant to the *Administrative Arrangements Act 1994* (SA) of 9th Floor Terrace Towers, 178 North Terrace, Adelaide 5000 in the State of South Australia (**Minister for Planning**)

AND

MINISTER FOR TRANSPORT AND INFRASTRUCTURE of Level 8, 178 North Terrace, Adelaide, South Australia 5000 (**Minister**)

AND

URBAN RENEWAL AUTHORITY (ABN 86 832 349 553) of Level 9 West, Riverside Centre, North Terrace, Adelaide SA 5000 (**Owner**).

BACKGROUND

- A. The Owner is the registered proprietor of the Site.
- B. The Owner and Adelaide Capital Partners Pty Ltd (**ACP**) have entered into an option deed under which ACP and/or its nominee has an equitable right to purchase the land comprised in the Site over 3 stages (**Option Deed**).
- C. Pursuant to the Option Deed the Owner and ACP have agreed the Project Plan and ACP is proposing to develop the Site for commercial use in accordance with the Project Plan (**Proposed Development**).
- D. ACP has exercised its option to acquire the Stage 1 Option Land. Subsequently, pursuant to the Option Deed, the Owner and ACP have entered a Land Sale Contract with respect to the Stage 1 Option Land.
- E. The Minister, ACP and the Owner have entered into the Road Infrastructure Deed and ACP and the Owner have entered into the Stormwater Infrastructure Deed, pursuant to which (and to the extent that ACP proceeds with the Proposed Development), the parties to each of the deeds have agreed to a framework for:
 - the design, implementation and funding of certain road infrastructure; and
 - the design, implementation and funding of certain stormwater infrastructure;relating to the Proposed Development.
- F. The Minister for Planning, the Minister and the Owner wish to control development of the Land to ensure that the Minister for Planning's and the Minister's requirements relating to road infrastructure as set out in clause 2 of this deed and the Road

Infrastructure Deed, are met.

- G. The Minister for Planning and the Owner wish to control development of the ^{Site}~~Land~~ to ensure that the Minister for Planning's and the Owner's requirements relating to stormwater infrastructure as set out in clause 2 of this deed and the Stormwater Infrastructure Deed, are met.
- H. The Owner has agreed to ensure that the Site is always developed in accordance with this deed.
- I. Minister for Planning, the Minister and the Owner agree that the obligations under this deed are intended to be complied with by all occupiers and persons having enjoyment from time to time of the Site (including without limitation ACP) and that it is the Owner's responsibility to ensure that all such persons comply with the terms of this deed.
- J. Pursuant to section 57(2) of the Act, the Owner, the Minister for Planning and the Minister have agreed to enter into this deed relating to the development of the Site subject to the terms and conditions of this deed.

AGREED TERMS

1. DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this deed:

Act means the *Development Act 1993* (SA);

Business Day means a day that is not a Saturday, Sunday or public holiday in South Australia;

DPA Condition means the condition which is set out in clause 3.2 of the Road Infrastructure Deed;

Owner means the registered proprietor in fee simple of the Site and includes a transferee or assignee of the Owner from time to time;

Project Plan means the Project Plan approved under the Option Deed;

Road Infrastructure Deed means a deed substantially in the form of the deed attached as Annexure A or as otherwise agreed between the parties to the Road Infrastructure Deed from time to time;

Site means the land owned by the Owner which is contained in Certificates of Title Volume 5329 Folio 121, Volume 5601 Folio 991, ~~Volume 5921 Folio 106~~, Volume 6153 Folio 333, Volume 6054 Folio 510, ~~Volume 6058 Folio 238~~ and ~~Volume 6060 Folio 577~~; *Folios 260, 261 and 262; Volume 6182*

Stage 1 Option Land has the meaning given by the Option Deed;

Stormwater Infrastructure Deed means a deed substantially in the form of the deed attached as Annexure B or as otherwise agreed between the parties to the Stormwater Infrastructure Deed from time to time;

1.2 Interpretation

In this deed, unless the context otherwise requires:

- 1.2.1 headings do not affect interpretation;
- 1.2.2 singular includes plural and plural includes singular;
- 1.2.3 words of one gender include any gender;
- 1.2.4 a reference to a party includes its executors, administrators, successors and permitted assigns;
- 1.2.5 a reference to the Owner includes each person registered or entitled to be registered as a proprietor of an estate in fee simple of the Site.
- 1.2.6 a reference to a person includes a partnership, corporation, association, government body and any other entity;
- 1.2.7 an agreement, representation, warranty or indemnity by two or more parties (including where two or more persons are included in the same defined term) binds them jointly and severally;
- 1.2.8 an agreement, representation, warranty, or indemnity in favour of two or more parties (including where two or more persons are included in

the same defined term) benefits them jointly and severally;

- 1.2.9 a reference to legislation includes any amendment to it, any legislation substituted for it, and any subordinate legislation made under it;
- 1.2.10 a provision is not construed against a party only because that party drafted it;
- 1.2.11 an unenforceable provision or part of a provision may be severed, and the remainder of this deed continues in force, unless this would materially change the intended effect of this deed;
- 1.2.12 the meaning of general words is not limited by specific examples introduced by 'including', 'for example' or similar expressions;
- 1.2.13 an expression defined in the Act has the meaning given by the Act at the date of this deed.

1.3 Background

The Background forms part of this deed and is correct at the date of this deed.

1.4 Legislation

The requirements of the deed are to be construed as additional to the requirements of the Act and any other legislation affecting the Site.

2. UNDERTAKINGS OF THE OWNER

- 2.1 The Owner must comply with all of the Owner's obligations relating to the Site under this deed.
- 2.2 To the extent that the Road Infrastructure Deed is fully executed and legally effective, the Owner must comply with all of the Owner's obligations relating to land division or development under this deed and to the person described as the Landowner in the Road Infrastructure Deed.
- 2.3 To the extent that the Stormwater Infrastructure Deed is fully executed and legally effective, the Owner must comply with all of the Owner's obligations relating to land division or development under this deed and to the person described as the Landowner in the Stormwater Infrastructure Deed.

3. CONTRAVENTION OF LMA

- 3.1 The Owner acknowledges and agrees that:
 - 3.1.1 a contravention or threatened contravention of this deed is regarded as a breach of Part 11, Division 1, section 83(b) of the Act and that the Minister for Planning, whether on its own accord or at the request of the Minister, is entitled to exercise any enforcement mechanism provided for and in accordance with the Act or at law;
 - 3.1.2 the Minister for Planning may or the Minister may require the Minister for Planning to appoint an authorised officer in accordance with

section 18 of the Act to enable the Minister for Planning to enter and inspect the Site or any building on the Site and exercise any of the powers conferred and in accordance with section 19 of the Act; and

- 3.1.3 the Minister for Planning may or the Minister may require the Minister for Planning to enter upon the Site and carry out work which the Owner is required to perform under this deed and the Road Infrastructure Deed and to recover costs associated with such work from the Owner.

- 3.2 To the extent permitted by law, the Minister for Planning may delegate any of its powers under this deed to any person.

- 3.3 To the extent permitted by law, the Minister may delegate any of its powers under this deed to any person.

4. VARIATION AND WAIVER

- 4.1 This deed may not be varied except by a supplementary deed signed by Minister for Planning, the Minister and the Owner.
- 4.2 Minister for Planning and the Minister together, may waive compliance by the Owner with the whole or any part of the obligations on the Owner's part herein contained provided that no such waiver is effective unless expressed in writing and signed by Minister for Planning and the Minister.

5. TRANSFER OF SITE

Prior to transferring any portion of the Site, the Owner must, procure the intended transferee of that portion of the Site to enter into a deed on substantially the same terms as this deed and deliver that signed deed to the Minister for Planning and the Minister.

6. INDEMNITY

- 6.1 The Owner indemnifies the Minister for Planning and the Minister from and against all loss and damage resulting from a breach of clauses 2 and 5 of this deed.
- 6.2 Without limiting the indemnity in clause 6.1, the Minister for Planning and the Minister are entitled to seek orders from a Court for specific performance of the obligations specified in this clause 6, whether in accordance with the Act or at law.

7. NOTING OF THIS DEED

Each party must at its own cost do and execute all such acts documents and things as are necessary to ensure that as soon as is practicable after the execution of this deed by all necessary parties this deed is noted against the Certificates of Title for the Site under section 57(5) of the Act.

8. MISCELLANEOUS

8.1 Waiver

A waiver of a provision of or right under this deed:

8.1.1 must be in writing signed by the part giving the waiver;

8.1.2 is effective only to the extent set out in the written waiver.

8.2 Exercise of power

8.2.1 The failure, delay, relaxation or indulgence by a party in exercising a power or right under this deed is not a waiver of that power or right.

8.2.2 An exercise of a power or right under this deed does not preclude a further exercise of it or the exercise of another right or power.

8.3 Survival

Each indemnity, obligation of confidence and other term capable of taking effect after the expiration or termination of the deed, remains in force after the expiration or termination of this deed.

8.4 Governing law

This deed is governed by the law of South Australia.

8.5 Severance

Part or all of any provision of this deed that is illegal or unenforceable may be severed from the deed however the remaining provisions of the Deed will continue in full force and effect.

9. NOTICES

9.1 A notice, demand, consent, approval or communication under this deed (Notice) must be:

9.1.1 in writing, in English and signed by a person authorised by the sender; and

9.1.2 hand delivered or sent by pre-paid post to the recipient's address specified in this deed, as varied by any Notice given by the recipient to the sender.

9.2 A Notice is deemed to be received:

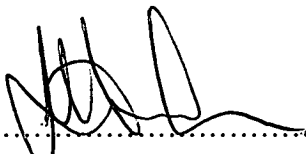
9.2.1 if hand delivered, on delivery; and

9.2.2 if sent by prepaid mail, two Business Days after posting (or seven Business Days after posting if posting to or from a place outside of Australia)

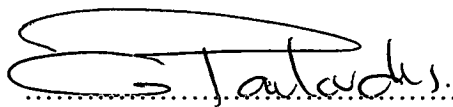
however if the Notice is deemed to be received on a day that is not a Business Day or after 5:00pm, the Notice is deemed to be received at 9:00am on the next Business Day.

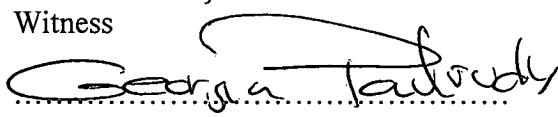
9.3 If two or more persons comprise a party, Notice to one is effective Notice to all.

SIGNED for and on behalf of the
URBAN RENEWAL AUTHORITY
trading as Renewal SA by its duly
constituted Attorney pursuant to Power of
Attorney No. GP 2/2015/PA 12302863,
who has not received a notice of the
revocation of that Power of Attorney in
the presence of:


.....
Attorney

John Francis Hanlon
Full Name of Attorney
Address:
C/- Renewal SA
Level 9 Riverside Centre
North Terrace, Adelaide SA 5000
Tel: 8207 1300


.....
Witness


.....
Full Name of Witness
Address:
C/- Renewal SA
Level 9 Riverside Centre
North Terrace, Adelaide SA 5000
Tel: 8207 1300

SCHEDULE

SIGNED

by the Chief Development Officer of the
Department of Planning, Transport
and Infrastructure as an authorised delegate of

MINISTER FOR PLANNING

in the presence of:

)
)
)
)
)
) 26/10/16



Witness

Philip Lawes

Print Name

ANNEXURE A
Road Infrastructure Deed

GILLMAN
INTERIM ROAD INFRASTRUCTURE DEED

BETWEEN

URBAN RENEWAL AUTHORITY
("Renewal SA")

-AND-

ADELAIDE CAPITAL PARTNERS PTY LTD
("ACP")

-AND-

MINISTER FOR TRANSPORT AND INFRASTRUCTURE
("Minister")



**Government
of South Australia**

CROWN SOLICITOR
Level 9, 45 Pirie Street, Adelaide SA 5000

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ANNEXURE 1 Form of LMA

ANNEXURE 2 Rezone Area Plan

BETWEEN:

URBAN RENEWAL AUTHORITY (ABN 86 832 349 553) of Level 9 West, Riverside Centre, North Terrace, Adelaide SA 5000
("Renewal SA")

AND

ADELAIDE CAPITAL PARTNERS PTY LTD (ACN 160 437 562) of corner of Wingfield Road and Hines Road, Wingfield, South Australia 5013 and/or Nominee ("**ACP**")

AND

MINISTER FOR TRANSPORT AND INFRASTRUCTURE a body corporate pursuant to the *Administrative Arrangements Act* of Level 8, 178 North Terrace, Adelaide, South Australia 5000 ("**Minister**")

AND

BACKGROUND:

- A. As at the date of this deed (**Deed**), Renewal SA owns all of the land comprised in the Site.
- B. Renewal SA and ACP have entered into an option deed under which ACP and/or its nominee has an equitable right to purchase the land comprised in the Site over 3 stages (**Option Deed**).
- C. Pursuant to the Option Deed Renewal SA and ACP have agreed the Project Plan.
- D. ACP has exercised its option to acquire the Stage 1 Option Land. Subsequently, pursuant to the Option Deed, Renewal SA and ACP have entered a Land Sale Contract with respect to the Stage 1 Option Land.
- E. The parties acknowledge and agree that:
 - a. if Renewal SA were to develop the Site and the Study Area it would be generally in accordance with the Gillman Master Plan but that as at the date of this Deed, Renewal SA does not intend to directly undertake the development of any part of the Site;

- b. to the extent that ACP exercises its options to purchase the various components of the Site pursuant to the Option Deed, ACP will be the party which directly undertakes the development of the land comprised in the Site and ACP intends to develop the Site in accordance with the Project Plan under the Option Deed;
 - c. as at the date of this Deed, significant portions of the Site were not zoned in a manner that would directly facilitate development in accordance with the Gillman Master Plan, and it is anticipated that this inconsistency will be resolved if the Draft DPA is approved by the Minister for Planning (or delegate) and subsequently implemented;
 - d. existing road infrastructure in the immediate vicinity of the Site will not have sufficient capacity over time to accommodate traffic that will be generated through development of the Site in accordance with either the Gillman Master Plan or the Project Plan;
 - e. this Deed provides an endorsed mechanism for ensuring that appropriate infrastructure upgrades (including but not limited to traffic interventions) are implemented at appropriate times during the development of the Site; and
 - f. in accordance with this Deed and the LMA, the Minister will not consent to the transfer of an undeveloped portion of the Site to a Purchaser unless the Landowner and the Purchaser agree to the transfer of all rights, obligations and responsibilities as set out in this Deed with respect to that portion of the Site, or as otherwise provided in this Deed.
- F. The Minister through the Department of Planning, Transport and Infrastructure is responsible for the arterial road network in the Study Area, including without limitation the Study Road Infrastructure Interventions.
- G. Renewal SA intends that the relevant portions of the Site be rezoned in accordance with the Draft DPA and it is acknowledged that ACP provided submissions in relation to proposed changes to the Draft DPA.
- H. The Minister wishes to encourage the development of the Site in accordance with the Draft DPA.
- I. A Development Plan Amendment (DPA) under section 26(8)(d) of the *Development Act 1993* to the Development Plan for the area comprising the Rezone Area within the Precinct is yet to be approved and gazetted by the Minister for Planning (or the Minister's delegate).
- J. The parties acknowledge and agree that:
- should the development of the Site proceed in the manner envisaged by the Draft DPA, various road infrastructure interventions (including the Study Area Road Infrastructure Interventions), generally in accordance with the Gillman Master Plan, are likely to be required;

- the exact details relating to the scope, costs and timing of the Study Area Road Infrastructure Interventions are not known at the Commencement Date and as such may differ from what is described in the Gillman Master Plan;
 - those road infrastructure interventions that would ordinarily form part of the required works to process a plan of division Development Authorisation are not intended to be managed by the operation of this Deed; and
 - the Study Area Road Infrastructure Interventions that would not ordinarily form part of the required works to process a plan of division Development Authorisation are intended to be managed by the operation of this Deed
- K. The parties acknowledge and agree that if ACP seeks a relevant Development Authorisation prior to becoming the registered proprietor of any piece of land comprising the whole or a portion of the Site, it is responsible (as Landowner) for any obligations arising under this Deed that relate to the relevant Development Authorisation.
- L. The parties acknowledge and agree that the parties must, before the whole of any part of the Site is subdivided (other than to create Super Lots) or developed, negotiate in good faith to determine the Road Infrastructure Interventions in relation to that part of the Site following an analysis by each party of the results of the Detailed Investigations.
- M. The parties agree to make monetary contributions to the Study Area Road Infrastructure Interventions in accordance with this Deed during the Term and that unless otherwise specified in this Deed, the Minister will construct or procure the construction of the Study Area Road Infrastructure Interventions.
- N. The parties acknowledge that as at the date of this Deed, there were no capacity constraints with the road transport network within the Study Area that, in the absence of further development, would require any Road Infrastructure Interventions to be implemented, as contemplated under this Deed.

OPERATIVE PROVISIONS

1. ACKNOWLEDGEMENT

The parties agree both that the matters referred to in the Background of this Deed are true and correct in every material particular and that the Background will form part of this Deed.

2. DEFINITIONS AND INTERPRETATION

2.1 Definitions

Unless the subject or context required otherwise in this Deed:

- 2.1.1 **Actual Cost** is the amount actually and reasonably incurred by the Minister in undertaking or causing the undertaking of a Road Infrastructure Intervention for which Contributions must be paid, and includes (without limitation) all expenses reasonably incurred by the Minister (or its consultants or contractors) in designing, procuring and undertaking the relevant Road Infrastructure Intervention;
- 2.1.2 **administrator** has the same meaning as in the *Corporations Act 2001* (Cth);
- 2.1.3 **Balance Allotments** means any allotments (which are not associated roads and reserves) created or resulting from the division of the Site into portions which are intended for future or further development including without limitation, Super Lots;
- 2.1.4 **Bank Guarantee** means the security provided by the Landowner to the Minister in respect of the Contribution Owing and further described in clause 8;
- 2.1.5 **Business Day** means a day that is not a Saturday, Sunday or a public holiday in Adelaide, South Australia;
- 2.1.6 **Commencement Date** means the date of execution by all parties to this Deed;
- 2.1.7 **Contribution** means the monetary contribution which a party must bear toward the cost of a Road Infrastructure Intervention, as ascribed to that party in accordance with clauses 6 and 7 of this Deed and which comprises a portion or whole of the Actual Cost of that Road Infrastructure Intervention;
- 2.1.8 **Contribution Owing** means that portion of the Contribution not paid within the period specified in clause 8 which remains payable to the Minister;
- 2.1.9 **Council** means the City of Port Adelaide Enfield or its statutory permitted assigns;
- 2.1.10 **Detailed Investigations** means the detailed investigations undertaken by the Landowner in accordance with this Deed in consultation with the other parties to determine the Road Infrastructure Interventions required as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner (including without limitation identifying the affected roads, together with timings, the expected cost, for each Road Infrastructure Intervention);
- 2.1.11 **Development** is specified in clause 5;

- 2.1.12 **Development Act** means the *Development Act 1993* (SA);
- 2.1.13 **Development Authorisation** means either of the development authorisations described in clause 5;
- 2.1.14 **Development Plan** means the relevant Development Plan, which for the Council area is the City of Port Adelaide Enfield Development Plan as amended by the DPA, and for the area which is not within a Council area is the Land not within a council area (Metropolitan) Development Plan;
- 2.1.15 **DPA** means a Development Plan Amendment that is approved and in operation under the *Development Act 1993* (SA) as a result of a process initiated with the Draft DPA, and for the avoidance of doubt includes any amendment made to the DPA by the Minister for Planning pursuant to section 27(5) or section 26(8)(d) of the *Development Act 1993* (SA);
- 2.1.16 **DPA Amendment Gazettal** means a notice published in the South Australian Government Gazette pursuant to section 27(5)(a) of the Act amending the DPA;
- 2.1.17 **DPA Gazettal** means a notice published in the South Australian Government Gazette pursuant to section 25(17) of the Development Act approving the DPA;
- 2.1.18 **Draft DPA** means the Development Plan Amendment Titled "Employment Lands (Gillman/Dry Creek & Wingfield) and General Section Amendments Development Plan Amendment" prepared by the Minister for Planning and released by that Minister for public consultation on 27 March 2015 and which for the purposes of this Deed has been marked for identification by the parties to this Deed;
- 2.1.19 **Gillman Master Plan** means the report titled "Gillman Master Plan – Final Report" prepared by Jensen Planning + Design, dated June 2014;
- 2.1.20 **Infrastructure Deeds** has the same meaning as in the LMA;
- 2.1.21 **Land Division** has the meaning specified in clause 5;
- 2.1.22 **Landowner** means:
- (a) Subject to paragraph (b), any person who is the registered proprietor of any piece of land comprising the whole or a portion of the Site, such that if:
 - (i) ACP becomes the registered proprietor of the Site in accordance with the Option Deed, then from that time ACP will be the Landowner;
 - (ii) ACP does not complete the purchase of the Site or portion of the Site then Renewal SA remains the Landowner;
 - (iii) ACP or Renewal SA transfer any freehold interest in the Site to a third party then that third party will be the Landowner of that portion of the Site transferred to the third party;
 - (b) Notwithstanding paragraph (a), any person (including but not limited to ACP), who has applied to obtain a Development Authorisation in accordance with this Deed in relation to any piece of land comprising the whole or a portion of the Site, will

- (i) from the time that application is lodged; until
 - (ii) the time that application is withdrawn,
- be deemed to be the Landowner, whether or not that person is the registered proprietor of any piece of land comprising the whole or a portion of the Site;

- 2.1.23 **LMA** means the Land Management Agreement described in clause 21;
- 2.1.24 **Lodgement Date** means the date upon which the Landowner lodges either the application to obtain a building rules consent authorisation or application for deposit of a plan of division (Form RTC) in accordance with clause 7 in this Deed;
- 2.1.25 **Option Deed** means the deed between Renewal SA and ACP under which ACP has an equitable right to purchase the land comprised in the Site over 3 stages and pursuant to which Renewal SA and ACP have entered a Land Sale Contract with respect to the Stage 1 Option Land (as defined in the Option Deed);
- 2.1.26 **Plan of Division** means a plan of division lodged for deposit under section 223 LE of the *Real Property Act 1886*;
- 2.1.27 **Projected Cost** is the amount the parties agree is projected to be incurred by the Minister in undertaking or causing the undertaking of a Road Infrastructure Intervention, and upon which the Contributions for Road Infrastructure Interventions are based;
- 2.1.28 **Project Plan** means the Project Plan approved under the Option Deed;
- 2.1.29 **Purchaser** means a party (which may be ACP and/or its nominee) who acquires the portion of a Site (including any Balance Allotments) from the Landowner for which there has been no payment of a Landowner's Contribution pursuant to this Deed;
- 2.1.30 **Responsible Road Authority** means the Department for Planning, Transport and Infrastructure;
- 2.1.31 **Rezone Area** means that portion of the Study Area intended to be rezoned under the DPA in accordance with section 26(8)(d) of the Development Act and which is delineated as the Gillman/Dry Creek part of the area marked 'Area Affected' in the plan comprising Annexure 2;
- 2.1.32 **Road Infrastructure Intervention** means a specific component of the Study Area Road Infrastructure Interventions which:
- must be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner;
 - at the Commencement Date is generally set out in the Gillman Master Plan, but the exact details relating to the scope, costs and timing of which will be determined in accordance with clauses 4, 5, 6 and 7 of this Deed;
- 2.1.33 **Section 51 Certificate** means a certificate under section 51 of the Development Act;

- 2.1.34 **Site** means the development site owned by the Landowner, identified as the 'Subject Site' on Figure 1, page 2 of the Gillman Master Plan;
- 2.1.35 **Stage 1 Option Land** has the meaning given by the Option Deed;
- 2.1.36 **Study Area** means that area of approximately 915 hectares to which the Study Area Road Infrastructure Interventions pertain identified as the 'Study Area' on Figure 1, page 2 of the Gillman Master Plan;
- 2.1.37 **Study Area Road Infrastructure Interventions** means all of the road infrastructure alterations required to the arterial road network to facilitate development of the Study Area:
- which as at the Commencement Date are generally set out in the Gillman Master Plan;
 - which do not otherwise form part of the required works to process a relevant Development Authorisation;
 - the exact details relating to the scope, costs and timing of which are more specifically determined in accordance with clauses 5,6 and 7 of this Deed; and
 - which must be completed in accordance with this Deed;
- 2.1.38 **Super Lot** means an allotment created upon the division of the Site into a portion which is then capable of sale by the Landowner (incorporating a further division of the Super Lot) or development by the Landowner or a third party (incorporating a further division of the Super Lot);
- 2.1.39 **Term** means the term of this Deed commencing on the Commencement Date and ending on the last to occur of:
- (a) the date upon which all Contributions payable under this Deed have been paid; or
 - (b) the date upon which all of the Study Area Road Infrastructure Interventions have been completed to the Minister's satisfaction; or
 - (c) 20 years from the Commencement Date.

2.2 Interpretation

Unless expressed to the contrary, in this Deed:

- 2.2.1 words denoting the singular or plural number include the plural number and the singular respectively;
- 2.2.2 words denoting a gender refer to both genders;
- 2.2.3 headings are for convenience only and shall not affect the interpretation of this Deed;
- 2.2.4 words denoting individuals include corporations and vice versa;
- 2.2.5 a reference to a party, the Background, clause, schedule, annexure or plan is a reference to a party, the Background, clause, schedule, annexure or plan of this Deed;
- 2.2.6 a reference to any act, regulation or by-law shall be deemed to include all amendments to them and all statutory provisions substituted thereafter;
- 2.2.7 a reference to a party includes a reference to that party's executors, administrators, successors and permitted assigns;

- 2.2.8 the use of **or** shall be that of the inclusive **or**, that is meaning one, some or all of a number of possibilities or alternatives;
- 2.2.9 an agreement on the part of or in favour of 2 or more persons binds or is for the benefit of each person jointly and individually;
- 2.2.10 a reference to a matter, act or thing includes the whole event or any part of that matter, act or thing and reference to a group of matters, acts, things or persons includes each matter, act, thing or person in that group;
- 2.2.11 no rule of construction shall be applied in interpreting or construing this Deed *contra proferentem* against a party or otherwise to the disadvantage of a party on the basis that the party proposed or drafted this Deed or any provision of this deed;
- 2.2.12 reference to a corporation, organisation or other body (whether or not incorporated), but excluding the parties is:
 - (a) if that corporation, organisation or other body is replaced by another corporation, organisation or other body, then to refer to that other corporation, organisation or other body; and
 - (b) if that corporation, organisation or other body ceases to exist, then to refer to the corporation, organisation or other body which most closely or substantially fulfil the same purposes or objects as the first mentioned corporation, organisation or other body;
- 2.2.13 the word **including** where used is deemed to be followed by the words **without limitation**; and
- 2.2.14 reference to **month** means calendar month.

2.3 Relationship between the parties

- 2.3.1 The parties acknowledge and agree that their relationship pursuant to this Deed shall be exclusively that of independent contractors with the rights, liabilities, duties and obligations set out in this Deed or, subject to this Deed, at law.
- 2.3.2 Nothing contained in this Deed shall be deemed or construed to constitute a party to be a partner, joint venturer, principal, agent, trustee (whether expressed, implied or constructive), beneficiary, lender, borrower, lessor, lessee, or fiduciary of another party.
- 2.3.3 No party has the authority to act for or incur any liability or obligation pursuant to this Deed as agent for or on behalf of any other party except as expressly provided in or contemplated by this Deed.

2.4 Proper law and jurisdiction

- 2.4.1 The proper law of this Deed shall be the law of South Australia and accordingly this Deed shall be governed by and construed in accordance with the laws of South Australia.
- 2.4.2 Each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of South Australia and the courts of appeal from them for determining any dispute concerning this Deed. Each party waives any right it has to object to an action being brought in those courts, to claims that action has been brought in an inconvenient forum, or to claim those courts do not have jurisdiction.

- 2.4.3 The parties agree that none of them shall institute or attempt to institute any proceedings in relation to any dispute or any other matter or thing arising out of or in connection with this Deed other than in a court of South Australia or, in respect of any proceedings in a Federal court, in the Adelaide registry of the relevant Federal court.
- 2.4.4 Without preventing any other mode of service, any documents in an action (including any writ of summons or other originating process or any third or other party notice) may be served on a party by being left or left for that party at its address for service of notices pursuant to this Deed.

2.5 Waiver

- 2.5.1 A waiver of a provision of this Deed must be both in writing and be signed by the party or parties granting the waiver and the party or parties benefiting by or from the waiver or by a person duly authorised to execute such a document on behalf of each such party.
- 2.5.2 No waiver by a party of a performance or observance of a provision or a breach of this Deed shall operate as a waiver of the performance observance or breach of any other provision of this Deed.
- 2.5.3 No forbearance, delay, indulgence or partial exercise by a party in enforcing the provisions of this Deed shall be a waiver of or prejudice or restrict the rights of that party in any way.

2.6 Reading down and severance

- 2.6.1 If a provision of this Deed is reasonably capable of an interpretation which would render that provision to be unenforceable, illegal, invalid or void and an alternative interpretation would not have one of those consequences, then that provision shall be interpreted or construed so far as is possible, to be limited and read down such that its meaning is that which does not render it unenforceable, illegal, invalid or void.
- 2.6.2 Subject to clause 2.6.1, if a provision of this Deed is for any reason illegal, void, invalid or unenforceable, then that provision shall be severed from this Deed without effecting the legality, validity or enforceability of the remainder of this Deed.
- 2.6.3 If a provision of this Deed is severed under clause 2.6.2, the parties agree to negotiate in good faith to reach agreement upon an amended provision as a replacement for the severed provision.

2.7 Cumulative rights

A right, power, remedy, entitlement or privilege given or granted to a party pursuant to this Deed is cumulative with, without prejudice to and not exclusive of any right, power, remedy, entitlement or privilege granted or given pursuant to this Deed or by the operation of law.

2.8 Employees or agents

Any act, matter or thing which is either required to be performed or done by a party may be performed or done by that party's duly authorised employees, agents, delegates or contractors.

2.9 Entire agreement

- 2.9.1 This Deed contains the entire agreement between the parties in respect of the subject matter of this Deed and the parties agree that this Deed supersedes and extinguishes any prior agreement or understanding (if any) between the parties in respect of the subject matter of this Deed.
- 2.9.2 No other agreement, whether collateral or otherwise, shall be taken to have been formed between the parties by reason of any promise, representation, inducement or undertaking (if any) given or made by one party to the other prior to the date of this Deed.

2.10 Auditor-General

Nothing in this Deed derogates from the powers of the Auditor-General under the *Public Finance and Audit Act 1987* (SA).

3. CONDITIONS OF DEED

3.1 LMA Signed

- 3.1.1 The obligations of the parties under this Deed are subject to the Landowner, within 60 days of the Commencement Date, executing and delivering to the Minister signed LMAs in respect of each of the relevant pieces of land comprising the Site.
- 3.1.2 The Minister may, at his discretion, waive the condition specified in clause 3.1.1.

3.2 DPA

- 3.2.1 In addition to clause 3.1, the obligations of the parties under this Deed are subject to and conditional on:
 - (a) the Minister for Planning (or the Minister's delegate):
 - (i) approving the DPA for the Rezoned Area under s26(8)(d); and
 - (ii) publishing the DPA Gazettal for the Rezoned Area under s26(8)(d); and
 - (b) the validity of the DPA not being subjected to any challenge commenced in a court of competent jurisdiction within six months of the Minister for Planning (or the Minister's delegate) having published the DPA Gazettal which challenge results in the DPA being overturned or varied within 3 years of commencement of the relevant proceedings; and
 - (c) the DPA not being disallowed by either House of Parliament under section 27 of the *Development Act* following the publication of the DPA Gazettal.
- 3.2.2 The parties acknowledge and agree that nothing in this Deed obliges or shall be construed as obliging the Minister for Planning (or the Minister's delegate) to approve the DPA over the whole or any part of the Rezone Area or within any timeframe.
- 3.2.3 The parties acknowledge and agree that if the Condition set out in clause 3.2.1 is not satisfied within 10 years of the Commencement Date, then any party may rescind this Deed by giving the other parties notice of that rescission, with the rescission deemed to be effective by serving a notice in accordance with clause 18.

3.2.4 Any party (**Affected Party**) that considers it has been materially adversely affected by variations between the Draft DPA and the DPA may give notice to the other parties within:

- (a) 45 days of the publication of the DPA Gazettal (unless each party waives, by notice to the other parties, their entitlement to give such notice);
- (b) 30 days of publication of any DPA Amendment Gazettal (unless each party waives, by notice to the other parties, their entitlement to give such notice).

Nothing in this clause 3.2.4 derogates from ACP's rights under the Option Deed or any contract formed upon exercise of an option under the Option Deed.

3.2.5 The Landowner may only issue a notice under clause 3.2.4 of this Deed if the Landowner reasonably forms the opinion that the DPA material adversely affects (alone or in combination with any other facts or circumstances) the cost, revenue, cash flow, finance, sales rate, allotment yield, risk, market attraction or profit associated with the Landowner's proposed development of the Site.

3.2.6 Any dispute in respect of whether a party has been materially adversely affected by a variation or whether any of the criteria in clause 3.2.5 have been satisfied may be referred by any party for determination by an Expert in accordance with clause 14.

3.2.7 In the event of a notice being given by the Affected Party, the parties must negotiate in good faith towards agreeing variations to this Deed to address the impact of the variations made to the DPA on the Affected Party.

4. **OBLIGATION TO CONDUCT DETAILED INVESTIGATIONS**

- 4.1 As from the date of this Deed the Landowner or ACP will conduct the Detailed Investigations required to determine the precise scope and timing for each of the Road Infrastructure Interventions which will need to be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner or ACP.
- 4.2 The Landowner or ACP must undertake the Detailed Investigations concurrently with the relevant Development Authorisation sought by the Landowner or ACP for the Land Division or Development to be undertaken by the Landowner or ACP.
- 4.3 The Landowner or ACP must undertake the Detailed Investigations specified in this clause 4 expeditiously and inform each other party to this Deed of the progress of any Detailed Investigations.
- 4.4 To the extent that ACP does not exercise a relevant option pursuant to the Option Deed, as and from the time that ACP is no longer entitled to exercise a relevant option pursuant to the Option Deed, ACP is not obliged to complete any Detailed Investigations which ACP has commenced (if any) in respect of the land the subject of the relevant option that ACP has not exercised pursuant to the Option Deed.

5. **PROCESS FOR DETERMINING ROAD INFRASTRUCTURE INTERVENTIONS**

- 5.1 If the Landowner wishes to either:

- 5.1.1 lodge an application to the Development Assessment Commission for a land division relating to that portion of the Rezone Area creating allotments (other than Super Lots) (**Land Division**); OR
- 5.1.2 lodge an application of a development authorisation from the relevant authority under the Development Act for a development on that portion of the Rezone Area that involves construction of buildings or structures and requires building rules consent (**Development**);

then the Landowner must forthwith commence negotiations with the Minister and Renewal SA in accordance with the Principles specified in clause 6, to determine the precise scope, timing, costs and subsequently Contributions for each Road Infrastructure Intervention that must be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner.

- 5.2 Whenever requested by the Landowner the Minister and Renewal SA must give the Landowner reasonable particulars of any Projected Cost or Contribution toward each Road Infrastructure Intervention that must be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner.

- 5.3 If ACP makes any application for:

- 5.3.1 a Land Division; or
- 5.3.2 a development authorisation from the relevant authority under the Development Act for a Development,

then as at the date of lodging that application ACP must assume all the obligations of the Landowner under this Deed relating to that portion of the Site the subject of the Land Division or the Development, and ACP releases Renewal SA from any obligations as Landowner in respect of that application, and indemnifies the Minister from and against all loss and damage resulting from a breach of this clause 5.3 by ACP.

6. **PRINCIPLES TO DETERMINE ROAD INFRASTRUCTURE INTERVENTIONS AND CONTRIBUTIONS**

- 6.1 The precise scope, timing, costs and subsequently Contributions for each Road Infrastructure Intervention that must be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner will be determined by the parties using the following Principles:

- (a) The Landowner will pay for the cost of any Road Infrastructure Intervention which must be necessarily constructed as a direct result of the Landowner's Development or Land Division in the Site. The parties acknowledge and agree that:
 - (i) any Road Infrastructure Intervention that provides access through the Site to other areas in the vicinity of the Site may, but shall not automatically be considered as being necessarily constructed as a direct result of the Landowner's Development or Land Division under this clause 6.1(a); and

- (ii) Road Infrastructure Interventions detailed in the Gillman Master Plan may, but shall not automatically be deemed to be considered as being necessarily constructed as a direct result of the Landowner's Development or Land Division under this clause 6.1(a) solely by virtue of the relevant Road Infrastructure Interventions being included in the Gillman Master Plan.
- (b) If the Minister determines (acting reasonably) that there is capacity within the existing road infrastructure network of the Study Area to service the Landowner's Development or Land Division, the Landowner will be entitled to rely upon that capacity to service the Landowner's Development.
- (c) Where an existing issue or future improvement is required at a specific location within the Study Area which is entirely independent of any proposed Development or Land Division then the Landowner will not be required to pay the cost of any relevant road infrastructure upgrade.
- (d) Where road infrastructure improvements are required as a result of multiple new developments within the Study Area (including but not limited to a Development or Land Division of the Landowner), then the parties will share the costs of the relevant road infrastructure improvement proportionate to the traffic use generated by that Development or Land Division.
- (e) where the road transport network capacity of the Study Area is insufficient for the broader area surrounding the Study Area and the Minister determines that the insufficient capacity is not or will not be as a result of the Landowner's relevant Development or Land Division, then the Minister will be responsible for providing the road infrastructure required to increase the road transport network capacity.

7. ROAD INFRASTRUCTURE INTERVENTIONS AND CONTRIBUTIONS TO BE DETERMINED (BEFORE APPLICATION FOR BUILDING RULES CONSENT OR DEPOSIT)

The Landowner must not:

- 7.1 lodge an application to obtain a building rules consent authorisation for a Development on that portion of the Site that involves the construction of buildings or structures and requires building rules consent, OR
- 7.2 lodge an application for deposit of a plan of division (Form RTC) in relation to that portion of the Rezone Area creating allotments at the Lands Titles Office (other than Super Lots);

until the relevant Road Infrastructure Interventions and Contributions necessary as a result of the relevant Land Division or Development are determined in accordance with the Principles specified in clause 6 of this Deed. Nothing in this clause 7 restricts or delays ACP from proceeding to fill the Site in accordance with the terms of the Option Deed or Project Plan.

8. BASIS OF PAYMENT OF CONTRIBUTIONS/SECURITY

- 8.1 The Landowner must secure the payment of the Contribution(s) determined in accordance with the Principles specified in clause 6 to the satisfaction of the Minister on or prior to the Lodgement Date in accordance with this clause 8.
- 8.2 The Landowner has the right to pay for or secure the obligation to pay the Contribution in one of the following ways:
 - 8.2.1 pay the total sum of the Contribution necessary as a result of the relevant Land Division or Development as determined in accordance with the Principles specified in clause 6 of this Deed; OR
 - 8.2.2 pay a portion of the sum of the Contribution necessary as a result of the relevant Land Division or Development as determined in accordance with the Principles specified in clause 6 of this Deed and provide a Bank Guarantee or an alternative form of security acceptable to the Minister acting reasonably for the Contribution Owing.
- 8.3 If the Actual Cost is greater than the Projected Cost, the relevant Contribution payable by the Landowner toward the cost of the relevant Road Infrastructure Intervention must be increased in proportion to the increase between the Actual Cost and the Projected Cost.
- 8.4 The Landowner must pay the total amount of any Contribution(s) to the Minister within 30 days of written notice by the Minister (and following receipt of a valid tax invoice from the Minister) that the relevant works associated with the relevant Road Infrastructure Intervention(s) are complete.
- 8.5 The Minister will, following payment by the Landowner in accordance with clause 8.4, return the relevant Bank Guarantee or alternative security or such part of the relevant Bank Guarantee or alternative security which at that date has not otherwise been either reduced or called in and converted by the Minister pursuant to this Deed.

9. MINISTER'S RESPONSIBILITIES

9.1 Responsibility to Construct Study Area Road Infrastructure Interventions

- 9.1.1 Subject to clause 10 of this Deed, the Minister must undertake or cause to be undertaken the Study Area Road Infrastructure Interventions:
 - (a) as determined in accordance with clauses 6 and 7;
 - (b) in a timely manner to enable the proper, orderly, safe and efficient development of the Study Area and generally in accordance with the Gillman Master Plan or the Project Plan (as the case may be);
 - (c) in compliance with any standards, design and construction protocols, relevant plans or specifications required by the Commissioner of Highways;

provided that

the Commissioner of Highways has the discretion to alter the timing of the construction of any Road Infrastructure Intervention in the event that the rate or sequence of development within the Rezone Area is sufficiently different to the predicted rate or sequence of development as envisaged by the Gillman Master Plan.

- 9.1.2 The Minister may decide entirely at its discretion and in accordance with clause 10, that the Landowner may enter into a contract with the Responsible Road Authority for the construction of a Road Infrastructure Intervention but, unless otherwise agreed between the Minister, the Landowner and the Responsible Road Authority any such contract will not affect the obligations of the Landowner under this Deed, including but not limited to the payment of the Landowner Contribution under clause 8.

10. PARTY OTHER THAN MINISTER MAY CONSTRUCT ROAD INFRASTRUCTURE INTERVENTIONS

- 10.1 Notwithstanding the obligations on the Minister to construct or procure the construction of the Road Infrastructure Interventions specified in clause 9, the Landowner may construct a Road Infrastructure Intervention (the scope, timing and Contributions of which may have been determined in accordance with clause 6 of this Deed) provided the Minister provides written consent.
- 10.2 In seeking the Minister's approval the Landowner must demonstrate to the Minister's satisfaction that the Landowner has secured, obtained or entered into all necessary authorisations, arrangements, deeds or agreements with the Responsible Road Authority, relating to the undertaking of works associated with that Road Infrastructure Intervention.

11. BANK GUARANTEE CONDITIONS

- 11.1 Any Bank Guarantee provided pursuant to this Deed shall:
 - 11.1.1 be unconditional, irrevocable and payable on demand;
 - 11.1.2 be issued by a financial institution with a Standard and Poors credit rating of at least A+ and approved by the Minister;
 - 11.1.3 specify a location within Adelaide where demand is to be given and payment made, without further confirmation from the issuer; and
 - 11.1.4 be in a form approved by the Minister.

Any alternative security provided by the Landowner and approved by the Minister under clause 8.2.2 must to the extent applicable comply with these requirements.

- 11.2 The Minister may call up, enforce and/or convert the Bank Guarantee or alternative security, in whole or in part, if the Minister:
 - 11.2.1 considers that a Contribution Owing exists, and that the relevant Contribution Owing has not been paid by the Landowner within 7 days of the Minister requesting payment of that Contribution Owing; or
 - 11.2.2 is satisfied, acting reasonably, that the Actual Cost is greater than the Projected Cost and that therefore the relevant Contribution payable by the Landowner toward the cost of the relevant Road Infrastructure Intervention, must be increased in proportion to the increase between the Actual Cost and the Projected Cost.
- 11.3 The Landowner agrees that if at any time a claim for payment is made against the Bank Guarantee or alternative security by the Minister, the Landowner shall if requested to do so by the Minister provide an additional Bank Guarantee or

alternative security for a further sum as the Minister may require to ensure that the relevant Road Infrastructure Interventions is constructed.

- 11.4 Upon the Minister being satisfied that the total amount of any Contribution necessary as a result of the relevant Land Division or Development as determined in accordance with the Principles specified in clause 6 of this Deed is paid in full, the Minister agrees to return the Bank Guarantee or alternative security to the Landowner's bank or Landowner.
- 11.5 The Bank Guarantee or alternative security shall remain effective until the Minister is satisfied that the total Contribution in respect of the relevant Road Infrastructure Intervention(s) in respect of the relevant portion of the Site has been paid in accordance with clause 8 of this Deed, at which date the Minister will return the Bank Guarantee or alternative security or such part of the Bank Guarantee or alternative security which at that date has not otherwise been either reduced or called in and converted by the Minister pursuant to this clause 11.
- 11.6 The giving of the Bank Guarantee or alternative security shall not operate to relieve the Landowner from any of its obligations under any provision of this Deed.

12. TRANSFER OF SITE OR ASSIGNMENT OF DEED

- 12.1 If the Landowner intends to transfer any portion of the Site or wishes to assign this Deed prior to having paid the Landowner Contribution and providing the Bank Guarantee or alternative security relating to that portion of the Site, the Landowner must prior to any such transfer or assignment:
 - 12.1.1 procure the Purchaser to enter into a deed on the same terms as this Deed; and
 - 12.1.2 deliver that signed deed to the Minister.
- 12.2 The Landowner indemnifies the Minister from and against all loss and damage resulting from a breach of clause 12.1.1 by the Landowner.
- 12.3 Without limiting the indemnity in clause 12.2, the Minister is entitled to seek orders from a Court for specific performance of the obligations specified in this clause 12.
- 12.4 A transfer of any portion of the Site or an assignment of this Deed does not breach clause 12.1 if the transmission of the title relating to any portion of the Site occurs as a result of enforcement of a will or by intestacy for that portion of the Site.
- 12.5 If the Landowner transfers any portion of the Site or assigns this Deed having met the obligations specified in clause 12.1, then the Minister shall release the Landowner in respect of the Landowner's obligations under this Deed except for the obligations of indemnity contained in clauses 12.2 and 12.3.
- 12.6 The parties acknowledge and agree that the Minister's consent to a transfer of any portion of the Site is not required if:
 - 12.6.1 such transfer or assignment results as a consequence of the operation of the Option Deed; or
 - 12.6.2 the Landowner transfers any portion of the Site where all relevant Landowner Contributions and Bank Guarantees have been provided relating to that portion of the Site; or
 - 12.6.3 that portion of the Site does not require any further Road Infrastructure Interventions.

13. GOODS AND SERVICES TAX

- 13.1 Unless specifically described in this Deed as "GST inclusive", any sum payable (or amount included in the calculation of a sum payable), or consideration to be provided, under or in accordance with this Deed does not include any amount on account of GST.
- 13.2 Where any supply to be made by one party (**Supplier**) to another party (**Recipient**) under or in accordance with this Deed is subject to GST (other than a supply the consideration for which is specifically described in this Deed as "GST inclusive"):
- 13.2.1 the consideration payable or to be provided for that supply but for the application of this clause 13 (**GST Exclusive Consideration**) shall be increased by, and the Recipient shall pay to the Supplier, an amount equal to the GST payable by the Supplier in respect of that supply; and
 - 13.2.2 the Recipient must pay that additional amount at the same time and in the same manner as the GST Exclusive Consideration payable or to be provided for that supply.
- 13.3 If any payment to be made to a party under or in accordance with this Deed is a reimbursement or indemnification of an expense or other liability incurred or to be incurred by that party, then the amount of the payment must be reduced by the amount of any input tax credit to which that party is entitled for that expense or other liability, such reduction to be effected before any increase in accordance with clause 13.2.
- 13.4 The Recipient need not make any payment for a taxable supply made by the Supplier under or in accordance with this Deed until the Supplier has given the Recipient a valid tax invoice in respect of that taxable supply.
- 13.5 If an adjustment event has occurred in respect of a taxable supply made under or in accordance with this Deed, any party that becomes aware of the occurrence of that adjustment event must notify each other party to that taxable supply as soon as practicable, and all of those parties agree to take whatever steps are necessary (including to issue an adjustment note), and to make whatever adjustments are required, to ensure that any GST or additional GST on that taxable supply, or any refund of GST (or part thereof), is paid no later than 28 days after the Supplier first becomes aware that the adjustment event has occurred.
- 13.6 A word or expression used in this clause 13 which is defined in the *A New Tax System (Goods and Services Tax) Act 1999* (Cth) has the same meaning in this clause 13.

14. DISPUTE RESOLUTION

14.1 Disputes to be dealt with under this clause

Unless otherwise provided in this Deed all disputes or differences between the parties in connection with:

14.1.1 this Deed; or

14.1.2 any other matter in any way relating to this Deed,

(**Dispute**) will be dealt with in accordance with this clause 14 whenever the Dispute is raised.

14.2 Notice of Dispute

Any party (**Disputing Party**) may within 30 days after the Dispute arises, give a notice to the other parties (**Non-Disputing Parties**):

- 14.2.1 setting out details of the Dispute, the reason the Dispute should be resolved in favour of the Disputing Party, and any other matter that may, in the reasonable opinion of the Disputing Party, be relevant to the resolution of the Dispute; and
- 14.2.2 requiring the Non-Disputing Parties to, in good faith, seek to resolve the Dispute within 21 days of the date of the notice.

14.3 Referral of Dispute to an Expert

Subject to clause 14.7, if the Dispute is not resolved by agreement between the parties following notice given under clause 14.2, the determination of the Dispute (**Determination**) may be referred for determination by any party to any independent person (**Expert**) agreed between the parties (or in the absence of agreement within 7 days of any party proposing in writing an Expert, then the Expert shall be nominated at the request of any party by the President (or if there is not a President, then Chief Executive Officer or other person of like status) for the time being of The Institute of Arbitrators and Mediators Australia (or if that body has ceased to exist then a body fulfilling substantially the same functions as the first mentioned body).

14.4 Expert

The Expert is an expert and not an arbitrator.

14.5 Final

The Determination of the Expert is final and binding on the parties.

14.6 Conduct of Determination

Unless otherwise agreed by the parties in writing:

- 14.6.1 the place of the proceedings for purposes of the Determination will be Adelaide, South Australia;
- 14.6.2 each party is entitled to legal representation at all stages of the Determination;
- 14.6.3 the proceedings for the purposes of the Determination will be conducted in accordance with the laws of evidence;
- 14.6.4 each party will bear its own costs and expenses in relation to the Determination;
- 14.6.5 the parties will pay in equal shares the Expert's fees and expenses and the cost of the Determination including room hire (if any);
- 14.6.6 the parties must comply with all reasonable requests and produce all necessary documentation to the Expert to enable the Expert to make the Determination;
- 14.6.7 the parties may make submissions which the Expert must take into account when making the Determination;
- 14.6.8 the Expert must provide its Determination to the parties in writing, with reasons for the Determination and within 21 days of the appointment of the Expert; and
- 14.6.9 the provisions of the *Commercial Arbitration Act 1986* (SA) do not apply to the resolution of any Dispute under the provisions of this clause 14.

14.7 Legal proceedings

Nothing in this clause 14 prevents a party from issuing, or requires a party to delay issuing, legal proceedings in a court in respect of a Dispute if:

- 14.7.1 it is reasonably necessary for that party to seek urgent injunctive or other interlocutory relief in order to reasonably protect its position; or
- 14.7.2 the nature of the Dispute is such that it is not reasonably suitable for expert determination (for example, if the Dispute relates only the interpretation of the provisions of this Deed and will not require reference to expert evidence).

15. TIME OF THE ESSENCE

Time shall be of the essence in respect of any time, date or period specified in this Deed or in any notice served pursuant to this Deed.

16. VARIATION

No modification, variation or amendment of this Deed shall be of any force unless any such modification, variation or amendment is made by deed executed by each party.

17. COSTS

The parties will pay their own costs of and incidental to the preparation, negotiation and execution of this Deed and of any documents prepared and executed pursuant to this deed, unless stated otherwise in those other documents.

18. NOTICES

18.1 A notice, demand, consent, approval or communication under this deed (Notice) must be:

- 18.1.1 in writing, in English and signed by a person authorised by the sender; and
- 18.1.2 hand delivered or sent by pre-paid post to the recipient's address specified in this deed, as varied by any Notice given by the recipient to the sender.

18.2 A Notice is deemed to be received:

- 18.1.3 if hand delivered, on delivery; and
- 18.1.4 if sent by prepaid mail, two Business Days after posting (or seven Business Days after posting if posting to or from a place outside of Australia);

however if the Notice is deemed to be received on a day that is not a Business Day or after 5:00pm, the Notice is deemed to be received at 9:00am on the next Business Day.

18.3 If two or more persons comprise a party, Notice to one is effective Notice to all.

19. COUNTERPARTS

This document may consist of a number of counterparts and the counterparts taken together constitute one and the same instrument. If so, the signed copies are treated as making up the one document.

20. PUBLIC DISCLOSURE

Any party may, at any time, disclose this Deed and/or information relating to this Deed in either printed or electronic form and either generally to the public or to a particular person as a result of a specific request. Nothing in this clause derogates from the obligations of a party under the *Freedom of Information Act 1991*(SA).

21. LMA

- 21.1 The parties acknowledge and agree that as at the date of this Deed the parties contemplate that the following process will be implemented with regard to the entering into and notation of Land Management Agreement(s) pursuant to either sections 57 or 57A under the Development Act 1993.
- 21.2 It is a condition of this Deed that on or before the date of execution of this Deed, the Landowner must:
 - 21.2.1 execute a Land Management Agreement in accordance with the Land Management Agreement attached to this Deed and marked Annexure 1, in respect of each Certificate of Title comprising the Site (LMA);and
 - 21.2.2 deliver the executed LMA (with this executed Deed) to the Minister.
- 21.3 The Landowner must obtain all appropriate consents (including from all holders of registered interests rights or endorsements on the relevant Certificates of Title pertaining to the Site and also pay any consent fees, stamp duty and registration costs on the LMA.
- 21.4 The Landowner will endeavour to ensure that all consents required under clause 21.2 will have been secured at the time of execution of the LMA and this Deed.
- 21.5 The Minister must execute the LMA within a reasonable time after the last to occur of:
 - 21.5.1 the execution of the LMA by the Landowner;
 - 21.5.2 the execution of the LMA by the Minister for Planning;
 - 21.5.3 the Landowner notifying the Minister that it has obtained all appropriate consents in accordance with clause 21.3; and
 - 21.5.4 the Minister for Planning having rezoned the Site in accordance with clause 3.3 of this Deed.
- 21.6 As soon as reasonably possible after having executed the LMA, the Minister will deliver the fully executed LMA to the Minister, after which, the Minister will arrange the lodgment of the LMA to be noted on the relevant Certificate of Title by the Registrar-General of the Lands Titles Office in accordance with s57(5) of the Act.
- 21.7 In the event that all consents required under clause 21.3 have not been secured at the time of execution of the LMA and this Deed, or the LMA is not registered on the relevant Certificate(s) of Title comprising the Site at any time during the Term of this Deed, prior to the registration of the LMA on the relevant Certificate(s) of Title, the Landowner must not seek advice, permission

or clearance from the Council for any Development or Land Division in respect of any portion of the Site, such as to enable the Development Assessment Commission to issue a Section 51 certificate in respect of that Development or Land Division.

- 21.8 Prior to transferring any portion of the Site (whether to ACP pursuant to the Option Deed or another party), the Landowner must procure the intended transferee of that portion of the Site to enter into a Land Management Deed on the same terms as the LMA and deliver that signed deed to the Minister for Planning and the Minister. The Minister will then arrange for the LMA to be rescinded or partially rescinded in relation to that portion of the Site which ACP has purchased and fully executed a new Land Management Agreement on the same terms as the LMA.
- 21.9 If ACP seeks to lodge an application to the Development Assessment Commission for a Land Division, or an application of a development authorisation from the relevant authority under the Development Act for a Development and assumes the obligations of Landowner in accordance with clause 5 of this Deed, then the Minister may require ACP to enter into a Land Management Agreement in accordance with section 57A of the Development Act at the same time as lodging the relevant application.
- 21.10 If the Minister requires ACP to enter into a Land Management Agreement in accordance with section 57A of the Development Act in accordance with clause 21.9, any LMA or other Land Management Agreement noted on the relevant portion of the Site in accordance with this Deed will need to be rescinded or partially rescinded (as the case may be) prior to the section 57A Land Management Agreement being noted on the title(s) comprising the relevant portion of the Site.

22. ASSIGNMENT OF MINISTER'S RIGHTS AND OBLIGATIONS

- 22.1 The parties acknowledge that the Minister for Transport and Infrastructure reserves his right to assign any of his rights, benefits or obligations under this Deed to any instrumentality of the Crown in right of the State of South Australia (including but not limited to the Commissioner of Highways) who in the Minister's opinion will most appropriately deal with such right, benefit or obligation on terms acceptable to the Minister, without seeking the consent of any other party to this Deed.
- 22.2 The Minister will, at the completion of any development or works pursuant to this Deed, determine which instrumentality of the Crown, should own and maintain the relevant parts of the completed development or works pursuant to this Deed and do all things necessary to vest in the instrumentality such development or works on terms acceptable to the Minister.

EXECUTED AS A DEED

DATED

DAY OF

2015

SIGNED for and on behalf of the
URBAN RENEWAL AUTHORITY
trading as Renewal SA by its duly
constituted Attorney pursuant to Power of
Attorney No. GP 2/2015/PA 12302863,
who has not received a notice of the
revocation of that Power of Attorney in
the presence of:

.....
Attorney

.....
Full Name of Attorney
Address:
C/- Renewal SA
Level 9 Riverside Centre
North Terrace, Adelaide SA 5000
Tel: 8207 1300

.....
Witness

.....
Full Name of Witness
Address:
C/- Renewal SA
Level 9 Riverside Centre
North Terrace, Adelaide SA 5000
Tel: 8207 1300

This Deed is executed by)
ADELAIDE CAPITAL PARTNERS PTY LTD)
 in accordance with Section 127 of the)
 Corporations Act 2001 by two of its Directors or)
 by one of its Directors and the Company Secretary)

Signed:

Signed:

Name:

Name:

Position:

Position:

SIGNED for and on behalf of the)
MINISTER FOR TRANSPORT)
AND INFRASTRUCTURE)
 by his duly constituted Attorney pursuant to)
 Power of Attorney No. 12317028, who has not)
 received a notice of the revocation of that)
 Power of Attorney, in the presence of:)

.....
 Department of Planning, Transport
 and Infrastructure

.....
 Witness

.....
 Full name of Attorney
 Address:
 C/- DPTI
 GPO Box 1533
 ADELAIDE SA 5001
 Tel: 8343 2222

.....
 Full Name of Witness
 Address:
 C/- DPTI
 GPO Box 1533
 ADELAIDE SA 5001
 Tel: 8343 2222

ANNEXURE 1

Form of LMA

ANNEXURE 2

Rezone Area Plan

ANNEXURE B
Stormwater Infrastructure Deed

GILLMAN
INTERIM STORMWATER INFRASTRUCTURE DEED

BETWEEN

URBAN RENEWAL AUTHORITY
("Renewal SA")

-AND-

ADELAIDE CAPITAL PARTNERS PTY LTD
("ACP")



**Government
of South Australia**

CROWN SOLICITOR
Level 9, 45 Pirie Street, Adelaide SA 5000

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ANNEXURE 1 Form of LMA

ANNEXURE 2 Rezone Area Plan

BETWEEN:

URBAN RENEWAL AUTHORITY (ABN 86 832 349 553) of Level 9 West, Riverside Centre, North Terrace, Adelaide SA 5000
("Renewal SA")

AND

ADELAIDE CAPITAL PARTNERS PTY LTD (ACN160 437 562) of corner of Wingfield Road and Hines Road, Wingfield, South Australia 5013 and/or Nominee ("**ACP**")

BACKGROUND:

- A. As at the date of this deed (**Deed**), Renewal SA owns all of the land comprised in the Site.
- B. Renewal SA and ACP have entered into an option deed under which ACP and/or its nominee has an equitable right to purchase the land comprised in the Site over 3 stages (**Option Deed**).
- C. Pursuant to the Option Deed Renewal SA and ACP have agreed the Project Plan.
- D. ACP has exercised its option to acquire the Stage 1 Option Land. Subsequently, pursuant to the Option Deed, Renewal SA and ACP have entered a Land Sale Contract with respect to the Stage 1 Option Land.
- E. The parties acknowledge and agree that:
 - a. if Renewal SA were to develop the Site and the Study Area it would be generally in accordance with the Gillman Master Plan but that as at the date of this Deed, Renewal SA does not intend to directly undertake the development of any part of the Site;
 - b. to the extent that ACP exercises its options to purchase the various components of the Site pursuant to the Option Deed, ACP will be the party which directly undertakes the development of the land comprised in the Site and ACP intends to develop the Site in accordance with the Project Plan under the Option Deed;
 - c. as at the date of this Deed, significant portions of the Site were not zoned in a manner that would directly facilitate development in accordance with the Gillman Master Plan, and it is anticipated that this inconsistency will be

resolved if the Draft DPA is approved by the Minister for Planning (or the Minister for Planning's delegate) and subsequently implemented;

- d. existing stormwater infrastructure in the immediate vicinity of the Site will not have sufficient capacity over time to accommodate stormwater that will be generated through development of the Site in accordance with either the Gillman Master Plan or the Project Plan;
 - e. this Deed provides an endorsed mechanism for ensuring that appropriate infrastructure upgrades are implemented at appropriate times during the development of the Site; and
 - f. in accordance with this Deed and the LMA, Renewal SA will not consent to the transfer of an undeveloped portion of the Site to a Purchaser unless the Landowner and the Purchaser agree to the transfer of all rights, obligations and responsibilities as set out in this Deed with respect to that portion of the Site, or as otherwise provided in this Deed.
- F. The parties acknowledge that although the Council is generally responsible for the management of stormwater in the Study Area, including without limitation the Study Stormwater Infrastructure Interventions, it is Renewal SA who will oversee the operation of this Deed and the preparation of a final Stormwater Infrastructure Deed (if any).
- G. Renewal SA intends that the relevant portions of the Site be rezoned in accordance with the Draft DPA and it is acknowledged that ACP provided submissions in relation to proposed changes to the Draft DPA.
- H. The Renewal SA wishes to encourage the development of the Site in accordance with the Draft DPA.
- I. A Development Plan Amendment (DPA) under section 26(8)(d) of the *Development Act 1993* to the Development Plan for the area comprising the Rezone Area within the Precinct is yet to be approved and gazetted by the Minister for Planning (or the Minister's delegate).
- J. The parties acknowledge and agree that:
- In the absence of a demonstrated on-site re-use potential, Study Area Stormwater Infrastructure Interventions must be designed and implemented to facilitate the management of stormwater on a regional rather than site-by-site basis.
 - should the development of the Site proceed in the manner envisaged by the Draft DPA, the Study Area Stormwater Infrastructure Interventions, generally in accordance with the Gillman Master Plan, are likely to be required;
 - the exact details relating to the scope, costs and timing of the Study Area Stormwater Infrastructure Interventions are not known at the Commencement

Date and as such may differ from what is described in the Gillman Master Plan;

- those stormwater infrastructure interventions that would ordinarily form part of the required works to process a plan of division Development Authorisation are not intended to be managed by the operation of this Deed; and
 - the Study Area Stormwater Infrastructure Interventions that would not ordinarily form part of the required works to process a plan of division Development Authorisation are intended to be managed by the operation of this Deed.
- K. The parties acknowledge and agree that if ACP seeks a relevant Development Authorisation prior to becoming the registered proprietor of any piece of land comprising the whole or a portion of the Site, it is responsible (as Landowner) for any obligations arising under this Deed that relate to the relevant Development Authorisation.
- L. The parties acknowledge and agree that the parties must, before the whole of any part of the Site is subdivided (other than to create Super Lots) or developed, negotiate in good faith to determine the Stormwater Infrastructure Interventions in relation to that part of the Site following an analysis by each party of the results of the Detailed Investigations.
- M. The parties agree to construct or procure the construction of, the Study Area Stormwater Infrastructure Interventions in accordance with this Deed during the Term.
- N. The parties acknowledge that as at the date of this Deed, there were no capacity constraints with the stormwater infrastructure within the Study Area that, in the absence of further development, would require any Stormwater Infrastructure Interventions to be implemented, as contemplated under this Deed.

OPERATIVE PROVISIONS

1. ACKNOWLEDGEMENT

The parties agree both that the matters referred to in the Background of this Deed are true and correct in every material particular and that the Background will form part of this Deed.

2. DEFINITIONS AND INTERPRETATION

2.1 Definitions

Unless the subject or context required otherwise in this Deed:

- 2.1.1 **Actual Cost** is the amount actually and reasonably incurred by the Landowner in undertaking or causing the undertaking of a Stormwater Infrastructure Intervention, and includes (without limitation) all expenses reasonably incurred by the Landowner (or its consultants or contractors) in designing, procuring and undertaking the relevant Stormwater Infrastructure Intervention;
- 2.1.2 **administrator** has the same meaning as in the *Corporations Act 2001* (Cth);
- 2.1.3 **Balance Allotments** means any allotments (which are not associated roads and reserves) created or resulting from the division of the Site into portions which are intended for future or further development including without limitation, Super Lots;
- 2.1.4 **Bank Guarantee** means the security provided by the Landowner to Renewal SA in respect of the amount required for each Stormwater Infrastructure Intervention that must be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner and further described in clause 8 and 9;
- 2.1.5 **Business Day** means a day that is not a Saturday, Sunday or a public holiday in Adelaide, South Australia;
- 2.1.6 **Commencement Date** means the date of execution by all parties to this Deed;
- 2.1.7 **Council** means the City of Port Adelaide Enfield or its statutory permitted assigns;
- 2.1.8 **Detailed Investigations** means the detailed investigations undertaken by the Landowner in accordance with this Deed in consultation with the other parties to determine the Stormwater Infrastructure Interventions required as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner (including without limitation identifying the affected stormwater network, together with timings, the expected cost, for each Stormwater Infrastructure Intervention);
- 2.1.9 **Development** is specified in clause 5;
- 2.1.10 **Development Act** means the *Development Act 1993* (SA);
- 2.1.11 **Development Authorisation** means either of the development authorisations described in clause 5;

- 2.1.12 **Development Plan** means the relevant Development Plan, which for the Council area is the City of Port Adelaide Enfield Development Plan as amended by the DPA, and for the area which is not within a Council area is the Land not within a council area (Metropolitan) Development Plan;
- 2.1.13 **DPA** means a Development Plan Amendment that is approved and in operation under the *Development Act 1993* (SA) as a result of a process initiated with the Draft DPA, and for the avoidance of doubt includes any amendment made to the DPA by the Minister for Planning pursuant to section 27(5) or section 26(8)(d) of the *Development Act 1993* (SA);
- 2.1.14 **DPA Amendment Gazettal** means a notice published in the South Australian Government Gazette pursuant to section 27(5)(a) of the Act amending the DPA;
- 2.1.15 **DPA Gazettal** means a notice published in the South Australian Government Gazette pursuant to section 25(17) of the Development Act approving the DPA;
- 2.1.16 **Draft DPA** means the Development Plan Amendment Titled "Employment Lands (Gillman/Dry Creek & Wingfield) and General Section Amendments Development Plan Amendment" prepared by the Minister for Planning and released by that Minister for public consultation on 27 March 2015 and which for the purposes of this Deed has been marked for identification by the parties to this Deed;
- 2.1.17 **Gillman Master Plan** means the report titled "Gillman Master Plan – Final Report" prepared by Jensen Planning + Design, dated June 2014;
- 2.1.18 **Infrastructure Deeds** has the same meaning as in the LMA;
- 2.1.19 **Land Division** has the meaning specified in clause 5;
- 2.1.20 **Landowner** means:
- (a) Subject to paragraph (b), any person who is the registered proprietor of any piece of land comprising the whole or a portion of the Site, such that if:
 - (i) ACP becomes the registered proprietor of the Site in accordance with the Option Deed, then from that time ACP will be the Landowner;
 - (ii) ACP does not complete the purchase of the Site or portion of the Site then Renewal SA remains the Landowner;
 - (iii) ACP or Renewal SA transfer any freehold interest in the Site to a third party then that third party will be the Landowner of that portion of the Site transferred to the third party;
 - (b) Notwithstanding paragraph (a), any person (including but not limited to ACP), who has applied to obtain a Development Authorisation in accordance with this Deed in relation to any piece of land comprising the whole or a portion of the Site, will from the time that application is lodged until the time that application is withdrawn be deemed to be the Landowner, whether or not that person is the registered proprietor of any piece of land comprising the whole or a portion of the Site;

- 2.1.21 **LMA** means the Land Management Agreement described in clause 19;
- 2.1.22 **Lodgement Date** means the date upon which the Landowner lodges either the application to obtain a building rules consent authorisation or application for deposit of a plan of division (Form RTC) in accordance with clause 7 in this Deed;
- 2.1.23 **Option Deed** means the deed between Renewal SA and ACP under which ACP has an equitable right to purchase the land comprised in the Site over 3 stages and pursuant to which Renewal SA and ACP have entered a Land Sale Contract with respect to the Stage 1 Option Land (as defined in the Option Deed);
- 2.1.24 **Plan of Division** means a plan of division lodged for deposit under section 223 LE of the *Real Property Act 1886*;
- 2.1.25 **Projected Cost** is the amount the parties agree is projected to be incurred by the Landowner in undertaking or causing the undertaking of a Stormwater Infrastructure Intervention, and upon which the Bank Guarantee for Stormwater Infrastructure Interventions are based;
- 2.1.26 **Project Plan** means the Project Plan approved under the Option Deed;
- 2.1.27 **Purchaser** means a party (which may be ACP and/or its nominee) who acquires the portion of a Site (including any Balance Allotments) from the Landowner for which neither the relevant Stormwater Infrastructure Intervention(s), necessary as a result of the relevant Land Division or Development has been constructed, or a Bank Guarantee been provided;
- 2.1.28 **Responsible Stormwater Authority** means the stormwater authority responsible for maintaining the Stormwater Infrastructure Intervention upon completion of the same in accordance with any relevant legislation. In relation to land within the Local government area of the City of Port Adelaide Enfield, the Responsible Stormwater Authority is the Council;
- 2.1.29 **Rezone Area** means that portion of the Study Area intended to be rezoned under the DPA in accordance with section 26(8)(d) of the Development Act and which is delineated as the Gillman/Dry Creek part of the area marked 'Area Affected' in the plan comprising Annexure 2;
- 2.1.30 **Section 51 Certificate** means a certificate under section 51 of the Development Act;
- 2.1.31 **Site** means the development site owned by the Landowner, identified as the 'Subject Site' on Figure 1, page 2 of the Gillman Master Plan;
- 2.1.32 **Stage 1 Option Land** has the meaning given by the Option Deed;
- 2.1.33 **Stormwater Infrastructure Intervention** means a specific component of the Study Area Stormwater Infrastructure Interventions which:
- must be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner;
 - at the Commencement Date is generally set out in the Gillman Master Plan, but the exact details relating to the scope, costs

and timing of which will be determined in accordance with clauses 4, 5, 6 and 7 of this Deed;

2.1.34 **Study Area** means that area of approximately 915 hectares to which the Study Area Stormwater Infrastructure Interventions pertain identified as the 'Study Area' on Figure 1, page 2 of the Gillman Master Plan;

2.1.35 **Study Area Stormwater Infrastructure Interventions** means all of the stormwater infrastructure alterations required to facilitate development of, whilst maintaining existing and projected stormwater flows through, the Study Area:

- which as at the Commencement Date are generally set out in the Gillman Master Plan;
- which do not otherwise form part of the required works to process a relevant Development Authorisation;
- the exact details relating to the scope, costs and timing of which are more specifically determined in accordance with clauses 5, 6 and 7 of this Deed; and
- which must be completed in accordance with this Deed;

including but not limited to any upgrades to the existing levee which may be required to limit any seawater ingress into designated stormwater management areas:

2.1.36 **Super Lot** means an allotment created upon the division of the Site into a portion which is then capable of sale by the Landowner (incorporating a further division of the Super Lot) or development by the Landowner or a third party (incorporating a further division of the Super Lot);

2.1.37 **Term** means the term of this Deed commencing on the Commencement Date and ending on the last to occur of:

- (a) the date upon which all Contributions payable under this Deed have been paid; or
- (b) the date upon which all of the Study Area Stormwater Infrastructure Interventions have been completed to Renewal SA's satisfaction; or
- (c) 20 years from the Commencement Date.

2.1.38 **Tonkin Investigations** means the Tonkin Consulting *Modelling of Flood/Tidal Interaction Report (2014)* which is supplementary to the Gillman Master Plan.

2.2 Interpretation

Unless expressed to the contrary, in this Deed:

- 2.2.1 words denoting the singular or plural number include the plural number and the singular respectively;
- 2.2.2 words denoting a gender refer to both genders;
- 2.2.3 headings are for convenience only and shall not affect the interpretation of this Deed;
- 2.2.4 words denoting individuals include corporations and vice versa;

- 2.2.5 a reference to a party, the Background, clause, schedule, annexure or plan is a reference to a party, the Background, clause, schedule, annexure or plan of this Deed;
- 2.2.6 a reference to any act, regulation or by-law shall be deemed to include all amendments to them and all statutory provisions substituted thereafter;
- 2.2.7 a reference to a party includes a reference to that party's executors, administrators, successors and permitted assigns;
- 2.2.8 the use of **or** shall be that of the inclusive **or**, that is meaning one, some or all of a number of possibilities or alternatives;
- 2.2.9 an agreement on the part of or in favour of 2 or more persons binds or is for the benefit of each person jointly and individually;
- 2.2.10 a reference to a matter, act or thing includes the whole event or any part of that matter, act or thing and reference to a group of matters, acts, things or persons includes each matter, act, thing or person in that group;
- 2.2.11 no rule of construction shall be applied in interpreting or construing this Deed *contra proferentem* against a party or otherwise to the disadvantage of a party on the basis that the party proposed or drafted this Deed or any provision of this deed;
- 2.2.12 reference to a corporation, organisation or other body (whether or not incorporated), but excluding the parties is:
 - (a) if that corporation, organisation or other body is replaced by another corporation, organisation or other body, then to refer to that other corporation, organisation or other body; and
 - (b) if that corporation, organisation or other body ceases to exist, then to refer to the corporation, organisation or other body which most closely or substantially fulfil the same purposes or objects as the first mentioned corporation, organisation or other body;
- 2.2.13 the word **including** where used is deemed to be followed by the words **without limitation**; and
- 2.2.14 reference to **month** means calendar month.

2.3 Relationship between the parties

- 2.3.1 The parties acknowledge and agree that their relationship pursuant to this Deed shall be exclusively that of independent contractors with the rights, liabilities, duties and obligations set out in this Deed or, subject to this Deed, at law.
- 2.3.2 Nothing contained in this Deed shall be deemed or construed to constitute a party to be a partner, joint venturer, principal, agent, trustee (whether expressed, implied or constructive), beneficiary, lender, borrower, lessor, lessee, or fiduciary of another party.
- 2.3.3 No party has the authority to act for or incur any liability or obligation pursuant to this Deed as agent for or on behalf of any other party except as expressly provided in or contemplated by this Deed.

2.4 Proper law and jurisdiction

- 2.4.1 The proper law of this Deed shall be the law of South Australia and accordingly this Deed shall be governed by and construed in accordance with the laws of South Australia.
- 2.4.2 Each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of South Australia and the courts of appeal from them for determining any dispute concerning this Deed. Each party waives any right it has to object to an action being brought in those courts, to claims that action has been brought in an inconvenient forum, or to claim those courts do not have jurisdiction.
- 2.4.3 The parties agree that none of them shall institute or attempt to institute any proceedings in relation to any dispute or any other matter or thing arising out of or in connection with this Deed other than in a court of South Australia or, in respect of any proceedings in a Federal court, in the Adelaide registry of the relevant Federal court.
- 2.4.4 Without preventing any other mode of service, any documents in an action (including any writ of summons or other originating process or any third or other party notice) may be served on a party by being left or left for that party at its address for service of notices pursuant to this Deed.

2.5 Waiver

- 2.5.1 A waiver of a provision of this Deed must be both in writing and be signed by the party or parties granting the waiver and the party or parties benefiting by or from the waiver or by a person duly authorised to execute such a document on behalf of each such party.
- 2.5.2 No waiver by a party of a performance or observance of a provision or a breach of this Deed shall operate as a waiver of the performance observance or breach of any other provision of this Deed.
- 2.5.3 No forbearance, delay, indulgence or partial exercise by a party in enforcing the provisions of this Deed shall be a waiver of or prejudice or restrict the rights of that party in any way.

2.6 Reading down and severance

- 2.6.1 If a provision of this Deed is reasonably capable of an interpretation which would render that provision to be unenforceable, illegal, invalid or void and an alternative interpretation would not have one of those consequences, then that provision shall be interpreted or construed so far as is possible, to be limited and read down such that its meaning is that which does not render it unenforceable, illegal, invalid or void.
- 2.6.2 Subject to clause 2.6.1, if a provision of this Deed is for any reason illegal, void, invalid or unenforceable, then that provision shall be severed from this Deed without effecting the legality, validity or enforceability of the remainder of this Deed.
- 2.6.3 If a provision of this Deed is severed under clause 2.6.2, the parties agree to negotiate in good faith to reach agreement upon an amended provision as a replacement for the severed provision.

2.7 Cumulative rights

A right, power, remedy, entitlement or privilege given or granted to a party pursuant to this Deed is cumulative with, without prejudice to and not exclusive of any right, power, remedy, entitlement or privilege granted or given pursuant to this Deed or by the operation of law.

2.8 Employees or agents

Any act, matter or thing which is either required to be performed or done by a party may be performed or done by that party's duly authorised employees, agents, delegates or contractors.

2.9 Entire agreement

2.9.1 This Deed contains the entire agreement between the parties in respect of the subject matter of this Deed and the parties agree that this Deed supersedes and extinguishes any prior agreement or understanding (if any) between the parties in respect of the subject matter of this Deed.

2.9.2 No other agreement, whether collateral or otherwise, shall be taken to have been formed between the parties by reason of any promise, representation, inducement or undertaking (if any) given or made by one party to the other prior to the date of this Deed.

2.10 Auditor-General

Nothing in this Deed derogates from the powers of the Auditor-General under the *Public Finance and Audit Act 1987* (SA).

3. CONDITIONS OF DEED**3.1 LMA Signed**

3.1.1 The obligations of the parties under this Deed are subject to the Landowner, within 60 days of the Commencement Date, executing and delivering to Renewal SA signed LMAs in respect of each of the relevant pieces of land comprising the Site.

3.1.2 Renewal SA may, at its discretion, waive the condition specified in clause 3.1.1.

3.2 DPA

3.2.1 In addition to clause 3.1, the obligations of the parties under this Deed are subject to and conditional on:

- (a) the Minister for Planning (or the Minister for Planning's delegate):
 - (i) approving the DPA for the Rezoned Area under s26(8)(d); and
 - (ii) publishing the DPA Gazettal for the Rezoned Area under s26(8)(d); and
- (b) the validity of the DPA not being subjected to any challenge commenced in a court of competent jurisdiction within six months of the Minister for Planning (or the Minister for Planning's delegate) having published the DPA Gazettal which challenge results in the DPA being overturned or varied within 3 years of commencement of the relevant proceedings; and

- (c) the DPA not being disallowed by either House of Parliament under section 27 of the *Development Act* following the publication of the DPA Gazettal.

- 3.2.2 The parties acknowledge and agree that nothing in this Deed obliges or shall be construed as obliging the Minister for Planning (or the Minister for Planning's delegate) to approve the DPA over the whole or any part of the Rezone Area or within any timeframe.
- 3.2.3 The parties acknowledge and agree that if the Condition set out in clause 3.2.1 is not satisfied within 10 years of the Commencement Date, then any party may rescind this Deed by giving the other parties notice of that rescission, with the rescission deemed to be effective by serving a notice in accordance with clause 16.
- 3.2.4 Any party (**Affected Party**) that considers it has been materially adversely affected by variations between the Draft DPA and the DPA may give notice to the other parties within:
 - (a) 45 days of the publication of the DPA Gazettal (unless each party waives, by notice to the other parties, their entitlement to give such notice);
 - (b) 30 days of publication of any DPA Amendment Gazettal (unless each party waives, by notice to the other parties, their entitlement to give such notice).

Nothing in this clause 3.2.4 derogates from ACP's rights under the Option Deed or any contract formed upon exercise of an option under the Option Deed.

- 3.2.5 The Landowner may only issue a notice under clause 3.2.4 of this Deed if the Landowner reasonably forms the opinion that the DPA material adversely affects (alone or in combination with any other facts or circumstances) the cost, revenue, cash flow, finance, sales rate, allotment yield, risk, market attraction or profit associated with the Landowner's proposed development of the Site.
- 3.2.6 Any dispute in respect of whether a party has been materially adversely affected by a variation or whether any of the criteria in clause 3.2.5 have been satisfied may be referred by any party for determination by an Expert in accordance with clause 12.
- 3.2.7 In the event of a notice being given by the Affected Party, the parties must negotiate in good faith towards agreeing variations to this Deed to address the impact of the variations made to the DPA on the Affected Party.

4. **ACP'S OBLIGATION TO CONDUCT DETAILED INVESTIGATIONS**

- 4.1 As from the date of this Deed the Landowner or ACP will conduct the Detailed Investigations required to determine the precise scope and timing for each of the Stormwater Infrastructure Interventions which will need to be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner or ACP.
- 4.2 The Detailed Investigations must detail how stormwater from the adjacent urban area as documented in the Tonkin Investigations will be accommodated as a result of the relevant Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner or ACP.

- 4.3 The Landowner or ACP must undertake the Detailed Investigations concurrently with the relevant Development Authorisation sought by the Landowner or ACP for the Land Division or Development to be undertaken by the Landowner or ACP.
- 4.4 The Landowner or ACP must undertake the Detailed Investigations specified in this clause 4 expeditiously and inform each other party to this Deed of the progress of any Detailed Investigations.
- 4.5 To the extent that ACP does not exercise a relevant option pursuant to the Option Deed, as and from the time that ACP is no longer entitled to exercise a relevant option pursuant to the Option Deed, ACP is not obliged to complete any Detailed Investigations which ACP has commenced (if any) in respect of the land the subject of the relevant option that ACP has not exercised pursuant to the Option Deed.

5. **PROCESS FOR DETERMINING STORMWATER INFRASTRUCTURE INTERVENTIONS**

5.1 If the Landowner wishes to either:

- 5.1.1 lodge an application to the Development Assessment Commission for a land division relating to that portion of the Rezone Area creating allotments (other than Super Lots) (Land Division); OR
- 5.1.2 lodge an application of a development authorisation from the relevant authority under the Development Act for a development on that portion of the Rezone Area that involves construction of buildings or structures and requires building rules consent (Development);

then the Landowner must forthwith commence negotiations with Renewal SA and the Responsible Stormwater Authority in accordance with the Principles specified in clause 6 (including taking into consideration each and every potential Stormwater Infrastructure Intervention identified through the Detailed Investigations undertaken pursuant to Clause 4), to determine the precise scope, timing, costs and subsequently the amount required to be secured by the Bank Guarantee for each Stormwater Infrastructure Intervention that must be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner.

5.2 Whenever requested by the Landowner Renewal SA must give the Landowner reasonable particulars of any expected Projected Cost or Bank Guarantee toward each Stormwater Infrastructure Intervention that must be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner.

5.3 If ACP makes any application for:

- 5.3.1 a Land Division; or
- 5.3.2 a development authorisation from the relevant authority under the Development Act for a Development,

then as at the date of lodging that application ACP must assume all the obligations of the Landowner under this Deed relating to that portion of the Site the subject of the Land Division or the Development, and ACP releases Renewal SA from any obligations as Landowner in respect of that application,

and indemnifies Renewal SA from and against all loss and damage resulting from a breach of this clause 5.3 by ACP.

6. PRINCIPLES TO DETERMINE STORMWATER INFRASTRUCTURE INTERVENTIONS AND CONTRIBUTIONS

- 6.1 The precise scope, timing, costs and subsequently the amount of the Bank Guarantee required for each Stormwater Infrastructure Intervention that must be constructed as a result of the Land Division or Development the subject of the relevant Development Authorisation sought by the Landowner, will be determined by the parties using the following Principles:
- (a) The Landowner will construct any Stormwater Infrastructure Intervention which must be necessarily constructed as a direct result of the Landowner's Development or Land Division in the Site. The parties acknowledge and agree that:
 - (i) any Stormwater Infrastructure Intervention within the Site for the benefit of other areas in the vicinity of the Site, may but shall not automatically be considered as being necessarily constructed as a direct result of the Landowner's Development or Land Division under this clause 6.1(a)(i); and
 - (ii) Stormwater Infrastructure Interventions detailed in the Gillman Master Plan, may but shall not automatically be deemed to be considered as being necessarily constructed as a direct result of the Landowner's Development or Land Division under this clause 6.1(a)(i) solely by virtue of the relevant Stormwater Infrastructure Interventions being included in the Gillman Master Plan.
 - (c) If the Relevant Stormwater Authority determines (acting reasonably) that there is capacity within the existing stormwater infrastructure network of the Study Area to service the Landowner's Development or Land Division, the Landowner will be entitled to rely upon that capacity to service the Landowner's Development.
 - (d) Where an existing issue or future improvement is required at a specific location within the Study Area which is entirely independent of any proposed Development or Land Division then the Landowner will not be required to construct or procure the construction of the relevant stormwater infrastructure upgrade.
 - (e) Where stormwater infrastructure improvements are required as a result of multiple new developments within the Study Area (including but not limited to a Development or Land Division of the Landowner), then the parties will share the costs of the relevant stormwater infrastructure improvement with reference to;
 - (i) the volume of stormwater generated by that development or land division; or

- (ii) the area of the site pertaining to that development or land division which as a result becomes unavailable for the management of stormwater.
- (f) The Council (in consultation with City of Charles Sturt) may request for additional stormwater infrastructure interventions to be considered as part of the Detailed Investigations, in order to provide additional capacity to facilitate more extensive development within the Torrens Road Drainage Area however in such case there is no obligation upon the Landowner to construct or procure the construction of such additional stormwater infrastructure interventions.

6.2 Nothing in this Deed requires the Landowner to consult with individual land owners who own land outside the Study Area.

7. STORMWATER INFRASTRUCTURE INTERVENTIONS AND CONTRIBUTIONS TO BE DETERMINED (BEFORE APPLICATION FOR BUILDING RULES CONSENT OR DEPOSIT)

The Landowner must not:

- 7.1 lodge an application to obtain a building rules consent authorisation for a Development on that portion of the Site that involves the construction of buildings or structures and requires building rules consent, OR
- 7.2 lodge an application for deposit of a plan of division (Form RTC) in relation to that portion of the Rezone Area creating allotments at the Lands Titles Office (other than Super Lots);

until the relevant Stormwater Infrastructure Interventions and the amount secured by the Bank Guarantee necessary as a result of the relevant Land Division or Development are determined in accordance with the Principles specified in clause 6 of this Deed. Nothing in this clause 7 restricts or delays ACP from proceeding to fill the Site in accordance with the terms of the Option Deed or Project Plan.

8. LANDOWNER'S RESPONSIBILITIES

8.1 Responsibility to Construct Study Area Stormwater Infrastructure Interventions

- 8.1.1 The Landowner must undertake or cause to be undertaken the Study Area Stormwater Infrastructure Interventions, to the Relevant Stormwater Authority's satisfaction:
 - (a) as determined in accordance with clauses 6 and 7;
 - (b) in a timely manner to enable the proper, orderly, safe and efficient development of the Study Area and generally in accordance with the Gillman Master Plan or the Project Plan (as the case may be);
 - (c) in compliance with any standards, design and construction protocols, relevant plans or specifications required by the Responsible Stormwater Authority;
 - (d) having regard to the timely and orderly vesting of any Stormwater Infrastructure Intervention to the Responsible Stormwater Authority (if necessary);

- (e) provided that the Relevant Stormwater Authority has agreed in principle to accept the Relevant Stormwater Infrastructure Intervention upon completion; and
- (f) ensuring that it has secured, obtained or entered into all necessary authorisations, arrangements, deeds or agreements with the Responsible Stormwater Authority, relating to the undertaking of any works associated with the relevant Stormwater Infrastructure Intervention;

8.2 Responsibility to Procure Bank Guarantee

- 8.2.1 The Landowner must secure the performance of the construction of each Stormwater Infrastructure Intervention determined in accordance with the Principles specified in clause 6, by procuring an unconditional irrevocable Bank Guarantee or an alternative form of security acceptable to Renewal SA acting reasonably, for an amount equal to the total Projected Cost of the relevant Stormwater Infrastructure Intervention, in favour of and to the satisfaction of Renewal SA on or prior to the Lodgement Date in accordance with clauses 8 and 9 of this Deed.
- 8.2.2 If the Actual Cost is greater than the Projected Cost, the relevant amount securing the cost of the relevant Stormwater Infrastructure Intervention must be increased by an amount representing the increase between the Actual Cost and the Projected Cost.

9. BANK GUARANTEE CONDITIONS

- 9.1 Any Bank Guarantee provided pursuant to this Deed shall:
 - 9.1.1 be unconditional, irrevocable and payable on demand;
 - 9.1.2 be issued by a financial institution with a Standard and Poors credit rating of at least A+ and approved by Renewal SA;
 - 9.1.3 specify a location within Adelaide where demand is to be given and payment made, without further confirmation from the issuer; and
 - 9.1.4 be in a form approved by Renewal SA.

Any alternative security provided by the Landowner and approved by Renewal SA under clause 8.2.1 must to the extent applicable comply with these requirements.

- 9.2 Renewal SA may call up, enforce and/or convert the Bank Guarantee or alternative security, in whole or in part, if Renewal SA considers that the relevant Stormwater Infrastructure Intervention necessary as a result of the relevant Land Division or Development has not been constructed in accordance with clause 8.1 of this Deed by the Landowner within 21 days of Renewal SA requesting the Landowner to perform the Landowner's obligations under clause 8 of this Deed.
- 9.3 The Landowner agrees that if at any time a claim for payment is made against the Bank Guarantee or alternative security by Renewal SA, the Landowner will, if requested to do so by Renewal SA, provide an additional Bank Guarantee or alternative security for a further sum as Renewal SA may require to ensure that the relevant Stormwater Infrastructure Intervention is constructed.

- 9.4 Upon Renewal SA being satisfied that the relevant Stormwater Infrastructure Intervention in respect of the relevant portion of the Site, necessary as a result of the relevant Land Division or Development, is constructed in accordance with clause 8 of this Deed, Renewal SA agrees to return the Bank Guarantee or alternative security to the Landowner's bank or Landowner.
- 9.5 The Bank Guarantee or alternative security shall remain effective until Renewal SA is satisfied that the relevant Stormwater Infrastructure Intervention in respect of the relevant portion of the Site, necessary as a result of the relevant Land Division or Development, has been constructed in accordance with clause 8 of this Deed, at which date Renewal SA will return the Bank Guarantee or alternative security or such part of the Bank Guarantee or alternative security which at that date has not otherwise been either reduced or called in and converted by Renewal SA pursuant to this clause 9.
- 9.6 The giving of the Bank Guarantee or alternative security shall not operate to relieve the Landowner from any of its obligations under any provision of this Deed.

10. TRANSFER OF SITE OR ASSIGNMENT OF DEED

- 10.1 If the Landowner intends to transfer any portion of the Site or wishes to assign this Deed prior to having constructed the relevant Stormwater Infrastructure Intervention(s) in respect of the relevant portion of the Site, necessary as a result of the relevant Land Division or Development, in accordance with clause 8, or providing the Bank Guarantee or alternative security relating to that portion of the Site in accordance with clauses 8 and 9, the Landowner must prior to any such transfer or assignment:
 - 10.1.1 procure the Purchaser to enter into a deed on the same terms as this Deed; and
 - 10.1.2 deliver that signed deed to Renewal SA.
- 10.2 The Landowner indemnifies Renewal SA from and against all loss and damage resulting from a breach of clause 10.1 by the Landowner.
- 10.3 Without limiting the indemnity in clause 10.2, Renewal SA is entitled to seek orders from a Court for specific performance of the obligations specified in this clause 10.
- 10.4 A transfer of any portion of the Site or an assignment of this Deed does not breach clause 10.1 if the transmission of the title relating to any portion of the Site occurs as a result of enforcement of a will or by intestacy for that portion of the Site.
- 10.5 If the Landowner transfers any portion of the Site or assigns this Deed having met the obligations specified in clause 10.1, then Renewal SA shall release the Landowner in respect of the Landowner's obligations under this Deed except for the obligations of indemnity contained in clauses 10.2 and 10.3.
- 10.6 The parties acknowledge and agree that Renewal SA's consent to a transfer of any portion of the Site is not required if:
 - 10.6.1 such transfer or assignment results as a consequence of the operation of the Option Deed; or
 - 10.6.2 the Landowner transfers any portion of the Site where all relevant Landowner Contributions and Bank Guarantees have been provided relating to that portion of the Site; or

10.6.3 that portion of the Site does not require any further Stormwater Infrastructure Interventions.

11. GOODS AND SERVICES TAX

- 11.1 Unless specifically described in this Deed as "GST inclusive", any sum payable (or amount included in the calculation of a sum payable), or consideration to be provided, under or in accordance with this Deed does not include any amount on account of GST.
- 11.2 Where any supply to be made by one party (**Supplier**) to another party (**Recipient**) under or in accordance with this Deed is subject to GST (other than a supply the consideration for which is specifically described in this Deed as "GST inclusive"):
- 11.2.1 the consideration payable or to be provided for that supply but for the application of this clause 11 (**GST Exclusive Consideration**) shall be increased by, and the Recipient shall pay to the Supplier, an amount equal to the GST payable by the Supplier in respect of that supply; and
 - 11.2.2 the Recipient must pay that additional amount at the same time and in the same manner as the GST Exclusive Consideration payable or to be provided for that supply.
- 11.3 If any payment to be made to a party under or in accordance with this Deed is a reimbursement or indemnification of an expense or other liability incurred or to be incurred by that party, then the amount of the payment must be reduced by the amount of any input tax credit to which that party is entitled for that expense or other liability, such reduction to be effected before any increase in accordance with clause 11.2.
- 11.4 The Recipient need not make any payment for a taxable supply made by the Supplier under or in accordance with this Deed until the Supplier has given the Recipient a valid tax invoice in respect of that taxable supply.
- 11.5 If an adjustment event has occurred in respect of a taxable supply made under or in accordance with this Deed, any party that becomes aware of the occurrence of that adjustment event must notify each other party to that taxable supply as soon as practicable, and all of those parties agree to take whatever steps are necessary (including to issue an adjustment note), and to make whatever adjustments are required, to ensure that any GST or additional GST on that taxable supply, or any refund of GST (or part thereof), is paid no later than 28 days after the Supplier first becomes aware that the adjustment event has occurred.
- 11.6 A word or expression used in this clause 11 which is defined in the *A New Tax System (Goods and Services Tax) Act 1999* (Cth) has the same meaning in this clause 11.

12. DISPUTE RESOLUTION

12.1 Disputes to be dealt with under this clause

Unless otherwise provided in this Deed all disputes or differences between the parties in connection with:

- 12.1.1 this Deed; or
- 12.1.2 any other matter in any way relating to this Deed,

(Dispute) will be dealt with in accordance with this clause 12 whenever the Dispute is raised.

12.2 Notice of Dispute

Any party (**Disputing Party**) may within 30 days after the Dispute arises, give a notice to the other parties (**Non-Disputing Parties**):

- 12.2.1 setting out details of the Dispute, the reason the Dispute should be resolved in favour of the Disputing Party, and any other matter that may, in the reasonable opinion of the Disputing Party, be relevant to the resolution of the Dispute; and
- 12.2.2 requiring the Non-Disputing Parties to, in good faith, seek to resolve the Dispute within 21 days of the date of the notice.

12.3 Referral of Dispute to an Expert

Subject to clause 12.7, if the Dispute is not resolved by agreement between the parties following notice given under clause 12.2, the determination of the Dispute (**Determination**) may be referred for determination by any party to any independent person (**Expert**) agreed between the parties (or in the absence of agreement within 7 days of any party proposing in writing an Expert, then the Expert shall be nominated at the request of any party by the President (or if there is not a President, then Chief Executive Officer or other person of like status) for the time being of The Institute of Arbitrators and Mediators Australia (or if that body has ceased to exist then a body fulfilling substantially the same functions as the first mentioned body).

12.4 Expert

The Expert is an expert and not an arbitrator.

12.5 Final

The Determination of the Expert is final and binding on the parties.

12.6 Conduct of Determination

Unless otherwise agreed by the parties in writing:

- 12.6.1 the place of the proceedings for purposes of the Determination will be Adelaide, South Australia;
- 12.6.2 each party is entitled to legal representation at all stages of the Determination;
- 12.6.3 the proceedings for the purposes of the Determination will be conducted in accordance with the laws of evidence;
- 12.6.4 each party will bear its own costs and expenses in relation to the Determination;
- 12.6.5 the parties will pay in equal shares the Expert's fees and expenses and the cost of the Determination including room hire (if any);
- 12.6.6 the parties must comply with all reasonable requests and produce all necessary documentation to the Expert to enable the Expert to make the Determination;
- 12.6.7 the parties may make submissions which the Expert must take into account when making the Determination;

12.6.8 the Expert must provide its Determination to the parties in writing, with reasons for the Determination and within 21 days of the appointment of the Expert; and

12.6.9 the provisions of the *Commercial Arbitration Act 1986* (SA) do not apply to the resolution of any Dispute under the provisions of this clause 12.

12.7 Legal proceedings

Nothing in this clause 12 prevents a party from issuing, or requires a party to delay issuing, legal proceedings in a court in respect of a Dispute if:

12.7.1 it is reasonably necessary for that party to seek urgent injunctive or other interlocutory relief in order to reasonably protect its position; or

12.7.2 the nature of the Dispute is such that it is not reasonably suitable for expert determination (for example, if the Dispute relates only the interpretation of the provisions of this Deed and will not require reference to expert evidence).

13. TIME OF THE ESSENCE

Time shall be of the essence in respect of any time, date or period specified in this Deed or in any notice served pursuant to this Deed.

14. VARIATION

No modification, variation or amendment of this Deed shall be of any force unless any such modification, variation or amendment is made by deed executed by each party.

15. COSTS

The parties will pay their own costs of and incidental to the preparation, negotiation and execution of this Deed and of any documents prepared and executed pursuant to this deed, unless stated otherwise in those other documents.

16. NOTICES

16.1 A notice, demand, consent, approval or communication under this deed (Notice) must be:

16.1.1 in writing, in English and signed by a person authorised by the sender; and

16.1.2 hand delivered or sent by pre-paid post to the recipient's address specified in this deed, as varied by any Notice given by the recipient to the sender.

16.2 A Notice is deemed to be received:

16.1.3 if hand delivered, on delivery; and

16.1.4 if sent by prepaid mail, two Business Days after posting (or seven Business Days after posting if posting to or from a place outside of Australia);

however if the Notice is deemed to be received on a day that is not a Business Day or after 5:00pm, the Notice is deemed to be received at 9:00am on the next Business Day.

- 16.3 If two or more persons comprise a party, Notice to one is effective Notice to all.

17. COUNTERPARTS

This document may consist of a number of counterparts and the counterparts taken together constitute one and the same instrument. If so, the signed copies are treated as making up the one document.

18. PUBLIC DISCLOSURE

Any party may, at any time, disclose this Deed and/or information relating to this Deed in either printed or electronic form and either generally to the public or to a particular person as a result of a specific request. Nothing in this clause derogates from the obligations of a party under the *Freedom of Information Act 1991*(SA).

19. LMA

- 19.1 The parties acknowledge and agree that as at the date of this Deed the parties contemplate that the following process will be implemented with regard to the entering into and notation of Land Management Agreement(s) pursuant to either sections 57 or 57A under the Development Act 1993.
- 19.2 It is a condition of this Deed that on or before the date of execution of this Deed, the Landowner must:
- 19.2.1 execute a Land Management Agreement in accordance with the Land Management Agreement attached to this Deed and marked Annexure 1, in respect of each Certificate of Title comprising the Site (LMA); and
 - 19.2.2 deliver the executed LMA (with this executed Deed) to Renewal SA.
- 19.3 The Landowner must obtain all appropriate consents (including from all holders of registered interests rights or endorsements on the relevant Certificates of Title pertaining to the Site and also pay any consent fees, stamp duty and registration costs on the LMA.
- 19.4 The Landowner will endeavour to ensure that all consents required under clause 19.2 will have been secured at the time of execution of the LMA and this Deed.
- 19.5 Renewal SA must execute the LMA within a reasonable time after the last to occur of:
- 19.5.1 the execution of the LMA by the Landowner;
 - 19.5.2 the execution of the LMA by Renewal SA;
 - 19.5.3 the Landowner notifying Renewal SA that it has obtained all appropriate consents in accordance with clause 19.3; and
 - 19.5.4 the Minister for Planning having rezoned the Site in accordance with clause 3.3 of this Deed.

- 19.6 As soon as reasonably possible after having executed the LMA, ACP will deliver the fully executed LMA to Renewal SA, after which, Renewal SA will arrange the lodgement of the LMA to be noted on the relevant Certificate of Title by the Registrar-General of the Lands Titles Office in accordance with s57(5) of the Act.
- 19.7 In the event that all consents required under clause 19.3 have not been secured at the time of execution of the LMA and this Deed, or the LMA is not registered on the relevant Certificate(s) of Title comprising the Site at any time during the Term of this Deed, prior to the registration of the LMA on the relevant Certificate(s) of Title, the Landowner must not seek advice, permission or clearance from the Council for any Development or Land Division in respect of any portion of the Site, such as to enable the Development Assessment Commission to issue a Section 51 certificate in respect of that Development or Land Division.
- 19.8 Prior to transferring any portion of the Site (whether to ACP pursuant to the Option Deed or another party), the Landowner must procure the intended transferee of that portion of the Site to enter into a Land Management Deed on the same terms as the LMA and deliver that signed deed to Renewal SA. Renewal SA will then arrange for the LMA to be rescinded or partially rescinded in relation to that portion of the Site which ACP has purchased and fully executed a new Land Management Agreement on the same terms as the LMA.
- 19.9 If ACP seeks to lodge an application to the Development Assessment Commission for a Land Division, or an application of a development authorisation from the relevant authority under the Development Act for a Development and assumes the obligations of Landowner in accordance with clause 5 of this Deed, then Renewal SA may require ACP to enter into a Land Management Agreement in accordance with section 57A of the Development Act at the same time as lodging the relevant application.
- 19.10 If the Minister requires ACP to enter into a Land Management Agreement in accordance with section 57A of the Development Act in accordance with clause 19.9, any LMA or other Land Management Agreement noted on the relevant portion of the Site in accordance with this Deed will need to be rescinded or partially rescinded (as the case may be) prior to the section 57A Land Management Agreement being noted on the title(s) comprising the relevant portion of the Site.

20. ASSIGNMENT OF MINISTER'S RIGHTS AND OBLIGATIONS

- 20.1 The parties acknowledge that Renewal SA reserves its right to assign any of his rights, benefits or obligations under this Deed to any instrumentality of the Crown in right of the State of South Australia who in Renewal SA's opinion will most appropriately deal with such right, benefit or obligation on terms acceptable to Renewal SA, without seeking the consent of any other party to this Deed.
- 20.2 Renewal SA will, at the completion of any development or works pursuant to this Deed, determine which instrumentality of the Crown, should own and maintain the relevant parts of the completed development or works pursuant to this Deed and do all things necessary to vest in the instrumentality such development or works on terms acceptable to Renewal SA.

EXECUTED AS A DEED

DATED

DAY OF

2015

SIGNED for and on behalf of the
URBAN RENEWAL AUTHORITY
trading as Renewal SA by its duly
constituted Attorney pursuant to Power of
Attorney No. GP 2/2015/PA 12302863,
who has not received a notice of the
revocation of that Power of Attorney in
the presence of:

.....
Attorney

.....
Full Name of Attorney
Address:
C/- Renewal SA
Level 9 Riverside Centre
North Terrace, Adelaide SA 5000
Tel: 8207 1300

.....
Witness

.....
Full Name of Witness
Address:
C/- Renewal SA
Level 9 Riverside Centre
North Terrace, Adelaide SA 5000
Tel: 8207 1300

This Deed is executed by)
ADELAIDE CAPITAL PARTNERS PTY LTD)
in accordance with Section 127 of the)
Corporations Act 2001 by two of its Directors or)
by one of its Directors and the Company Secretary)

Signed:

Name:

Position:

Signed:

Name:

Position:

ANNEXURE 1

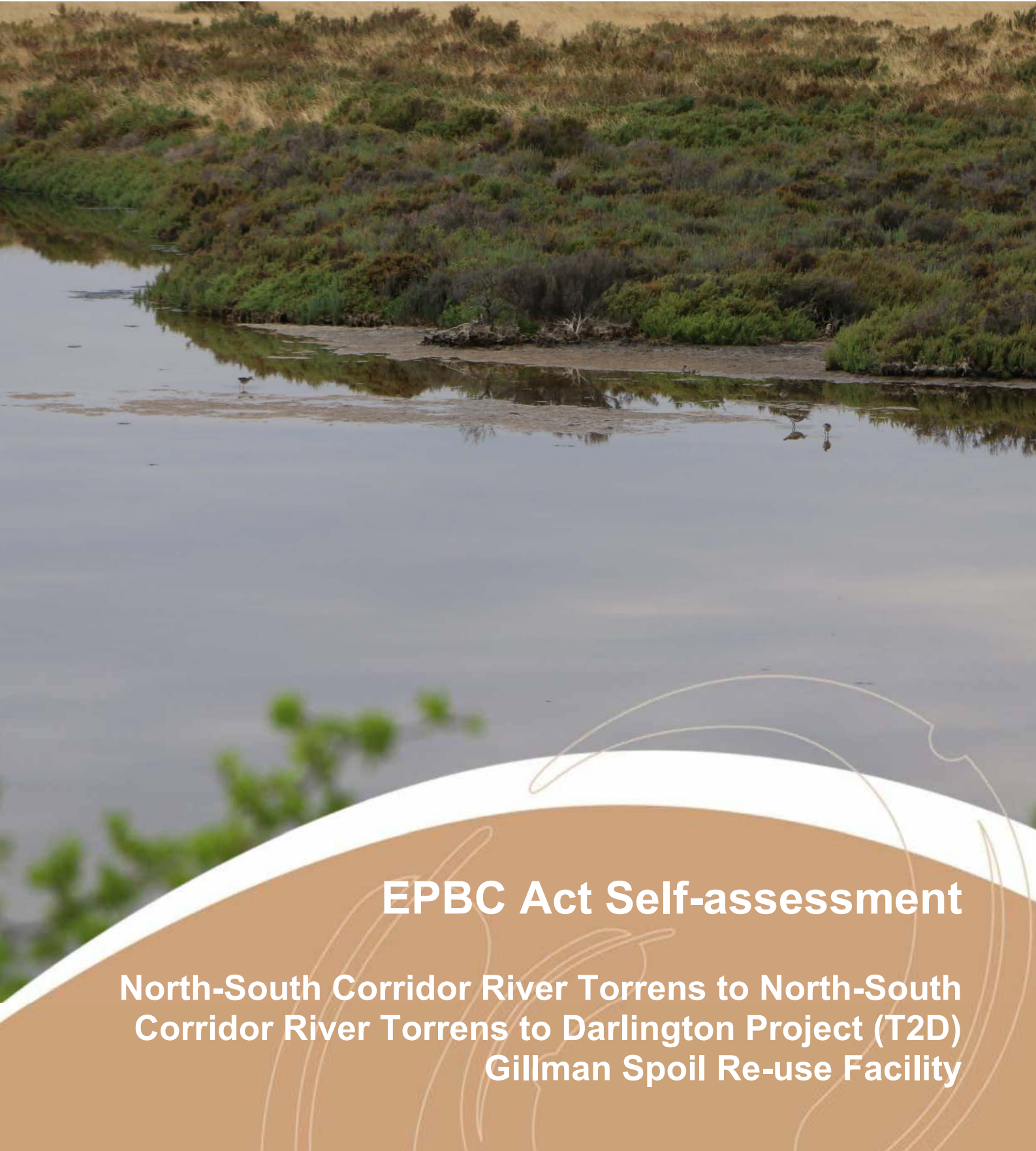
Form of LMA



ANNEXURE 2

Rezone Area Plan

Appendix E – EPBC Self-Assessment



EPBC Act Self-assessment

North-South Corridor River Torrens to North-South
Corridor River Torrens to Darlington Project (T2D)
Gillman Spoil Re-use Facility

EPBC Act Self-assessment North-South Corridor River Torrens to North-South Corridor River Torrens to Darlington Project (T2D) Gillman Spoil Re-use Facility

26 March 2024

Version 2

Prepared by EBS Ecology for Mott MacDonald Australia Pty Ltd

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Cover photograph: View overlooking the Study Area with Sharp-tailed Sandpipers (*Calidris acuminata*) foraging.

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GLOSSARY AND ABBREVIATION OF TERMS

AOO	Area of occupancy
BDBSA	Biological Database of South Australia (managed by the Department for Environment and Water)
cm	Centimetre(s)
DEW	Department for Environment and Water
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DIT	Department for Infrastructure and Transport
EBS Ecology	Environmental and Biodiversity Services Pty Ltd – trading as EBS Ecology
EHAIR	Environment And Heritage Impact Assessment Report
EOO	Extent of occurrence
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPP	Environment Protection Policy
g	Gram(s)
ha	Hectare(s)
kg	Kilogram(s)
km	Kilometre(s)
m	metre(s)
mm	millimetre(s)
Mott MacDonald	Mott MacDonald Australia Pty Ltd
MNES	Matters of National Environmental Significance, as defined by the EPBC Act
NPW Act	<i>National Parks and Wildlife Act 1972</i>
PMST	Protected Matters Search Tool
SA	South Australia/n
Search Area	5 km search area surrounding the Study Area, used in database desktop searches
sp.	Species (singular)
spp.	Species (plural)
ssp.	Subspecies
SRF	Spoil Re-use Facility
SRF Footprint Area	The area where SRF from the NS corridor will be placed as shown in Figure 2
SRF Site	The two lots (Lot 501 and Lot 502) which will hold the SRF Footprint Area
Study Area	The outer boundary of the proposed SRF Site Gillman and immediate surrounds and surveyed by the field survey, defined in Figure 1 by the red border
T2D Project	River Torrens to Darlington Project
TEC	Threatened Ecological Community

EXECUTIVE SUMMARY

EBS Ecology was engaged by Mott MacDonald Australia Pty Ltd to undertake an EPBC Act Self-assessment of a proposed Spoil Re-use Facility (SRF) site, at 208 Eastern Parade in Gillman (the Project) for the River Torrens to Darlington Project. This has potential to impact on Matters of National Environmental Significance (MNES), as protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Four terms are used throughout this assessment as defined below:

- the SRF Footprint Area – The area where SRF from the NS corridor will be placed which will be 86.43 hectares and will be influenced by environmental and design studies.
- Spoil Re-use Facility site – The two allotments which will hold the SRF Footprint Area.
- Study Area – the outer boundary of the proposed SRF Site Gillman and immediate surrounds surveyed by the field survey (covering 359.19 hectares).
- Search Area – a 5 km buffer surrounding the Study Area, used for database searches.

The objective of this report was to prepare an EPBC self-assessment report to assess possible significant impacts to MNES identified by the Protected Matters search Tool (PMST).

This EPBC Self-assessment has been prepared in line with the *Matters of National Environmental Significance Significant Impact Guidelines 1.1* which provide overarching guidance to help determine whether an action is likely to have a significant impact on a MNES. Significant impact assessments were carried out on species assessed by EBS Ecology as 'known', 'highly likely' or 'likely' to occur in the Study Area (listed above). The 'significance of impacts' was revaluated using key information from the Draft Gillman Environmental and Heritage Impact Assessment (EHIA) prepared for the project by Mott MacDonald Pty Ltd. The Draft Gillman EHIA includes detailed measures to avoid and mitigate impacts to ecological matters at the SRF Site, including MNES at the SRF Site.

Desktop research and field surveys undertaken in the Study Area identified the following 12 MNES as relevant to the SRF proposal:

- Subtropical and Temperate Coastal Saltmarsh – Vulnerable Threatened Ecological Community (TEC).
- Slender-billed Thornbill (Gulf St. Vincent) (*Acanthiza iredalei rosinae*) - Vulnerable threatened species.
- Southern Whiteface (*Aphelocephala leucopsis*) – Vulnerable threatened species.
- Sharp-tailed Sandpiper (*Calidris acuminata*) Vulnerable threatened species.
- Curlew Sandpiper (*Calidris ferruginea*) – Critically Endangered threatened species.
- Common Greenshank (*Tringa nebularia*) – Endangered threatened species.
- Six migratory wetland species – Migratory species.

Four vegetation associations within the Study Area meet criteria for listing as the Vulnerable Subtropical and Temperate Coastal Saltmarsh TEC (A2, A3, A4 and A6). The whole of A3, as well as a portion of A4 and A6 fall within the SRF Site, but the TEC does not occur within the SRF Footprint Area.

Fauna surveys of the Study Area recorded one of the threatened species listed above within the Study Area, but outside of the SRF Footprint Area: the Sharp-tailed Sandpiper (*Calidris acuminata*). A total of four individuals was observed in the SRF Site during the field survey, within the TEC. One EPBC listed Migratory species was recorded: Marsh Sandpiper (*Tringa stagnatilis*). One Marsh Sandpiper was recorded in the Study Area but outside of the SRF Footprint Area in December 2023, within the TEC.

The Study Area does not contain any suitable habitat for the Southern Whiteface. Within the Study Area, suitable habitat for Slender-billed Thornbill, the three threatened waders and six migratory species is concentrated on the tidally influenced saltmarsh and mudflats which corresponds with the TEC community, which provide foraging and resting habitat for Slender-billed Thornbill and wading shorebirds. The SRF Footprint Area is located in an area where the TEC does not occur, thereby avoiding impacts the species or their habitat.

Significant impact outcome summary

This EPBC Self-assessment finds that construction and operation of the SRF within the SRF Footprint Area:

- Will not have a significant impact on the EPBC Act Vulnerable Subtropical and Temperate Coastal Saltmarsh TEC.
- Will not have a significant impact on the EPBC Act Vulnerable Slender-Billed Thornbill (Gulf St. Vincent).
- Will not have a significant impact on the EPBC Act Vulnerable Southern Whiteface.
- Will not have a significant impact on the EPBC Act Vulnerable Sharp-tailed Sandpiper.
- Will not have a significant impact on the EPBC Act Critically Endangered Curlew Sandpiper.
- Will not have a significant impact on the EPBC Act Endangered Common Greenshank.
- Will not have a significant impact on EPBC Act Migratory species Common Sandpiper, Pectoral Sandpiper, Red-necked Stint, Long-toed Stint, Wood Sandpiper and Marsh Sandpiper.

Referral advice

If the mitigation and management measures outlined in the EHIAR are implemented and construction and operation of the SRF remain within the SRF Footprint Area, it is considered that an EPBC Act referral to the Minister for the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) is not required for the proposed SRF.

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Attachments

Attachment 1 – EPBC Protected Matters Search Tool Report (Pdf format).

1 INTRODUCTION

The Department for Infrastructure and Transport (DIT) (the Department) is proposing the construction of a Spoil Re-use Facility (SRF) site at 208 Eastern Parade in Gillman, as part of the overarching River Torrens to Darlington (T2D) Project. The Department's T2D Project is the final 10.5 kilometre (km) section of the wider 78 km North-South Corridor Project. The T2D Project extends from Tonsley Boulevard, Darlington to Grange Road, Hindmarsh.

The T2D Project will require the establishment of a SRF to store, treat and reuse on site the excess spoil that will be generated during the construction phase of the Project. The Project will produce surplus soil (spoil) during excavation of the lowered motorway, tunnel portal and tunnel sections of the alignment. Approximately 40% of the spoil will be generated by using a tunnel boring machine, with the remaining 60% generated by bulk earthworks using earthmoving equipment. As there are limited opportunities for re-use at the Project's construction site, the spoil will be moved directly off-site to the SRF.

To maximise the beneficial re-use of the spoil from the project the Gillman site has been nominated as the preferred location for the SRF. At this site, the value of the project's spoil can be maximised by developing the land to be used for industry and employment in accordance with the 2014 Master Plan for the site and the 2015 Employment Lands (Gillman/Dry Creek and Wingfield) Development Plan Amendment.

Ecological assessments undertaken at the SRF identified several Matters of National Environmental Significance (MNES) listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) at the site at 208 Eastern Parade in Gillman (EBS Ecology 2024). MNES include Threatened Ecological Communities (TEC), threatened flora and fauna, and migratory species listed under the EPBC Act. Mott Macdonald Pty Ltd (Mott MacDonald) have prepared an Environmental and Heritage Impact Assessment (EHIA) for the proposal (Mott MacDonald 2024 – *in draft*), which includes detailed proposed measures to avoid and mitigate impacts to ecological matters, including MNES at the SRF Site.

EBS Ecology (EBS) has been asked to assess and review these avoidance, mitigation and management measures from the EHIA (Mott MacDonald 2024 – *in draft*) and undertake an EPBC Self-assessment to inform whether any MNES listed under the EPBC Act could be significantly impacted (as per the *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance*) by the proposed SRF Site Gillman and immediate surrounds.

1.1 Objectives and scope of works

The objective of this report is to determine whether a significant impact may result from the proposed SRF on MNES under the EPBC Act, as identified in the ecological assessment as 'likely' or 'known' to occur in at the site by the Protected Matters Search Tool (PMST) report (as per EBS Ecology 2024).

1.2 Study Area

Four terms are used throughout this report to describe the location of the SRF.

These terms are defined below and shown in Figure 1 and Figure 2.

- Study Area – the outer boundary of the proposed SRF Site Gillman and immediate surrounds surveyed by the field survey (covering 359.15 hectares).
- Search Area – a 5 km buffer surrounding the Study Area, used for database searches.
- SRF Site – The two lots (Lot 501 and Lot 502) which will hold the SRF Footprint Area (covering 142.99 hectares).
- SRF Footprint Area – The area where the proposed SRF will be placed (covering 86.43 hectares).



Figure 1. Location of the Study Area.



Figure 2. Location of the proposed Spoil Re-use Facility Site and SRF Footprint Area within the Study Area.

2 BACKGROUND INFORMATION

2.1 Environmental setting

The proposed SRF is located on vacant land owned by Renewal SA. It borders Whicker Road to the west, the Magazine Creek Wetlands to the northwest, Magazine Basin to the north, vacant Renewal SA land to the north-east, Wingfield Waste Recovery Precinct to the east and the Range Wetlands and the Port River Expressway to the south (Figure 1).

The Study Area is approximately 323.3 hectares (ha), falling within the City of Port Adelaide Enfield and is currently defined as vacant open space / undeveloped land use. The SRF Footprint Area will cover 86.43 hectares (ha) (Figure 2), which constitutes 26.7% of the Study Area.

The Study Area includes two water passageways in the Eastern Passage where the Barker Inlet meets the Port River. The marine environment in the Study Area is characterised by a system of tidal channels and flats fringed by extensive stands of the southern mangrove, *Avicennia marina*, and salt marshes comprised of *Sarcocornia* spp. and *Arthrocnemum* spp. The sites are not within but near the southern extremity of the following conservation management areas established:

- The Barker Inlet Aquatic Reserve, established in 1973 then expanded to the north in 1980 with the addition of the St Kilda–Chapman Creek Aquatic Reserve (PIRSA, N.D a, b); and
- The Adelaide Dolphin Sanctuary, established in 2005 (DEH 2008a).

Barker Inlet is listed as a nationally important coastal and marine wetland in the Directory of Important Wetlands in Australia, and the North Arm is described as one of the creeks feeding into the wetland (DCCEEW 2019).

The Eastern and Western sites of the Study Area are approximately 500 m and 1 km south-west of the Torrens Island Conservation Park, respectively and both sites are 2–3 km south-west of the Adelaide International Bird Sanctuary (Gulf St Vincent) and 5 km south-east of the Mutton Cove Conservation Reserve. The nearest Marine Parks are the Upper Gulf St Vincent Marine Park 20 km north of the Port River and the Encounter Marine Park 50 km to the south (DEH 2009).

2.2 Previous studies

EBS Ecology undertook a terrestrial ecological assessment / survey of the Study Area from 5 to 6 December 2023 (EBS 2024). The study included vegetation mapping within the Study Area boundaries, recording fauna species observed and an ecological desktop study. The desktop study included the following:

- Database search of historical threatened species records for an area within 5 km of the Study Area. The search focused on records more recent than 1995 and with a spatial reliability of less than 1 km, however records of a poorer spatial reliability but with a location description (such as for the nearby Magazine Wetlands) were also considered in the likelihood assessment,
- PMST report for an area within 5 km of the Study Area.

- Literature review of previous flora and fauna surveys in the area.
- Likelihood of occurrence assessment of threatened species identified by the database search, PMST report and literature review.
- Review of community records of threatened species recorded nearby such as iNaturalist records.

The survey methods used and the findings of the field surveys and ecological desktop study are documented in the reports listed in Table 1.

Ecological Associates was contracted in 2006 to conduct a targeted survey for *Tecticornia flabelliformis* listed as Vulnerable under the EPBC Act, and Social & Ecological Assessment Pty Ltd undertook a marine environmental assessment in 2023. The 2006 survey that was completed in a 56 ha section of the Study Area did not detect the species and deemed the area surveyed to have very limited suitable habitat for *T. flabelliformis* (Ecological Associates 2006).

Table 1. Reports documenting the flora and fauna survey methods and results.

Report Title	Report Objectives	Status	Author
River Torrens to Darlington (T2D) Gillman Spoil Re-use Facility (SRF) Ecological Assessment.	<ul style="list-style-type: none"> • Survey, describe and map native vegetation. • Identify ecological constraints in the Study Area. 	Final (February 2024)	EBS Ecology
North-South Corridor River Torrens to Darlington Project: Gillman Site Marine Ecological Survey	<ul style="list-style-type: none"> • Survey, describe two areas of North Arm. • Identify marine ecological constraints in the Study Area. 	Final (December 2023)	Social & Ecological Assessment Pty Ltd
Biodiversity Survey of the Range Wetlands, Gillman	<ul style="list-style-type: none"> • Survey, describe and map native vegetation. • Identify ecological constraints in the Range Wetlands. 	Final (2009)	EBS Ecology
Targeted survey for <i>Halosarcia flabelliformis</i> , Gillman	<ul style="list-style-type: none"> • Targeted survey for <i>Tecticornia/Halosarcia flabelliformis</i> (Bead Samphire or Bead Glasswort). 	Letter report (2006)	Ecological Associates Pty Ltd

2.3 Vegetation associations

The survey of the Study Area mapped seven native vegetation associations (VA) (Table 2).

Native samphire shrublands were found to be widespread across the Study Area dominating the north and east boundary. These native samphire shrublands were present across the majority of the Study Area, however varied according to the understorey. Other types of native vegetation associations included *Carpobrotus rossii* (Native Pigface) +/- *Disphyma crassifolium* ssp. *clavellatum* (Round-leaf Pigface) low shrubland over *Lolium* sp. (Ryegrass) and *Casuarina glauca* (Grey Bullock) over *Lolium* sp. (Ryegrass). Vegetation associations are described in detail in *River Torrens to Darlington (T2D) SRF – Ecological Assessment* (EBS Ecology 2024).

The extent of each native vegetation association in the Study Area, SRF Site and SRF Footprint Area is shown in Table 2 and shown in Figure 3 on the following pages.

Table 2. Details of Vegetation Associations within the Study Area, SRF Site and within the SRF Footprint Area.

VA	Vegetation Association	Study Area (ha)	SRF Site (ha)	SRF Footprint Area (ha)
A1	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) +/- <i>Nitraria billardierei</i> (Nitre-bush) low open shrubland over exotic understorey.	162.96	123.35	86.43
A2	<i>Tecticornia</i> spp. (Samphire) open tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	27.66	Not present	Not present
A3	<i>Tecticornia arbuscula</i> (Shrubby Samphire) shrublands over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire) and <i>Poa</i> sp. (Meadow-grass).	10.38	10.19	Not present
A4	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) closed tidal shrubland.	34.85	8.10	Not present
A5	<i>Carpobrotus rossii</i> (Native Pigface) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) low shrubland over <i>Lolium</i> sp. (Ryegrass).	49.58	Not present	Not present
A6	<i>Tecticornia</i> spp. (Samphire) low tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	73.14	1.35	Not present
A7	<i>Casuarina glauca</i> (Grey Bullock) over <i>Lolium</i> sp. (Ryegrass).	0.58	Not present	Not present
TOTAL		359.15	142.99	86.43

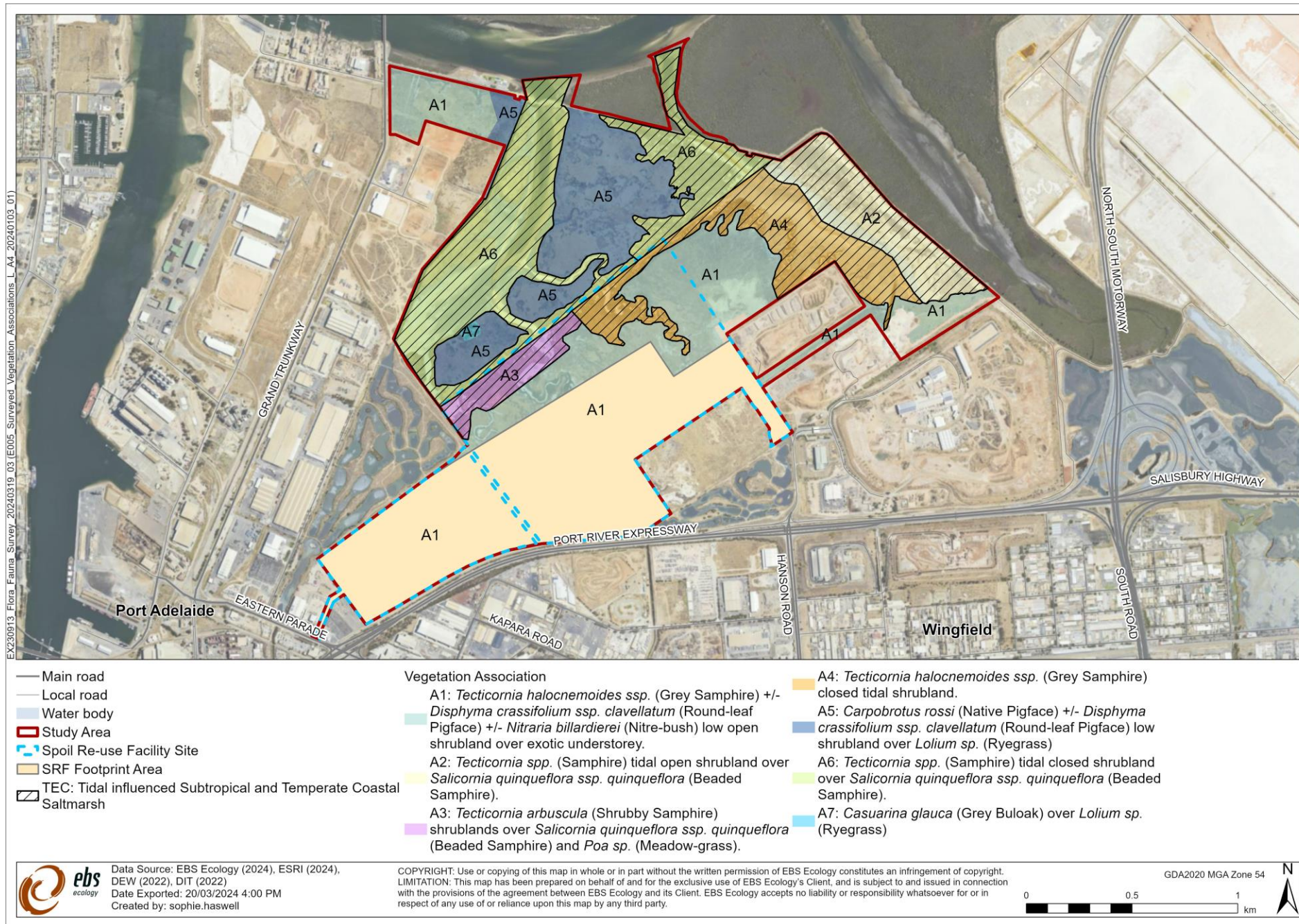


Figure 3. The vegetation associations surveyed across the Study Area, SRF Site, and SRF Footprint Area, highlighting the Subtropical and Temperate Coastal Saltmarsh TEC.

3 METHODOLOGY

3.1 Environment Protection And Biodiversity Conservation Act 1999

The EPBC Act and the *Environment Protection and Biodiversity Conservation Regulations 2000* provide a legal framework to protect and manage Nationally and Internationally important flora, fauna, ecological communities and heritage places – defined in the Act as MNES.

This EPBC Self-assessment has been prepared in line with the *Matters of National Environmental Significance Significant Impact Guidelines 1.1* (Department of the Environment 2013) which provide overarching guidance to help determine whether an action is likely to have a significant impact on a MNES. Nine significant impact criteria are detailed within the guidelines which are required to be addressed to determine the potential for a SRF to have a significant impact on MNES. The criteria vary depending on the conservation rating of a particular species.

The EPBC Act self-assessment process determines the potential for a SRF to have a significant impact on MNES and whether a referral under the EPBC Act is required. Substantial penalties apply for undertaking an action that has, will have, or is likely to have a significant impact on a MNES without approval.

3.1.1 Significant impact guidelines

The significant impact guidelines for species listed by the EPBC Act under each conservation level are as listed in Table 3. Terminology used in the table is defined under the EPBC Act as set out below:

Population of a species – an occurrence of the species in a particular area. In relation to a critically endangered, endangered or vulnerable threatened species, occurrences include but are not limited to:

- A geographically distinct regional population, or collection of local populations, or
- A population, or a collection of local populations, that occurs within a particular bioregion.

Invasive species – an introduced species, including an introduced (translocated) native species, which out-competes native species for space and resources, or which is a predator of native species. Introducing an invasive species into an area may result in that species becoming established. An invasive species may harm listed threatened species or ecological communities by direct competition, modification of habitat or predation.

Important population – a population that is necessary for a species' long-term survival and recovery. This may include populations that are identified as such in recovery plans, and/or that area:

- Key source populations either for breeding or dispersal.
- Populations that are necessary for maintaining genetic diversity.
- Populations that are near the limit of the species range.

Habitat critical to the survival of a species – refers to areas that are necessary:

- For activities such as foraging, breeding, roosting or dispersal.

- For the long-term maintenance of the species or ecological community.
- To maintain genetic diversity and long-term evolutionary development.
- For the reintroduction of populations or recovery of the species or ecological community.

Important habitat (migratory species) – refers to:

- Habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species, and/or
- Habitat that is of critical importance to the species at a particular life-cycle stage, and/or
- Habitat utilised by a migratory species which is at the limit of the species range, and/or
- Habitat within an area where the species is declining.

Ecologically significant proportion (Migratory species) –an ‘ecologically significant proportion’ of the population varies with the species (each circumstance will need to be evaluated). Some factors that should be considered include the species’ population status, genetic distinctiveness and species-specific behavioural patterns (for example, site fidelity and dispersal rates).

Population (Migratory species) – means the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries including Australia.

Table 3. MNES significant impact guidelines (Department of the Environment 2013).

Critically Endangered and Endangered	Vulnerable	Migratory
<ol style="list-style-type: none"> 1. Lead to a long-term decrease in the size of a population of a species. 2. Reduce the area of occupancy of the species. 3. Fragment an existing population into two or more populations. 4. Adversely affect habitat critical to the survival of a species. 5. Disrupt the breeding cycle of a population. 6. Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline. 7. Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the species’ habitat. 8. Introduce disease that may cause the species to decline. 9. Interfere with the recovery of the species. 	<ol style="list-style-type: none"> 1. Lead to a long-term decrease in the size of an important population of a species. 2. Reduce the area of occupancy of an important population. 3. Fragment an existing population into two or more populations. 4. Adversely affect habitat critical to the survival of a species. 5. Disrupt the breeding cycle of an important population. 6. Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline. 7. Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species’ habitat. 8. Introduce disease that may cause the species to decline. 9. Interfere substantially with the recovery of the species. 	<ol style="list-style-type: none"> 1. Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species. 2. Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species. 3. Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

3.1.2 Significant impact assessment limitations

This impact assessment is based on the information available at the time of writing. Any change in SRF Footprint Area, SRF designs, or updated flora and fauna survey results may require the significance of impact to be re-assessed.

3.2 Calculating the Extent of Occurrence and Area of Occupancy

Impact to each relevant threatened species resulting from the proposal has been assessed considering the species' extent of occurrence (EOO) and area of occupancy (AOO).

The EOO and AOO of each species has been estimated based on the *Guidelines for assessing the conservation status of native species according to the EPBC Act 1999 and EPBC Regulations 2000* (Threatened Species Scientific Committee, 2000). These guidelines are summarised in Sections 3.2.1 and 3.2.2.

The EOO and AOO for migratory wetland species that occur beyond Australia has not been estimated in this assessment. This includes the following species:

- Common Sandpiper (*Actitis hypoleucos*).
- Pectoral Sandpiper (*Calidris melanotos*).
- Red-necked Stint (*Calidris ruficollis*).
- Long-toed Stint (*Calidris subminuta*).
- Wood Sandpiper (*Tringa glareola*).
- Marsh Sandpiper (*Tringa stagnatilis*).

For these species, population estimates provided in the relevant conservation advice has been used.

3.2.1 Extent of Occurrence

The EOO is defined as the area contained within the shortest continuous imaginary boundary which can be drawn to encompass all the known, records (occurrences) of a species, excluding cases of vagrancy. This measure may exclude discontinuities or disjunctions within the overall distributions of a species, such as large areas of obviously unsuitable habitat. For this self-assessment, EOO has been measured by constructing a minimum convex polygon containing all sites of occurrence, as shown in Figure 4.

3.2.2 Area of Occupancy

The AOO of a species is defined as the area within its EOO which is occupied. The AOO reflects the fact that a species is unlikely to occur throughout the area of its EOO. The size of the area of occupancy will be a function of the scale at which it is measured and should be at a scale appropriate to relevant biological aspects of the species, the nature of threats and the available data. To avoid inconsistencies and bias in assessments caused by estimating area of occupancy at different scales, the guidelines recommend standardisation of estimates by applying a 2 x 2 km grid to occurrence data. This standard grid has been used for calculating the AOO for the Southern Whiteface.

The AOO has been calculated by the total area of grid squares occupied by a species, as shown in Figure 5.

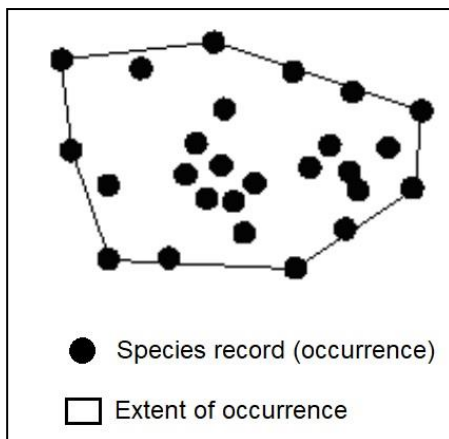


Figure 4. Measure of the EOO (TSSC 2000).

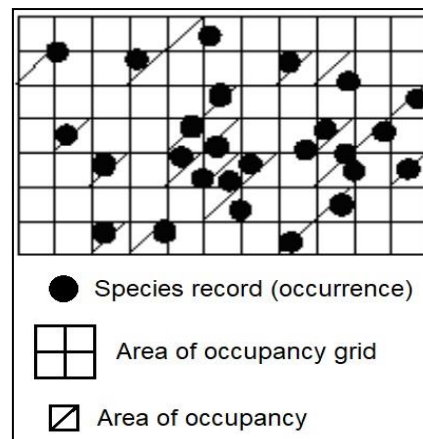


Figure 5. Calculation of the AOO (TSSC 2000).

3.3 Details of the proposed SRF (summarized from Draft Gillman EIHAR)

The 'significance of impacts' of the SRF to MNES was supplemented by using information from the Draft Gillman EIHAR prepared by Mott MacDonald for the T2D Project (Mott MacDonald 2024 – *in prep*).

As per the Draft Gillman EIHAR, the site at Gillman was selected due to several factors that are favourable, including beneficial reuse of the spoil, capacity to receive and treat the spoil, opportunities to deliver wider community benefits and the reliability and resilience of the site to receive spoil (Mott MacDonald 2024 – *in prep*).

The following sections of the EIHAR were utilized to further inform the EPBC Self-Assessment (for more detail on each of these topics, refer to the Draft Gillman EIHAR):

- **Section 2.2 T2D Project Spoil Management** – High level description of actions to be undertaken at the SRF and what is and is not acceptable to be received onsite, how spoil is to be placed to ensure stability of the site, what environmental protection measures are required and what inspections and testing are required to ensure spoil is re-used/placed correctly onsite.
- **Section 2.7 SRF Operations** – all site facilities and operational equipment and use of equipment are detailed in the Draft Gillman EIHAR, including concept level description of actions to be undertaken at the SRF.
- **Section 3.1 Ecology (flora, fauna and pest animals and plants)** – Ecological assessment based on EBS Ecology (2024) report. This section includes a section on alternatives, mitigation and opportunities.
- **Section 3.6 Surface Water (quantity and quality)** – Surface water assessment includes description of potential impacts and mitigation measures controlling discharges of water to the TEC area and surface water impacts.
 - Under the Environment Protection Policy (EPP) (Water Quality) the operation of the SRF must demonstrate that all reasonable and practicable measures to prevent or minimise

environmental harm resulting from undertaking an activity that pollutes or might pollute waters are undertaken. Key environmental values and water quality targets for all surface and groundwater resources are defined in the EPP (Water Quality). Industry and community obligations for preventing or minimising water polluting activities are included.

- Waste derived fill deposited or generated at a receiving facility must not be discharged into any waters or onto land in a place from which it is likely to enter any waters (including by processes such as seepage or infiltration or carriage by wind, rain, sea spray or stormwater or by the rising of the watertable).
- **Section 3.8 Site Contamination** – This section documents the site contamination assessment for the concept design, to determine the composition of materials that will be re-used at the Gillman SRF.
- **Section 3.15 Light Spill** – To enable 24-hour access and operation to the SRF Site both permanent (non-relocatable) and temporary (relocatable) lighting will be required for the duration that the site receives spoil from the T2D project. This section describes potential impact of lighting to fauna and where lighting will be placed (on the southmost extents of the SRF Site as at this location there is the greatest separation distance to sensitive aquatic and terrestrial environments).

3.4 Relevant Matters of National Significance

3.4.1 Protected Matters Search Tool

A PMST report was generated on 28 February 2024 (DCCEEW 2024) to identify any MNES (nationally threatened flora and fauna, migratory fauna and TECs) under the EPBC Act relevant to the Study Area.

The PMST report returned the following MNES results for the Search Area:

- World Heritage Properties – 0.
- National Heritage Places – 0.
- Wetlands of International Importance (Ramsar Wetlands) – 0.
- Great Barrier Reef Marine Park – 0.
- Commonwealth Marine Areas – 0.
- Threatened Ecological Communities (TEC) – 2.
- Threatened species – 61 (7 flora, 54 fauna).
- Migratory species – 64 (27 exclusively migratory).

3.4.2 New species listings

In January 2024 and December 2023, the conservation status of thirty fauna species was revised. Thirteen of these species are included in the February 2024 PMST and are addressed within this EPBC Self-assessment. Of these 13 species, two were 'known to occur' within the Study Area or are 'likely to occur':

- Sharp-tailed Sandpiper (*Calidris acuminata*) - EPBC Act: Vulnerable.
- Common Greenshank (*Tringa nebularia*) - EPBC Act: Endangered.

These species have been assessed for significant impacts alongside the species listed in Table 4 (p15).

3.4.3 Threatened Ecological Communities

- The Subtropical and Temperate Coastal Saltmarsh TEC was assessed against the diagnostic Criteria in Section 4.1.3, however An EPBC Referral is not required for ecological communities allocated a Vulnerable Listing, as per the Significant Impact Guidelines (Department of the Environment 2013).
- The Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia TEC was not present in the Study Area. No *Eucalyptus microcarpa* or grassy woodland were recorded in the Study Area. Conditions at the site are unsuitable for this community.

3.4.4 Threatened flora

Of the seven EPBC listed threatened flora species identified in the PMST report, zero were assessed as known or likely occur within the Study Area (EBS Ecology 2024). Refer to Appendix 1 for all PMST listed threatened flora and their likelihood of occurrence within the Study Area.

3.4.5 Threatened fauna

Of the 54 EPBC listed threatened fauna identified in the PMST report, 5 fauna species are 'highly likely', 'likely' or 'known to occur' within the Study Area, based on desktop assessment of the 5 km Search Area and suitability of habitat at the site. These species were assessed for potential significant impacts by the SRF in (Section 5). A map with available database records of EPBC listed threatened fauna is presented in Figure 6.

Fourteen of the threatened fauna species were assessed as 'possibly occurring' in the Study Area, based on the limited records for these species within the Search Area within the last 30 years. The Search Area is well surveyed by local bird groups. Species that possibly occur (infrequently and in low numbers) have therefore not been assessed for significant impact, due to the low chance that an important population regularly occurs within the Study Area. These fourteen species are included in Appendix 2.

Thirteen of the threatened fauna species were assessed as 'unlikely to occur' in the Study Area, due to unsuitable habitat or lack of existing records within the Search Area. They are listed in Appendix 2 with more detail on habitat preference provided in the ecological assessment (EBS Ecology 2024).

Twenty-three of the threatened fauna are considered exclusively open ocean (pelagic) marine species including cetaceans. Exclusively open ocean (pelagic) marine species have not been considered by this assessment but are listed in Appendix 3.

Water passageways in the Eastern Passage where the Barker Inlet meets the Port River in the Study Area provide habitat for some threatened migratory wetland species.

Table 4 lists the TEC, threatened and migratory species which have been assessed against the significant impact criteria due to being 'highly likely', 'likely' or 'known' to occur within the Search Area. The complete PMST report is provided as [Attachment 1](#).

TECs were assessed against the Significant Impact Criteria in Section 3.3.

Threatened fauna were assessed against the Significant Impact Criteria in Section 5.

Table 4. MNES identified by the PMST report as 'likely' or 'known' to occur in the Search Area.

Scientific name	Common name	EPBC Act status	PMST occurrence type in the Search Area/Latest record	Likelihood of occurrence in Study Area (as per EBS 2024)
Threatened Ecological Communities				
Subtropical and Temperate Coastal Saltmarsh		VU	Likely in Search Area	Known - The Subtropical and Temperate Coastal Saltmarsh was found to approximately cover 146.03 ha of the Study Area.
Threatened fauna species				
<i>Acanthiza iredalei rosinae</i>	Slender-billed Thornbill	VU	Known to occur in Search Area, 2020	Highly Likely.
<i>Aphelocephala leucopsis</i>	Southern Whiteface	VU	Known to occur in Search Area, 2016	Likely.
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	VU	Known to occur in Search Area, 2021	Known – Observed during field survey in December 2023.
<i>Calidris ferruginea</i>	Curlew Sandpaper	CE	Known to occur in Search Area, 2018	Highly Likely.
<i>Tringa nebularia</i>	Common Greenshank	EN	Known to occur in Search Area, 2020	Highly Likely.
Migratory species				
<i>Actitis hypoleucos</i>	Common Sandpiper	Mi (W)	Known to occur in Search Area, 2021	Highly Likely.
<i>Calidris melanotos</i>	Pectoral Sandpiper	Mi (W)	Known to occur in Search Area, 2021	Highly Likely.
<i>Calidris ruficollis</i>	Red-necked Stint	Mi (W)	Known to occur in Search Area, 2021	Highly Likely.
<i>Calidris subminuta</i>	Long-toed Stint	Mi (W)	Known to occur in Search Area, 2014	Highly Likely.
<i>Tringa glareola</i>	Wood Sandpiper	Mi (W)	Known to occur in Search Area, 2021	Highly Likely.
<i>Tringa stagnatilis</i>	Marsh Sandpiper	Mi (W)	Known to occur in Search Area, 2023	Known – Recorded in the Study Area in December 2023.

EPBC Act Status: CE: Critically Endangered. EN: Endangered. VU: Vulnerable. Mi(W): Migratory Wetland.

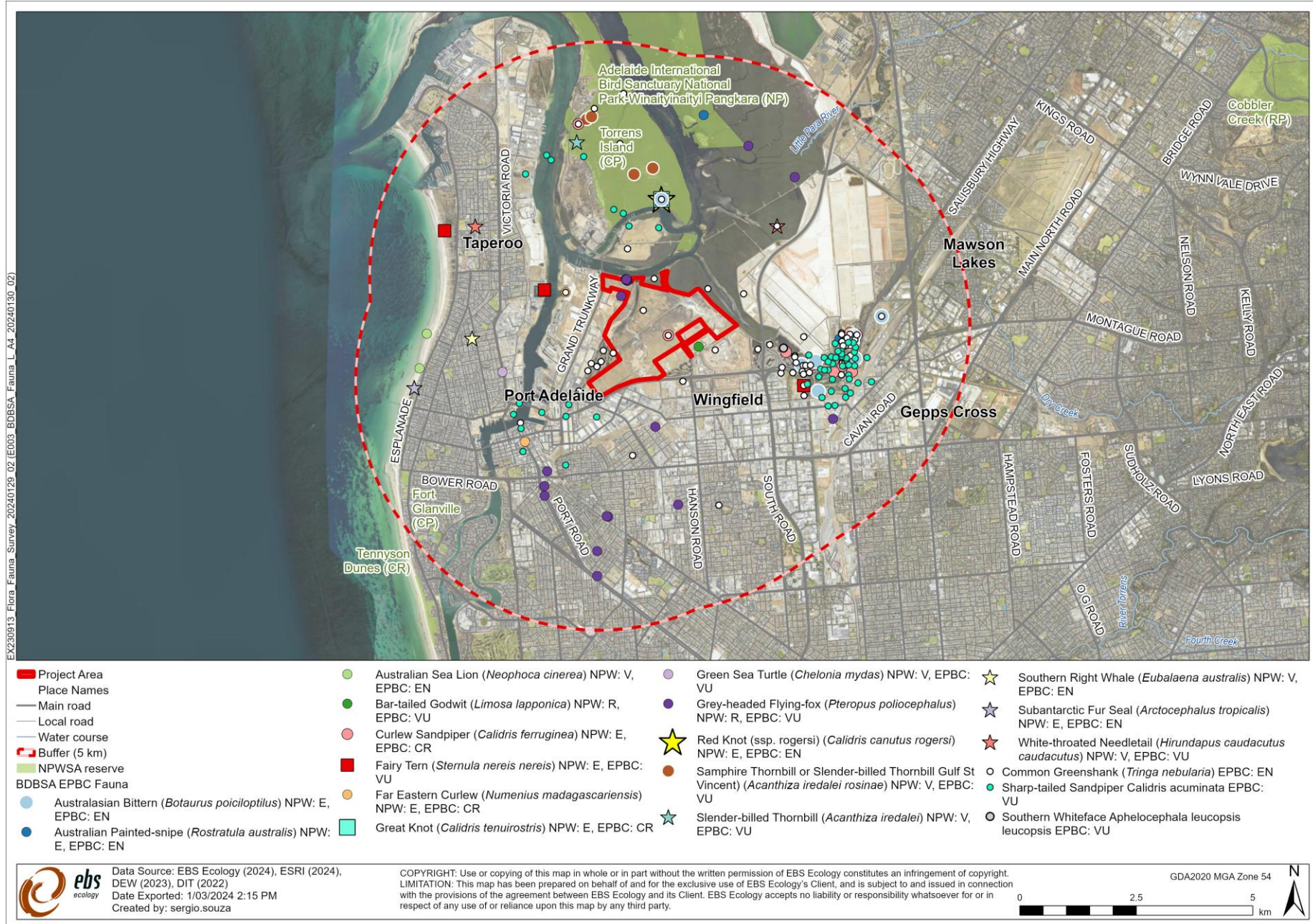


Figure 6. Map showing BDBSA historical records of EPBC listed threatened fauna species within the Search Area.

4 TEC PROFILE

4.1 Subtropical and Temperate Coastal Saltmarsh

4.1.1 Conservation listing

Subtropical and Temperate Coastal Saltmarsh TEC is listed as Vulnerable under the EPBC Act, however An EPBC Referral is deemed not required for ecological communities allocated a Vulnerable Listing as per the Significant Impact Guidelines. For completeness, this TEC is included in this EPBC Self-Assessment.

4.1.2 Community description

Four structural coastal saltmarsh forms have been proposed based on dominance of a particular vegetation type (TSSC 2013):

- Dominance by succulent shrubs (e.g., *Tecticornia* spp., *Suaeda australis*).
- Dominance by grasses (e.g., *Sporobolus virginicus*, *Austrostipa stipoides*, *Zoysia macrantha*).
- Dominance by sedges and rushes (e.g., *Juncus kraussii*, *Gahnia filum*).
- Dominance by herbs (e.g., low-growing creeping plants such as *Wilsonia backhousei*, *Samolus repens*).

The predominance of the above vegetation structures often varies across the intertidal zones. In South Australia, *Suaeda australis* and *Sarcocornia quinqueflora* often characterise the lower zone, with *Frankenia pauciflora* and *Tecticornia* species in the mid zone, and a diverse array of species in the higher, brackish zone including, *Puccinellia stricta*, *Wilsonia humilis*, *Disphyma crassifolium*, *Atriplex semibaccata* and *Triglochin striata*; the supratidal zone is often dominated by *Tecticornia indica* (TSSC 2013).

4.1.3 Key diagnostic characteristics

The ecological community is the assemblage of organisms including and associated with coastal subtropical and temperate saltmarsh. Key diagnostic characteristics for describing the Coastal Saltmarsh ecological community include (TSSC 2013):

- Occurs south of 23° 37' S latitude - from the central Mackay coast on the east coast of Australia, southerly around to Shark Bay on the west coast of Australia (26° latitude) and including the Tasmanian coast and islands within the above range.
- Occurs on the coastal margin, along estuaries and coastal embankments and on low wave energy coasts.
- Occurs on places with at least some tidal connection, including rarely inundated supratidal areas, intermittently opened or closed lagoons, and groundwater tidal influences, but not areas receiving only aerosol spray.
- Occurs on sandy or muddy substrate and may include coastal clay pans (and the like).

- Consists of dense to patchy areas of characteristic coastal saltmarsh plant species (i.e. salt tolerant herbs, succulent shrubs or grasses that may also include bare sediment as part of the mosaic).
- Proportional cover by tree canopy such as mangroves, Melaleucas or Casuarinas is not greater than 50%, nor is proportional ground cover by seagrass greater than 50%.

4.1.4 Occurrence in the Study Area

The Subtropical and Temperate Coastal Saltmarsh was found to approximately cover 146.03 ha of the Study Area.

The vegetation associations which were determined as the community met the key diagnostic characteristics of the community as per Table 5.

Table 5. Assessment of *Tecticornia* sp. shrublands against key diagnostic characteristics for Subtropical and Temperate Coastal Saltmarsh.

Key Diagnostic Characteristic	Assessment
Occurs south of 23° 37' S latitude - from the central Mackay coast on the east coast of Australia, southerly around to Shark Bay on the west coast of Australia (26° latitude) and including the Tasmanian coast and islands within the above range.	Yes. The Study Area occurs south of 23° 37' S latitude.
Occurs on the coastal margin, along estuaries and coastal embayments and on low wave energy coasts.	Yes. Occurs on the coastal margin.
Occurs on places with at least some tidal connection, including rarely inundated supratidal areas, intermittently opened or closed lagoons, and groundwater tidal influences, but not areas receiving only aerosol spray.	Yes. There is tidal connection.
Occurs on sandy or muddy substrate and may include coastal clay pans (and the like)	Yes. The vegetation association occurs on a mud substrate.
Consists of dense to patchy areas of characteristic coastal saltmarsh plant species (i.e. salt tolerant herbs, succulent shrubs or grasses, that may also include bare sediment as part of the mosaic).	Yes. The vegetation association is dominated by coastal saltmarsh plant species (<i>Tecticornia</i> spp.)
Proportional cover by tree canopy such as mangroves, Melaleucas or Casuarinas is not greater than 50%, nor is proportional ground cover by seagrass greater than 50%.	Yes. There is no tree or seagrass cover. Proportional tree cover is not greater than 50%, nor proportional ground cover by seagrass greater than 50%.

The TEC does not occur within the SRF Footprint Area (Table 6).

Table 6. TEC within the Study Area and the SRF Footprint Area.

VA	Vegetation Association	Study Area (ha)	TEC (yes/no)	SRF Footprint Area (ha)
A1	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) +/- <i>Nitraria billardiarei</i> (Nitre-bush) low open shrubland over exotic understorey.	162.97	No	86.43
A2	<i>Tecticornia</i> spp. (Samphire) open tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	27.66	Yes	Not present
A3	<i>Tecticornia arbuscula</i> (Shrubby Samphire) shrublands over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire) and <i>Poa</i> sp. (Meadow-grass).	10.38	Yes	Not present
A4	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) closed tidal shrubland.	34.85	Yes	Not present
A5	<i>Carpobrotus rossii</i> (Native Pigface) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) low shrubland over <i>Lolium</i> sp. (Ryegrass).	49.58	No	Not present
A6	<i>Tecticornia</i> spp. (Samphire) low tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	73.14	Yes	Not present
A7	<i>Casuarina glauca</i> (Grey Bullock) over <i>Lolium</i> sp. (Ryegrass).	0.58	No	Not present
Extent of TEC within the Study Area				146.03
TEC within the SRF Footprint Area				0.0
% Study Area habitat directly impacted				0.0
% Study Area habitat potentially indirectly impacted				0.0

4.1.5 Significant impact assessment

Vulnerable TEC are not required to be referred to DCCEEW, but impact to this TEC should be avoided if possible. The current SRF Footprint Area avoids all impact to this TEC.

5 SPECIES PROFILES

5.1 Slender-Billed Thornbill (Gulf St. Vincent) (*Acanthiza iredalei rosinae*)

5.1.1 Conservation listing

The Slender-billed Thornbill (Gulf St. Vincent) (*Acanthiza iredalei rosinae*) is listed as Vulnerable under the EPBC Act.

5.1.2 Species description

The Slender-billed Thornbill is a small bird with a short black bill, pale eyes, fine black and white scalloping on the forehead, and a blackish tail with paler tips. The Gulf St Vincent subspecies is olive-grey with a buff rump, grey-white underparts, and olive-buff flanks, while the other two subspecies (*Acanthiza iredalei iredalei* and *Acanthiza iredalei hedleyi*) have paler colouration (TSSC 2015).

5.1.3 Distribution and habitat

The subspecies is patchily distributed around the northern shores of the Gulf of St Vincent, South Australia, from St Kilda to Ardrossan. There are three population foci: at Price, from Clinton Conservation Park to Sandy Point, and from Port Prime to Torrens Island. Recent surveys for the subspecies within the Port Prime to Torrens Island population, conducted for the Adelaide and Mount Lofty Ranges Natural Resources Management Board, recorded birds in four areas: Torrens Island (potential habitat estimated to be < 10 ha); Port Gawler (potential habitat estimated to be approximately 120 ha); Light River – Middle Beach (potential habitat estimated to be approximately 665 ha); and, Baker Creek north of Thompson Beach (potential habitat estimated to be approximately 30 ha) (TSSC 2015).

The other two subspecies are more widely distributed. The Slender-billed Thornbill (eastern) (*A. i. hedleyi*) is found in south-east South Australia and central western Victoria, while the slender-billed thornbill (western) (*A. i. iredalei*) is found in the southern arid zone of Western Australia and South Australia west to Spencer Gulf (TSSC 2015).

The Slender-billed Thornbill (Gulf St Vincent) is mainly restricted to chenopod shrublands, particularly samphire dominated by shrubby glasswort (*Sclerostegia arbuscula*), on narrow coastal saline mudflats usually within 20 m of a tidal channel or saline lake. It mostly forages in dense, tall samphire, but occasionally forages from the surface of mud and among smaller samphire's, and in grey mangrove (*Avicennia marina*) adjacent to samphire shrublands. It predominantly feeds on insects but occasionally also feeds on seeds and other vegetable matter (TSSC 2015).

The subspecies is largely sedentary and appears to occupy a home range of approximately 25 ha, with the longest recorded movement of an individual being 650 m. It can cross gaps of unsuitable habitat, but it is thought that gaps between subpopulations are insurmountable. It holds territories but is gregarious and may be seen foraging in flocks ranging from 3 to 60 birds and is usually seen in pairs during the breeding season. Densities are around 3-8 birds per hectare (TSSC 2015).

5.1.4 Extent of Occurrence and Area of Occupancy

The EOO and AOO of the Slender-billed Thornbill (Gulf St. Vincent) in relation to the proposed SRF Footprint Area are shown in Table 7.

Table 7. The Extent of Occurrence and Area of Occupancy of the Slender-billed Thornbill (TSSC 2015).

Extent of Occurrence (km ²)	Area of Occupancy (km ²)	Suitable habitat within the SRF Footprint Area (ha)	Percent of AOO Impacted (%)
1600	60	0.00	0.00

5.1.5 Occurrence in the Study Area

The Slender-billed Thornbill (Gulf St. Vincent) has not been recorded in the Study Area. The closest records of the species are located approximately 3 km to the north on Torrens Island. A Brown Thornbill (*Acanthiza pusilla*) was observed in the mangroves near the junction of vegetation associations A6 and A2 during the field surveys. No Slender-billed Thornbills were recorded during the December 2023 field survey, however species-specific targeted surveys were not carried out.

5.1.6 Suitable habitat

Suitable habitat is present for the Slender-billed Thornbill inside the Study Area (Table 8) and matches the communities that are mapped as the Subtropical and Temperate Coastal Saltmarsh TEC. The SRF Site contains 45.23 suitable habitat, but the proposed SRF Footprint Area avoids suitable Slender-billed Thornbill habitat (Table 8).

Table 8. Vegetation associations of the Study Area, SRF Site, and SRF Footprint Area and their suitability as Slender-billed Thornbill (Gulf St. Vincent) habitat.

VA	Vegetation Association	Suitable habitat (yes/no)	Study Area (ha)	SRF Site (ha)	SRF Footprint Area (ha)
A1	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) +/- <i>Nitraria billardiarei</i> (Nitre-bush) low open shrubland over exotic understorey.	No	162.96	123.35	86.43
A2	<i>Tecticornia</i> spp. (Samphire) open tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	Yes	27.66	Not present	Not present
A3	<i>Tecticornia arbuscula</i> (Shrubby Samphire) shrublands over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire) and <i>Poa</i> sp. (Meadow-grass).	Yes	10.38	10.19	Not present
A4	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) closed tidal shrubland.	Yes	34.85	8.10	Not present
A5	<i>Carpobrotus rossii</i> (Native Pigface) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) low shrubland over <i>Lolium</i> sp. (Ryegrass).	No	49.58	Not present	Not present
A6	<i>Tecticornia</i> spp. (Samphire) low tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	Yes	73.14	1.35	Not present
A7	<i>Casuarina glauca</i> (Grey Bullock) over <i>Lolium</i> sp. (Ryegrass).	No	0.58	Not present	Not present
TOTALS			359.15	142.99	86.43
Extent of suitable habitat within the Study Area					146.03
Total suitable habitat within the SRF Site					19.64
Total suitable habitat within the SRF Footprint Area					0.0
% Study Area suitable habitat directly impacted by SRF Footprint Area					0.0

5.1.7 Significant impact assessment outcome

The proposed SRF will not significantly impact a known population of Slender-billed Thornbill (Gulf St. Vincent) or their habitat (Table 9).

Table 9. The proposed SRF assessed in relation to the Slender-billed Thornbill (*Acanthiza iredalei rosinae*) against the Significant Impact Criteria for a Vulnerable species (Department of the Environment 2013).

Significant Impact Criterion	Impact Likelihood*	Comments
Lead to a long-term decrease in the size of an important population.	No impact	The location of the SRF Footprint Area has been designed to avoid any impact to suitable Slender-billed Thornbill habitat. Therefore the construction of the SRF within the SRF Footprint Area does not impact on the species, and does not lead to a long-term decrease in the size of an important population.
Reduce the area of occupancy of an important population.	No impact	The location of the SRF Footprint Area has been designed to avoid any impact to suitable Slender-billed Thornbill habitat. Therefore the construction of the SRF within the SRF Footprint Area does not impact on the species, and does not reduce the area of occupancy of an important population.
Fragment an existing population into two or more populations.	No impact	The construction of the SRF within the SRF Footprint Area could fragment native vegetation within the broader landscape within the Study Area and surrounds. However, the proposed construction of the SRF within the SRF Footprint Area does not fragment an existing population into two or more populations.
Adversely affect habitat critical to the survival of a species.	No impact	No habitat critical to the survival of the Slender-billed Thornbill (Gulf St. Vincent) will be impacted. The proposed construction of the SRF within the SRF Footprint Area does not adversely affect habitat critical to the survival of a species, as the location of the SRF has been designed to avoid any impact to suitable Slender-billed Thornbill habitat.
Disrupt the breeding cycle of an important population.	No impact	The proposed construction of the SRF within the SRF Footprint Area does not adversely affect the breeding cycle of an important population.
Modify, destroy, remove and isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	No impact	The location of the SRF Footprint Area has been designed to avoid any impact to suitable Slender-billed Thornbill habitat, and does not modify, destroy, remove and isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline. is unlikely to cause the species to decline.
Result in an invasive species that is harmful to a vulnerable species becoming established in the vulnerable species' habitat.	No impact	The Study Area has a history of disturbance. The construction of the SRF within the SRF Footprint Area does not include any actions that would lead to additional invasive species becoming established in the Study Area or SRF Footprint Area. Foxes were observed within the Study Area during the field survey.
Introduce disease that may cause the species to decline.	No impact	There are no known disease or pathogens that may impact the species. Development of the SRF does not involve any actions that would introduce any diseases.
Interfere with the recovery of the species.	No impact	The construction of the SRF within the SRF Footprint Area does not interfere with any proposed recovery actions for the species.
Outcome	No significant impact.	

***Impact Likelihood:**

- **Almost certain** – there is great opportunity, reason or means of the impact occurring as a result of Proposal.
- **Likely** – there is considerable opportunity, reason or means of the impact occurring as a result of Proposal.
- **Possible** – there is some opportunity, reason or means of the impact occurring as a result of Proposal.
- **Unlikely** – there is little opportunity, reason or means of the impact occurring as a result of Proposal.
- **Rare** – the impact may only occur in exceptional circumstances.
- **No impact** – impact to the species or species habitat is avoided.

5.2 Southern Whiteface (*Aphelocephala leucopsis*)

5.2.1 Conservation listing

The Southern Whiteface (*Aphelocephala leucopsis*) was listed as Vulnerable under the EPBC Act on 31 March 2023.

5.2.2 Species description

The Southern Whiteface is a small stocky thornbill-like bird with a brown dorsum, white belly, dark brown wings and a black tail with narrow white tip. A grey wash on the belly is sometimes present, along with a grey or rufous tinge to the flanks. The species displays the characteristic facial markings of the genus: a white band across the forehead, with a darker streak along the top edge. Adult birds are approximately 11.5 cm in length with a cream-coloured eye, grey legs and a stubby dark grey bill of finch-like appearance (DCCEEW 2023a).

5.2.3 Distribution and habitat

The Southern Whiteface occurs across most of mainland Australia south of the tropics, from the north-eastern edge of the Western Australian wheatbelt, east to the Great Dividing Range. There is a broad hybrid zone between the two subspecies extending north from the western edge of the Nullarbor Plain. The northern boundary extends to about Carnarvon in the west, to the southern Northern Territory in central Australia, but is slightly further south in Queensland where the species is largely confined to the south-west of the Mitchell Grass Downs and along the southern state border (DCCEEW 2023a).

The Southern Whiteface occurs in open woodland and shrubland habitat with an understorey of grasses and / or low shrubs. Suitable habitat is usually dominated by *Acacia* spp. or *Eucalyptus* spp. on ranges, foothills, lowlands and plains. The birds forage almost exclusively on the ground, favouring habitats with low tree densities and an herbaceous understorey. Critical habitat for the Southern Whiteface includes areas of (DCCEEW 2023a):

- Relatively undisturbed open woodlands and shrublands with an understorey of grasses or shrubs or both.
- Habitat with low tree densities and an herbaceous understorey litter cover which provides essential foraging habitat.
- Living and dead trees with hollows and crevices which are essential for roosting and nesting.

The Southern Whiteface is sedentary, although it is thought there may be some movements outside of their normal range during dry periods.

5.2.4 Extent of occurrence and area of occupancy

The EOO and AOO of the Southern Whiteface in relation to the SRF Footprint Area are shown in Table 10.

Table 10. The Extent of Occurrence and Area of Occupancy of the Southern Whiteface (DCCEEW 2023b).

Extent of Occurrence (km ²)	Area of Occupancy (km ²)	Suitable habitat within the SRF Footprint Area (ha)	Percent of AOO Impacted (%)
4,910,000	80,000	0.00	0.00

5.2.5 Occurrence in the Study Area

The Southern Whiteface has not been recorded in the Study Area. One record from 2016 exists within 5 km and is 1.5 km to the east of the Study Area near Dry Creek/Barker Inlet Wetlands. Southern Whiteface are generally readily detected if present within an area due to their conspicuous behaviour.

5.2.6 Suitable habitat

Southern Whiteface are found in a wide range of habitats, however the vegetation associations within the Study Area are not the preferred habitat for the Southern Whiteface (Table 11). The location of the proposed SRF Footprint Area does not contain any suitable habitat for this species (Table 11).

Table 11. Vegetation associations of the Study Area, SRF Site, and SRF Footprint Area and their suitability as Southern Whiteface habitat.

VA	Vegetation Association	Suitable habitat (yes/no)	Study Area (ha)	SRF Site (ha)	SRF Footprint Area (ha)
A1	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) +/- <i>Nitraria billardierei</i> (Nitre-bush) low open shrubland over exotic understorey.	No	162.96	123.35	86.43
A2	<i>Tecticornia</i> spp. (Samphire) open tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	No	27.66	Not present	Not present
A3	<i>Tecticornia arbuscula</i> (Shrubby Samphire) shrublands over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire) and <i>Poa</i> sp. (Meadow-grass).	No	10.38	10.19	Not present
A4	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) closed tidal shrubland.	No	34.85	8.10	Not present
A5	<i>Carpobrotus rossii</i> (Native Pigface) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) low shrubland over <i>Lolium</i> sp. (Ryegrass).	No	49.58	Not present	Not present
A6	<i>Tecticornia</i> spp. (Samphire) low tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	No	73.14	1.35	Not present
A7	<i>Casuarina glauca</i> (Grey Bul oak) over <i>Lolium</i> sp. (Ryegrass).	No	0.58	Not present	Not present
TOTALS			359.15	142.99	86.43
Extent of suitable habitat within the Study Area					0.0
Total suitable habitat within the SRF Site					0.0
Total suitable habitat within the SRF Footprint Area					0.0
% Study Area suitable habitat directly impacted by SRF Footprint Area					0.0

5.2.7 Significant impact assessment outcome

The proposed SRF will not significantly impact Southern Whiteface or their habitat (Table 12).

Table 12. The proposed SRF assessed in relation to Southern Whiteface assessed against the Significant Impact Criteria for a Vulnerable species (Department of the Environment 2013).

Significant Impact Criterion	Impact Likelihood*	Comments
Lead to a long-term decrease in the size of an important population.	No impact	There is no suitable Southern Whiteface habitat present in the Study Area or SRF site or SRF Footprint Area.
Reduce the area of occupancy of an important population.	No impact	There is no suitable Southern Whiteface habitat present in the Study Area or SRF site or SRF Footprint Area.
Fragment an existing population into two or more populations.	No impact	There is no suitable Southern Whiteface habitat present in the Study Area or SRF site or SRF Footprint Area.
Adversely affect habitat critical to the survival of a species.	No impact	There is no suitable Southern Whiteface habitat present in the Study Area or SRF site or SRF Footprint Area.
Disrupt the breeding cycle of an important population.	No impact	There is no suitable Southern Whiteface habitat present in the Study Area or SRF site or SRF Footprint Area.
Modify, destroy, remove and isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	No impact	There is no suitable Southern Whiteface habitat present in the Study Area or SRF site or SRF Footprint Area.
Result in an invasive species that is harmful to a vulnerable species becoming established in the vulnerable species' habitat.	No impact	The Study Area has a history of disturbance. The construction of the SRF within the SRF Footprint Area does not include any actions that would lead to additional invasive species becoming established in the Study Area or SRF Footprint Area. Foxes were observed within the Study Area during the field survey.
Introduce disease that may cause the species to decline.	No impact	There are no known disease or pathogens that may impact the species. Development of the SRF does not involve any actions that would introduce any diseases.
Interfere with the recovery of the species.	No impact	The SRF construction does not interfere with any proposed recovery actions for the species.
Outcome	No significant impact.	

***Impact Likelihood:**

- **Almost certain** – there is great opportunity, reason or means of the impact occurring as a result of Proposal.
- **Likely** – there is considerable opportunity, reason or means of the impact occurring as a result of Proposal.
- **Possible** – there is some opportunity, reason or means of the impact occurring as a result of Proposal.
- **Unlikely** – there is little opportunity, reason or means of the impact occurring as a result of Proposal.
- **Rare** – the impact may only occur in exceptional circumstances.
- **No impact** – impact to the species or species habitat is avoided.

5.3 Sharp-Tailed Sandpiper (*Calidris acuminata*)

5.3.1 Conservation listing

The Sharp-tailed Sandpiper (*Calidris acuminata*) was listed as Vulnerable under the EPBC Act as of 5 January 2024.

5.3.2 Species description

The Sharp-tailed Sandpiper is a small-medium wader. The bird has a length of 17 - 22 cm, a wingspan of 36 - 43 cm and a weight of 65 grams. It is a portly sandpiper with a flat back, pot belly and somewhat drawn-out rear end. It has a small flat head on a short neck with a short and slightly decurved bill. The species has medium length legs. At rest, the primaries are level with or slightly short of the tip of the tail. (DCCEEW 2024a).

5.3.3 Distribution and habitat

In South Australia, the Sharp-tailed Sandpiper is widespread in the eastern half of the state, east of a line from Streaky Bay, north-east to Pandiburra Bore and Koonchera Waterhole. They may also be found north of Lake Eyre, north-west to Oolgawa Waterhole, south-west to Mintabie and south-east to Nunn's Bore. Further west, they are recorded at Twin Rocks and Cook, east Nullarbor Plain (DCCEEW 2024a).

The Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland.

The species utilises fresh and hypersaline environments, feeding along the edge of water on mudflats, coastal and inland wetlands, and sewage ponds. After rainfall events, the species may also feed on areas of agricultural pasture. Sharp-tailed sandpipers are omnivorous. Their diet comprises mostly of seeds, worms, molluscs, crustaceans, and insects, which they prey on by pecking and jabbing their beak into muddy substrate (DCCEEW 2024a).

The Gulf St. Vincent (which starts several kilometres north of the Study Area, is an internationally important wetland for Sharp-tailed Sandpipers (Weller *et al.* 2020).

5.3.4 Extent of Occurrence and Area of Occupancy

The EOO and AOO of the Sharp-tailed Sandpiper in relation to the proposed SRF are shown in Table 13.

Table 13. The Extent of Occurrence and Area of Occupancy of the Sharp-tailed Sandpiper (DCCEEW 2024a).

Extent of Occurrence (km ²)	Area of Occupancy (km ²)	Suitable habitat within the SRF Footprint Area (ha)	Percent of AOO Directly Impacted (%)	Study Area habitat	Percent of AOO indirectly impacted
10,900,000	13,000	0.00	0.00	146.03	0.00

5.3.5 Impact on global population estimate

The global population estimate in Weller *et al.* (2020) was 85,000 birds. The potential impact on the global population is shown in Table 14 below.

Table 14. The global population of the Sharp-tailed Sandpiper and criteria for an important population (Weller *et al.* 2020).

Global flyway population	1 % of flyway population (an internationally important population)	0.1 % of flyway population (a nationally important population)	Study Area population in December 2023	Percent of global population	Important population Yes/No/Possible
85,000	850	85	4*	0.004	*Possible

*Survey effort does not capture fluctuations.

5.3.6 Occurrence in the Study Area

The Sharp-tailed Sandpiper has been recorded in the Study Area within the SRF Site but outside of the SRF Footprint Area. A total of four individuals were observed in VA3 (southwestern corner) during the field survey by EBS Ecology in December 2023 (Table 15). Numerous records exist within the Search Area (Figure 6, p16).

5.3.7 Suitable habitat

Vegetation associations that correspond with the Subtropical and Temperate Coastal Saltmarsh TEC in the Study Area are considered suitable habitat for the Sharp-tailed Sandpiper. This totals to 146.03 ha, as listed in Table 15. The location of the proposed SRF Footprint Area does not contain any suitable habitat for this species (Table 15).

Table 15. Vegetation associations of the Study Area, SRF Site, and SRF Footprint Area and their suitability as Sharp-tailed Sandpiper habitat.

VA	Vegetation Association	Suitable habitat (yes/no)	Sharp-tailed Sandpipers Observed (EBS 2023)	Study Area (ha)	SRF Site (ha)	SRF Footprint Area (ha)
A1	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) +/- <i>Nitraria billardiarei</i> (Nitre-bush) low open shrubland over exotic understorey.	No	0	162.96	123.35	86.43
A2	<i>Tecticornia</i> spp. (Samphire) open tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	Yes	0	27.66	Not present	Not present
A3	<i>Tecticornia arbuscula</i> (Shrubby Samphire) shrublands over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire) and <i>Poa</i> sp. (Meadow-grass).	Yes	4	10.38	10.19	Not present
A4	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) closed tidal shrubland.	Yes	0	34.85	8.10	Not present
A5	<i>Carpobrotus rossii</i> (Native Pigface) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) low shrubland over <i>Lolium</i> sp. (Ryegrass).	No	0	49.58	Not present	Not present
A6	<i>Tecticornia</i> spp. (Samphire) low tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	Yes	0	73.14	1.35	Not present

VA	Vegetation Association	Suitable habitat (yes/no)	Sharp-tailed Sandpipers Observed (EBS 2023)	Study Area (ha)	SRF Site (ha)	SRF Footprint Area (ha)
A7	<i>Casuarina glauca</i> (Grey Bullock) over <i>Lolium</i> sp. (Ryegrass).	No	0	0.58	Not present	Not present
TOTALS			4	359.15	142.99	86.43
Extent of suitable habitat within the Study Area						146.03
Total suitable habitat within the SRF Site						19.64
Total suitable habitat within the SRF Footprint Area						0.0
% Study Area suitable habitat directly impacted by SRF Footprint Area						0.0

5.3.8 Significant impact assessment

The proposed SRF will not significantly impact Sharp-tailed Sandpiper or their habitat (Table 16).

Table 16. The proposed SRF assessed in relation to the Sharp-tailed Sandpiper (*Calidris acuminata*) assessed against the Significant Impact Criteria for a Vulnerable species (Department of the Environment 2013).

Significant Impact Criterion	Impact Likelihood*	Comments
Lead to a long-term decrease in the size of an important population.	No impact	The number of Sharp-tailed Sandpipers recorded within the Study Area in December 2023 and historically, does not meet the criteria of an important population (Weller <i>et al.</i> 2020).) see Table 14, however the survey effort is not adequate to account for fluctuations. Nearby Barker Inlet Wetlands BDBSA unfiltered records indicate that the Study Area could regularly hold an important population, therefore it is possible that the Study Area could hold an important population. The location of the SRF Footprint Area has been designed to avoid any impact to suitable Sharp-tailed Sandpiper habitat. Therefore the construction of the SRF within the SRF Footprint Area does impact on the species, and does not lead to a long-term decrease in the size of an important population.
Reduce the area of occupancy of an important population.	No impact	The location of the SRF Footprint Area has been designed to avoid any impact to suitable Sharp-tailed Sandpiper habitat. Therefore the construction of the SRF within the SRF Footprint Area does not reduce the area of occupancy of an important population.
Fragment an existing population into two or more populations.	No impact	The construction of the SRF could fragment remaining native vegetation within the Study Area and potentially isolate parts of the Study Area from the broader landscape. However, the proposed construction of the SRF within the SRF Footprint Area does not fragment an existing population into two or more populations. Sharp-tailed Sandpiper populations are highly mobile and not easily fragmented.
Adversely affect habitat critical to the survival of a species.	No impact	No Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the Sharp-tailed Sandpiper. The location of the SRF Footprint Area has been designed to avoid any impact to suitable Sharp-tailed Sandpiper habitat. The proposed construction of the SRF within the SRF Footprint Area does not adversely affect habitat critical to the survival of a species.
Disrupt the breeding cycle of an important population.	No impact	The Sharp-tailed Sandpiper is a non-breeding migrant to Australia.
Modify, destroy, remove and isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	No impact	The SRF Footprint Area does not contain any suitable Sharp-tailed Sandpiper habitat and will not modify, destroy, remove and isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

Significant Impact Criterion	Impact Likelihood*	Comments
Result in an invasive species that is harmful to a vulnerable species becoming established in the vulnerable species' habitat.	No impact	Increasing frequency and severity of drought in Australia has been identified as the major threat to Sharp-tailed Sandpipers. Overseas, introduction of invasive species that degrade the quality of saltmarshes is a major threat (DCCEEW 2023c). The Study Area has a history of disturbance. The construction of the SRF within the SRF Footprint does not include any actions that would lead to additional invasive species becoming established in the Study Area. Foxes were observed within the Study Area during the field survey.
Introduce disease that may cause the species to decline.	No impact	There are no known disease or pathogens that may impact the species. Development of the SRF does not involve any actions that would introduce any diseases.
Interfere with the recovery of the species.	No impact	The SRF construction within the SRF Footprint Area does not interfere with any proposed recovery actions for the species.
Outcome	No significant impact.	

***Impact Likelihood:**

- **Almost certain** – there is great opportunity, reason or means of the impact occurring as a result of Proposal.
- **Likely** – there is considerable opportunity, reason or means of the impact occurring as a result of Proposal.
- **Possible** – there is some opportunity, reason or means of the impact occurring as a result of Proposal.
- **Unlikely** – there is little opportunity, reason or means of the impact occurring as a result of Proposal.
- **Rare** – the impact may only occur in exceptional circumstances.
- **No impact** – impact to the species or species habitat is avoided.

5.4 Curlew Sandpiper (*Calidris ferruginea*)

5.4.1 Conservation listing

The Curlew Sandpiper (*Calidris ferruginea*) is listed as Critically Endangered under the EPBC Act. It is also listed as Endangered under the *National Parks and Wildlife Act 1972* (NPW Act) in South Australia.

5.4.2 Species description

The Curlew Sandpiper is a small, slim sandpiper 18 - 23 cm long and weighing 57 grams, with a wingspan of 38 - 41 cm. The legs and neck are long. The bill is also long and is decurved with a slender tip. The bill is black, sometimes with a brown or green tinge at the base. The head is small and round, and the iris is dark brown. The legs and feet are black or black-grey. When at rest, the wing-tips project beyond the tip of the tail. The sexes are similar, but females have a slightly larger and longer bill and a slightly paler underbelly in breeding plumage (DCCEEW 2023b).

5.4.3 Distribution and habitat

In Australia, Curlew Sandpipers occur around the coasts and are also quite widespread inland, though in smaller numbers. Records occur in all states during the non-breeding period, and also during the breeding season when many non-breeding one year old birds remain in Australia. In South Australia, Curlew Sandpipers occur in widespread coastal and subcoastal areas east of Streaky Bay. Important sites include ICI and Price Saltfields, and The Coorong (DCCEEW 2023b).

Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. Curlew Sandpipers forage on mudflats and nearby shallow water. In non-tidal wetlands, they usually wade, mostly in water 15 - 30 millimetres (mm), but up to 60 mm, deep. They forage at the edges of shallow pools and drains of intertidal mudflats and sandy shores. At high tide, they forage among low sparse emergent vegetation, such as saltmarsh, and sometimes forage in flooded paddocks or inundated saltflats (DCCEEW 2023b).

5.4.4 Global population estimate

The global population estimate in Weller *et al.* (2020) was 90,000 birds. The global population in relation to the Study Area is shown in Table 17.

Table 17. The global population of the Curlew Sandpiper and criteria for an important population (Weller *et al.* 2020).

Global flyway population	1 % of flyway population (an internationally important population)	0.1 % of flyway population (a nationally important population)	Study Area population in December 2023	Percent of global population	Important population Yes/No
90,000	900	90	0	0	*No

*Survey effort does not capture fluctuations.

5.4.5 Extent of Occurrence and Area of Occupancy

The EOO and AOO of the Curlew Sandpiper in relation to the proposed SRF are shown in Table 18.

Table 18. The Extent of Occurrence and Area of Occupancy of the Curlew Sandpiper (DCCEEW 2023b).

Extent of Occurrence (km ²)	Area of Occupancy (km ²)	Suitable habitat within the SRF Footprint Area (ha)	Percent of AOO Directly Impacted (%)	Study Area habitat	Percent of AOO indirectly impacted
10,900,000	8,000	0.00	0.00	146.03	0.00

5.4.6 Occurrence in the Study Area

The Curlew Sandpiper has been recorded in the Study Area. Records of the species occur at the Dry Creek Wetland area to the east of the Study Area, to the north on Torrens Island and the east at the Magazine Wetlands within the last 30 years.

5.4.7 Suitable habitat

Vegetation associations that correspond with the Subtropical and Temperate Coastal Saltmarsh TEC in the Study Area are considered suitable habitat for Curlew Sandpiper (Table 19). The location of the proposed SRF Footprint Area does not contain any suitable habitat for this species (Table 19).

Table 19. Vegetation associations of the Study Area, SRF Site, and SRF Footprint Area and their suitability as Curlew Sandpiper habitat.

VA	Vegetation Association	Suitable habitat (yes/no)	Study Area (ha)	SRF Site (ha)	SRF Footprint Area (ha)
A1	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) +/- <i>Nitraria billardiarei</i> (Nitre-bush) low open shrubland over exotic understorey.	No	162.96	123.35	86.43
A2	<i>Tecticornia</i> spp. (Samphire) open tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	Yes	27.66	Not present	Not present
A3	<i>Tecticornia arbuscula</i> (Shrubby Samphire) shrublands over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire) and <i>Poa</i> sp. (Meadow-grass).	Yes	10.38	10.19	Not present
A4	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) closed tidal shrubland.	Yes	34.85	8.10	Not present
A5	<i>Carpobrotus rossii</i> (Native Pigface) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) low shrubland over <i>Lolium</i> sp. (Ryegrass).	No	49.58	Not present	Not present
A6	<i>Tecticornia</i> spp. (Samphire) low tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	Yes	73.14	1.35	Not present
A7	<i>Casuarina glauca</i> (Grey Bul oak) over <i>Lolium</i> sp. (Ryegrass).	No	0.58	Not present	Not present
TOTALS			359.15	142.99	86.43
Extent of suitable habitat within the Study Area					146.03
Total suitable habitat within the SRF Site					19.64
Total suitable habitat within the SRF Footprint Area					0.0
% Study Area suitable habitat directly impacted by SRF Footprint Area					0.0

5.4.8 Significant impact assessment

The proposed SRF will not significantly impact Curlew Sandpiper or their habitat (Table 20).

Table 20. The proposed SRF assessed in relation to the Curlew Sandpiper (*Calidris ferruginea*) assessed against the Significant Impact Criteria for a Critically Endangered species (Department of the Environment 2013).

Significant Impact Criterion	Impact Likelihood*	Comments
Lead to a long-term decrease in the size of a population of a species.	No impact	The location of the SRF Footprint Area has been designed to avoid any impact to suitable Curlew Sandpipers habitat. Therefore the construction of the SRF within the SRF Footprint Area does impact on the species, and does not lead to a long-term decrease in the size of an important population.
Reduce the area of occupancy of the species.	No impact	Whilst no Curlew Sandpipers were recorded within the Study Area in December 2023, it is possible that they occur within the Study Area. The location of the SRF Footprint Area has been designed to avoid any impact to suitable Curlew Sandpipers habitat, and will not reduce the area of occupancy of the species.
Fragment an existing population into two or more populations.	No impact	The construction of the SRF within the SRF Footprint Area could fragment remaining native vegetation within the Study Area and potentially isolate parts of the Study Area from the broader landscape. However, the proposed construction of the SRF within the SRF Footprint Area does not fragment an existing population into two or more populations. Curlew Sandpiper populations are highly mobile.
Adversely affect habitat critical to the survival of a species.	No impact	The Study Area does not include habitat critical to the survival of the species. The construction of the SRF within the SRF Footprint Area will not adversely affect habitat critical to the survival of a species.
Disrupt the breeding cycle of a population.	No impact	The Curlew Sandpiper is a non-breeding migrant to Australia.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	No impact	The SRF Footprint Area does not contain any suitable Curlew Sandpiper habitat and will not modify, destroy, remove and isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the species' habitat.	No impact	The construction of the SRF within SRF Footprint Area does not include any actions that would lead to additional invasive species becoming established in the Study Area. The Study Area has a history of disturbance. Foxes were observed within the Study Area during the field survey.
Introduce disease that may cause the species to decline.	No impact	There are no known diseases or pathogens that might impact the species. Development of the SRF does not involve any actions that would introduce any diseases.
Interfere with the recovery of the species.	No impact	The construction of the SRF within the SRF Footprint Area does not interfere with the recovery of the species.
Outcome	No significant impact.	

***Impact Likelihood:**

- **Almost certain** – there is great opportunity, reason or means of the impact occurring as a result of the SRF.
- **Likely** – there is considerable opportunity, reason or means of the impact occurring as a result of the SRF.
- **Possible** – there is some opportunity, reason or means of the impact occurring as a result of the SRF.
- **Unlikely** – there is little opportunity, reason or means of the impact occurring as a result of the SRF.
- **Rare** – the impact may only occur in exceptional circumstances.
- **No impact** – impact to the species or species habitat is avoided.

5.5 Common Greenshank (*Tringa nebularia*)

5.5.1 Conservation listing

The Common Greenshank (*Tringa nebularia*) is listed as Endangered under the EPBC Act as of 5 January 2024.

5.5.2 Species description

The Common Greenshank is a heavily built, elegant wader, 30 - 35 cm in length, with a wingspan of 55 - 65 cm and weight up to 190 g for both males and females. The bill is long and slightly upturned and the legs are long and yellowish green. In flight, all plumages show uniformly dark upper wing and contrasting white rump extending in a white wedge up the back, whitish tail and tips of toes projecting slightly beyond the tip of the tail (DCCEEW 2024e).

5.5.3 Distribution and habitat

The Common Greenshank occurs in all types of wetlands and has the widest distribution of any shorebird in Australia. In South Australia, the species is found throughout the area east of 145° E, but there are a few records from the Flinders Ranges. It is also occasionally seen inland west of 145° E. It is found in all coastal regions west to, at least, Streaky Bay, with scattered records elsewhere along the coast. The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity (DCCEEW 2024e).

The Common Greenshank forages at the edge of wetlands, in soft mud on mudflats, in channels, or within shallows around the edge of waterbodies. These locations are often situated near or among mangroves or other sparse, emergent or fringing vegetation such as sedges or saltmarsh. The bird occasionally feeds amongst seagrass beds. The common greenshank is carnivorous. Its diet consists primarily of insects and their larvae (especially beetles), crustaceans, annelids, molluscs, amphibians, small fish (mullet, clinids and tilapia) and occasionally rodents. The species is diurnal and nocturnal and feeds by picking from the surface, probing, sweeping, and lunging at the edges of mudflats or shallows. Common greenshanks may walk along the shoreline and even chase small fish in the shallow water (DCCEEW 2024e).

5.5.4 Extent of Occurrence and Area of Occupancy

The EOO and AOO of the Common Greenshank in relation to the proposed SRF are shown in Table 21.

Table 21. The Extent of Occurrence and Area of Occupancy of the Common Greenshank (DCCEEW 2024e).

Extent of Occurrence (km ²)	Area of Occupancy (km ²)	Suitable habitat within the SRF Footprint Area (ha)	Percent of AOO Directly Impacted (%)	Study Area habitat	Percent of AOO indirectly impacted
10,200,000	13,000	0.0	0.0	146.03	0.0

5.5.5 Impact on global population estimate

The global population estimate in Weller *et al.* (2020). was 110,000 birds. The potential impact on the global population is shown in Table 22.

Table 22. The global population of the Common Greenshank and criteria for an important population (Weller *et al.* 2020).

Global flyway population	1 % of flyway population (an internationally important population)	0.1 % of flyway population (a nationally important population)	Study Area population in December 2023	Percent of global population	Important population Yes/No/Possible
110,000	1,100	110	0*	0	Possible

*Survey effort does not capture fluctuations.

5.5.6 Occurrence in the Study Area

The Common Greenshank has historically been recorded in the Study Area including within the SRF allotments in the BDBSA records. Numerous records exist within the Search Area (Figure 6, p16) including to more regularly surveyed areas to the east and west. Most Common Greenshank records for are of low numbers of Greenshanks, however one record exists for 50 birds within the Search Area.

5.5.7 Suitable habitat

Vegetation associations that correspond with the Subtropical and Temperate Coastal Saltmarsh TEC in the Study Area are considered suitable habitat for Common Greenshank. This totals to 146.03 ha, as listed in Table 23. The location of the proposed SRF Footprint Area does not contain any suitable habitat for this species (Table 23).

Table 23. Vegetation associations of the Study Area, SRF Site, and SRF Footprint Area and their suitability as Common Greenshank habitat.

VA	Vegetation Association	Suitable habitat (yes/no)	Study Area (ha)	SRF Site (ha)	SRF Footprint Area (ha)
A1	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) +/- <i>Nitraria billardiarei</i> (Nitre-bush) low open shrubland over exotic understorey.	No	162.96	123.35	86.43
A2	<i>Tecticornia</i> spp. (Samphire) open tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	Yes	27.66	Not present	Not present
A3	<i>Tecticornia arbuscula</i> (Shrubby Samphire) shrublands over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire) and <i>Poa</i> sp. (Meadow-grass).	Yes	10.38	10.19	Not present
A4	<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire) closed tidal shrubland.	Yes	34.85	8.10	Not present
A5	<i>Carpobrotus rossii</i> (Native Pigface) +/- <i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface) low shrubland over <i>Lolium</i> sp. (Ryegrass).	No	49.58	Not present	Not present
A6	<i>Tecticornia</i> spp. (Samphire) low tidal shrubland over <i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i> (Beaded Samphire).	Yes	73.14	1.35	Not present
A7	<i>Casuarina glauca</i> (Grey Bullock) over <i>Lolium</i> sp. (Ryegrass).	No	0.58	Not present	Not present
TOTALS			359.15	142.99	86.43

VA	Vegetation Association	Suitable habitat (yes/no)	Study Area (ha)	SRF Site (ha)	SRF Footprint Area (ha)
Extent of suitable habitat within the Study Area					146.03
Total suitable habitat within the SRF Site					19.64
Total suitable habitat within the SRF Footprint Area					0.0
% Study Area suitable habitat directly impacted by SRF Footprint Area					0.0

5.5.8 Significant impact assessment

The proposed SRF will not significantly impact Common Greenshank or their habitat (Table 24).

Table 24. The proposed SRF assessed in relation to the Common Greenshank (*Tringa nebularia*) assessed against the Significant Impact Criteria for an Endangered species (Department of the Environment 2013).

Significant Impact Criterion	Impact Likelihood*	Comments
Lead to a long-term decrease in the size of a population of a species.	Possible	Whilst no Common Greenshank were recorded within the Study Area in December 2023, it is possible that a population occurs and the SRF could indirectly lead to a long-term decrease in the size of the population through loss of foraging habitat.
Reduce the area of occupancy of the species.	Possible	Whilst no Common Greenshank were recorded within the Study Area in December 2023, it is possible that they occur within the Study Area. The indirect impact to 146.03 ha of suitable habitat could reduce the AOO by 0.0011 %.
Fragment an existing population into two or more populations.	No impact	The construction of the SRF within the SRF Footprint Area could fragment remaining native vegetation within the Study Area and potentially isolate parts of the Study Area from the broader landscape. However, the proposed construction of the SRF within the SRF Footprint Area does not fragment an existing population into two or more populations. Common Greenshank populations are highly mobile.
Adversely affect habitat critical to the survival of a species.	No impact	The Study Area does not contain habitat critical to the survival of the species.
Disrupt the breeding cycle of a population.	No impact	The Common Greenshank is a non-breeding migrant to Australia.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	No impact	The SRF will potentially indirectly impact over 146 ha of suitable Common Greenshank habitat, however this action on its own, is unlikely to cause the species to decline.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the species' habitat.	No impact	The construction of the SRF within the SRF Footprint Area does not include any actions that would lead to additional invasive species becoming established in the Study Area. The Study Area has a history of disturbance. Foxes were observed within the Study Area during the field survey.
Introduce disease that may cause the species to decline.	No impact	There are no known diseases or pathogens that might impact the species. Development of the SRF does not involve any actions that would introduce any diseases.
Interfere with the recovery of the species.	No impact	The construction of the SRF within the SRF Footprint Area does not interfere with the recovery of the species.
Outcome	No significant impact.	

***Impact Likelihood:**

- **Almost certain** – there is great opportunity, reason or means of the impact occurring as a result of the SRF.
- **Likely** – there is considerable opportunity, reason or means of the impact occurring as a result of the SRF.
- **Possible** – there is some opportunity, reason or means of the impact occurring as a result of the SRF.
- **Unlikely** – there is little opportunity, reason or means of the impact occurring as a result of the SRF.
- **Rare** – the impact may only occur in exceptional circumstances.
- **No impact** – impact to the species or species habitat is avoided.

5.6 Migratory Wetland species

5.6.1 *Migratory wetland species identified in the PMST report*

The PMST report identified twenty-seven exclusively migratory species. Of these, six migratory wetland species as 'known' or 'highly likely' to occur in the Search Area, as listed in Table 4 (p15). The other twenty-one migratory species 'possibly' occur or are 'unlikely' to occur within the Study Area – these are listed in Appendix 4.

All six 'likely' or 'known' species are migratory shore birds that visit Australia during the non-breeding season and share similar habitat requirements. These species are:

- Common Sandpiper (*Actitis hypoleucos*).
- Pectoral Sandpiper (*Calidris melanotos*).
- Red-necked Stint (*Calidris ruficollis*).
- Long-toed Stint (*Calidris subminuta*).
- Wood Sandpiper (*Tringa glareola*).
- Marsh Sandpiper (*Tringa stagnatilis*).

5.6.2 *Conservation listing*

The six species listed above are listed as Migratory under the EPBC Act. Four of these six bird species are also listed as State Rare under the *National Parks and Wildlife Act 1974* in South Australia.

- Common Sandpiper (*Actitis hypoleucos*).
- Pectoral Sandpiper (*Calidris melanotos*).
- Long-toed Stint (*Calidris subminuta*).
- Wood Sandpiper (*Tringa glareola*).

5.6.3 *Species biology and descriptions*

Brief descriptions of each of the six Migratory bird species, their biology and habitat are provided in Table 25.

Table 25. Species descriptions for Migratory wetland species identified by the PMST report (DCCEEW 2024) that are ‘highly likely’ or ‘known’ to occur in the Study Area.

Species	Description	Australian Distribution	Habitat	PMST occurrence in the Study Area
Common Sandpiper (<i>Actitis hypoleucos</i>)	A small sandpiper of 19 - 21 cm in length with a wingspan of 32 - 35 cm. Breeding plumage of the Common Sandpiper is dark brown above, with a greenish gloss to feathers of cap, hindneck and mantle. Brown colouring is interspersed with irregular barring. Feathers are white underneath. The species has a prominent white eye-ring and indistinct dark eye-stripe from the bill to the rear of the ear coverts. White patches amongst darker feathers on the sides of the breast area are also notable. The species has a long tail that extends behind the wings when at rest, short legs, and a medium length bill. The global population was estimated at 190,000 birds (Hansen <i>et al.</i> 2016).	Found along all coastlines of Australia and in many areas inland, the Common Sandpiper is widespread in small numbers. The population when in Australia is concentrated in northern and western Australia.	The species utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats. The Common Sandpiper has been recorded in estuaries and deltas of streams, as well as on banks farther upstream; around lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties. The muddy margins utilised by the species are often narrow and may be steep. The species is often associated with mangroves, and sometimes found in areas of mud littered with rocks or snags.	Known - Over 50 records exist within the Search Area including within the Study Area and surrounding wetlands.
Pectoral Sandpiper (<i>Calidris melanotos</i>)	The Pectoral Sandpiper is a small-medium sandpiper. The species has a length of 19 - 24 cm, a wingspan of 37 - 45 cm and a weight of 85 g for males and 60 g for females. The species is characterised by a flat back and a plump body that tapers to a drawn-out rear end. The head is small and rounded, situated on a long neck. The legs are short, and the bill varies from short and straight, to medium-length and gently decurved. When at rest the folded primaries (flight feathers) are level with, just short of, or slightly longer than the tip of the tail. The global population was estimated at 1,220,000 - 1,930,000 birds (Hansen <i>et al.</i> 2016).	In South Australia, the Pectoral Sandpiper is found mostly in the south-east, from north to the Murray River and west to Yorke Peninsula. Outside of this region the species is occasionally recorded in Innamincka, Welcome Bore and Mintabie.	The species is usually found in coastal or near coastal habitat but occasionally found further inland. It prefers wetlands that have open fringing mudflats and low, emergent or fringing vegetation, such as grass or samphire. The species has also been recorded in swamp overgrown with lignum. They forage in shallow water or soft mud at the edge of wetlands.	Highly likely - Immediately west of Study Area and multiple in Greenfields Wetland.
Red-necked Stint (<i>Calidris ruficollis</i>)	The Red-necked Stint is the smallest shorebird in Australia, approximately 13 - 16 cm in length. It weighs 25 g and has a wingspan between 29 and 33 cm. The species is characterised by a small head, steep rounded forehead, and long thickset body with an attenuated rear end. Other distinguishing features include short legs, a short, straight (or slightly decurved) bill with a slight bulbous or finely pointed tip. At rest the folded primaries reach slightly over the tip of the tail (rarely short of the tip). The global population estimate was 475,000 birds (Hansen <i>et al.</i> 2016).	It is distributed along most of the Australian coastline with large densities on the Victorian and Tasmanian coasts. Spencer Gulf is known as an internationally important site for the species.	The Red-necked Stint is mostly found in coastal areas, including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores. Occasionally they have been recorded on exposed or ocean beaches, and sometimes on stony or rocky shores, reefs or shoals.	Highly likely - Numerous records occur within the Search Area. There are no records within the Study Area, however a Stint species was observed in the TEC (in VA4) in

Species	Description	Australian Distribution	Habitat	PMST occurrence in the Study Area
				December 2023 but the individual could not be identified to the species level.
Long-toed Stint (<i>Calidris subminuta</i>)	The Long-toed Stint is a very small sandpiper and member of the <i>Calidridinae</i> family. The species has a length of 13 - 16 cm, a wingspan of 26.5 - 30.5 cm and an average weight of 25 g. The species is characterised by its distinctive shape; a small head, long slim neck, rounded belly, short rear-end, long legs (often held flexed), short straight bill tapering to finely pointed tip, folded primaries that fall level with the tail and show little or no primary projection beyond the tertials. The species also has long, thin toes (especially the middle toe) that give the impression of an awkwardly large foot. The species also has a distinctive stance. It is slightly smaller and more finely built than the Red-necked Stint, <i>Calidris ruficollis</i> . The species has yellow legs and feet, pale-brown or yellow base to lower mandible. The global population estimate was 230,000 birds (Hansen <i>et al.</i> 2016).	The Long-toed Stint is a regular summer visitor to Australia, but uncommon in the east. It is also found on the southern end of the Eyre Peninsula, with most records from The Coorong, Langhorne Creek, St Kilda and the Price Saltworks. Inland records for the species are rare, however it has been sighted at Cannuwaukininna Bore, Birdsville Track and Oodnadatta.	The Long-toed Stint occurs in a variety of terrestrial wetlands. They prefer shallow freshwater or brackish wetlands including lakes, swamps, river floodplains, streams, lagoons and sewage ponds. The species is also found of areas of muddy shoreline, growths of short grass, weeds, sedges, low or floating aquatic vegetation, reeds, rushes and occasionally stunted samphire. It has also been observed at open, less vegetated shores of larger lakes and ponds and is common on muddy fringes of drying ephemeral lakes and swamps. The Long-toed Stint also frequents permanent wetlands such as reservoirs and artificial lakes. They are uncommon, but not unknown, at tidal estuaries, saline lakes, salt ponds and bore swamps.	Known - One record immediately west of Study Area and one at Torrens island. Multiple records at Greenfields Wetland.
Wood Sandpiper (<i>Tringa glareola</i>)	Wood Sandpipers feed mainly on aquatic insects and their larvae and molluscs in moist or dry mud. They high-step daintily through shallow water, probing in mud or picking at the surface. They also swim well and may feed by sweeping their bill from side to side under water. The global population estimate was 130,000 with 1% 1,300 and 0.1% 130 birds (Hansen <i>et al.</i> 2016).	Wood Sandpipers are more numerous in the north than the south of Australia and are also found in New Guinea, Africa, the Indian subcontinent and South-east Asia. They breed widely across the north of Europe and Asia, mostly in Scandinavia, Baltic countries and Russia. They are the most abundant migratory wader in non-coastal areas of Asia (Birdlife Australia profile)	Wood Sandpipers are seen in small flocks or singly on inland shallow freshwater wetlands, often with other waders. They prefer ponds and pools with emergent reeds and grass, surrounded by tall plants or dead trees and fallen timber.	Highly likely - Has not been recorded within the Study Area. Records from nearby Magazine wetlands to the west, Barker Inlet Dry Creek Wetlands to the west, Torrens Island to the North.

Species	Description	Australian Distribution	Habitat	PMST occurrence in the Study Area
Marsh Sandpiper (<i>Tringa stagnatilis</i>)	The Marsh Sandpiper is a medium sized member of the <i>Tringinae</i> family. It has a length of 22 - 26 cm, a wingspan of 40 - 45 cm and a weight of 70 g. In all plumages the species shows a contrasting outer wing, a very pale whitish tail and a bold white wedge up the back. They occur singly or in small to large flocks. They often associate with other waders and are often seen with Greenshanks, especially in salt fields. They may feed in tight co-ordinated groups, and sometimes feed with other wading birds. The global population estimate was 130,000 with 1% 1,300 and 0.1% 130 birds (Hansen <i>et al.</i> 2016).	2024). The Marsh Sandpiper is found on coastal and inland wetlands throughout Australia. In South Australia, most records are east of 137° E. Occasionally the species has been recorded in the south-east, mostly from The Coorong to Yorke Peninsula, including inland along Murray Valley. On Eyre Peninsula the species has been recorded from Whyalla to Little Swamp and Coffin Bay. Penrice Saltworks in South Australia is a site of national importance.	The Marsh Sandpiper lives in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, salt pans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks. They are recorded less often at reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes. In north Australia they prefer intertidal mudflats, although surveys in Kakadu National Park recorded more birds around shallow freshwater lakes than in areas influenced by tide. In the south-east Gulf of Carpentaria they have been recorded round both saline and fresh waters. Elsewhere they rarely occur on beaches. In south-east Australia they prefer inland saline lakes and coastal saltworks. They are found infrequently around mangroves.	Known - One Marsh Sandpiper was recorded in the Study Area in December 2023 in the TEC (in VA4). Many records exist for the Search Area.

5.6.4 Occurrence in the Study Area

The occurrence of the species in the Study Area is provided in Table 25.

5.6.5 Suitable habitat

There is 146.03 ha of suitable habitat in the Study Area which aligns with the tidally influenced Subtropical and Temperate Coastal Saltmarsh TEC area. The location of the proposed SRF Footprint Area does not contain the tidally influenced TEC area and thus any suitable habitat for any of the six migratory shore birds species.

5.6.6 Significant impact assessment

The proposed SRF will not significantly impact Common Sandpiper, Pectoral Sandpiper, Red-necked Stint, Long-toed Stint, Wood Sandpiper or Marsh Sandpiper or their habitat (Table 26).

Table 26. The proposed SRF assessed in relation to Migratory wetland species assessed against the Significant Impact Criteria for Migratory species (Department of the Environment 2013).

Significant Impact Criterion	Impact Likelihood*	Comments
Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.	Rare	<p>The Study Area could potentially meet the requirement for nationally important habitat as it may regularly support:</p> <ul style="list-style-type: none"> 0.1 per cent of the flyway population of a single species of migratory shorebird. This is based on records within the Search Area. <p>It is unlikely to hold:</p> <ul style="list-style-type: none"> 2000 migratory shorebirds OR 15 migratory shorebird species. <p>Due to the avoidance and mitigation measurements that have been developed for the proposed SRF (as per the EHAIR - See Section 3.3) it is deemed Rare that the proposal will substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.</p>
Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.	No impact	The construction of the SRF within the SRF Footprint Area does not include any actions that would lead to additional invasive species becoming established in the Study Area that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.
Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.	No impact	The coastal area adjacent to the SRF is not identified as sustaining an ecologically important proportion of any shorebird population. The birds that are recorded near the SRF are likely part of the broader population of birds that use the wider Gulf St Vincent coastline, which is internationally and nationally important habitat for non-breeding shorebirds. The construction of the SRF within the SRF Footprint Area does not seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.
Outcome	No significant impact.	

***Impact Likelihood:**

- **Almost certain** – there is great opportunity, reason or means of the impact occurring as a result of Proposal.
- **Likely** – there is considerable opportunity, reason or means of the impact occurring as a result of Proposal.
- **Possible** – there is some opportunity, reason or means of the impact occurring as a result of Proposal.
- **Unlikely** – there is little opportunity, reason or means of the impact occurring as a result of Proposal.
- **Rare** – the impact may only occur in exceptional circumstances.
- **No impact** – impact to the species or species habitat is avoided.

6 EPBC SELF-ASSESSMENT CONCLUSION

6.1 Significant impact outcome summary

This EPBC Self-assessment finds that construction and operation of the SRF within the SRF Footprint Area:

- Will not have a significant impact on the EPBC Act Vulnerable Subtropical and Temperate Coastal Saltmarsh TEC.
- Will not have a significant impact on the EPBC Act Vulnerable Slender-Billed Thornbill (Gulf St. Vincent).
- Will not have a significant impact on the EPBC Act Vulnerable Southern Whiteface.
- Will not have a significant impact on the EPBC Act Vulnerable Sharp-tailed Sandpiper.
- Will not have a significant impact on the EPBC Act Critically Endangered Curlew Sandpiper.
- Will not have a significant impact on the EPBC Act Endangered Common Greenshank.
- Will not have a significant impact on EPBC Act Migratory species Common Sandpiper, Pectoral Sandpiper, Red-necked Stint, Long-toed Stint, Wood Sandpiper and Marsh Sandpiper.

6.2 Referral advice

If the mitigation and management measures outlined in the EHIAR are implemented and construction and operation of the SRF remain within the SRF Footprint Area, it is considered that an EPBC Act referral to the Minister for the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) is not required for the proposed SRF.

7 REFERENCES

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8 APPENDICES

8.1 Appendix 1 – List of EPBC Act flora that are possible or unlikely to occur within the Study Area

Scientific name	Common name	Conservation rating		Source	Latest record / PMST result	Likelihood of occurrence	Further details
		Aus	SA				
<i>Caladenia tensa</i>	Greencomb Spider-orchid	EN		1	Likely	Unlikely - No recent records and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Prasophyllum pallidum</i>	Pale Leek-orchid	VU	R	1	Likely	Unlikely - No recent records and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Prasophyllum validum</i>	Sturdy Leek-orchid	VU	V	1	May	Unlikely - No recent records and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Pterostylis arenicola</i>	Sandhill Greenhood Orchid	VU	V	1	Known	Unlikely - No recent records and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Senecio macrocarpus</i>	Large-fruit Fireweed	VU	V	1	May	Unlikely - No recent records and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Swainsona pyrophila</i>	Yellow Swainson-pea	VU	R	1	May	Unlikely - No recent records and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Tecticornia flabelliformis</i>	Bead Glasswort	VU	V	1, 2	Known, 1994	Possible – Previous records occur between 1980 -1990 on Garden and Torrens Island. Suitable habitat present. Not detected despite targeted searches in 2006 and surveys in 2023. Difficult to distinguish in the field.	Habitat description provided in EBS Ecology (2024).

Conservation status

Aus: Australia (*Environment Protection and Biodiversity Conservation Act 1999*). SA: South Australia (*National Parks and Wildlife Act 1972*). Conservation Codes: CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare.

Source of Information

1. EPBC Act PMST Report (February 2024) – 5 km buffer applied to Study Area.
2. BDBSA extract (November 2023) – 5 km buffer applied to Study Area.

8.2 Appendix 2 - List of EPBC Act fauna that are possible occur or unlikely to occur within in the Study Area

Scientific name	Common name	Conservation rating		Source	Latest record / PMST result	Likelihood of occurrence	Further details
		Aus	SA				
AVES							
<i>Arenaria interpres</i>	Ruddy Turnstone	VU, Mi (W)	R	1	Known	Unlikely - No recent records and preferred habitat is not present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Botaurus poiciloptilus</i>	Australasian Bittern	EN	E	1, 2	Known, 2017	Possible - Recent records (<10 years) within the Search Area but very little preferred habitat in the Study Area. This species is cryptic when not calling.	Habitat description provided in EBS Ecology (2024).
<i>Calidris canutus rogersi</i>	Red Knot	VU, Mi (W)	E	1, 2	Known, 1996	Possible – One record exists within the Search Area. Suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Calidris tenuirostris</i>	Great Knot	CE, Mi (W)	E	1, 2	Known, 1996	Possible - Three records within the last 30 years in the Search Area. Suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Charadrius leschenaultii</i>	Greater Sand Plover	VU, Mi (W)	R	1, 2	Likely, 1988	Unlikely - No recent records (<30 years) and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Charadrius mongolus</i>	Lesser Sand Plover	EN, Mi (W)	E	1	Known	Unlikely - No previous records and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Falco hypoleucos</i>	Grey Falcon	VU		1	Likely	Unlikely - No recent records and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Gallinago hardwickii</i>	Latham's Snipe	VU, Mi (W)	0	1, 2	Known, 2014	Possible - Recent records (<10 years) within the Search Area.	Habitat description provided in EBS Ecology (2024).
<i>Grantiella picta</i>	Painted Honeyeater	VU	R	1	Likely	Unlikely - No records and no suitable habitat is present in Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Hirundapus caudacutus caudacutus</i>	White-throated Needletail	VU, Mi(T)	V	1, 2	Known, 2012	Possible - Recent records (<10 years) but no suitable habitat is present in the Study Area. May occur as a flyover.	Habitat description provided in EBS Ecology (2024).
<i>Limosa lapponica baueri</i>	Nunivak Bar-tailed Godwit	VU, Mi (W)	R	1	May, 1999	Possible – One record of <i>Limosa lapponica</i> (no subspecies stated) exists from 1999 just east of the Study Area, however the only other records of <i>Limosa lapponica</i> are two records from the 1970's on Torrens Island.	Habitat description provided in EBS Ecology (2024).
<i>Limosa limosa melanuroides</i>	Black-tailed Godwit	EN, Mi (W)	R	2	Known, 2013	Possible – Three records within the last 30 years within the Search Area. Suitable habitat	Habitat description provided in

Scientific name	Common name	Conservation rating		Source	Latest record / PMST result	Likelihood of occurrence	Further details
		Aus	SA				
						is present in the Study Area.	EBS Ecology (2024).
<i>Melanodryas cucullata cucullata</i>	Hooded Robin	EN	R	1	May	Unlikely - No suitable habitat is present in Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Neophema chrysogaster</i>	Orange-bellied Parrot	CE	E	1	May	Unlikely - No recent records. Study Area is on the edge of the species distribution.	Habitat description provided in EBS Ecology (2024).
<i>Neophema chrysostoma</i>	Blue-winged Parrot	VU, Mi (M)	V	1	Known	Possible - No recent records and suitable habitat is limited in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Numenius madagascariensis</i>	Eastern Curlew	CE, Mi (W)	E	1, 2	Known, 2000	Possible – Two records from 2000 (<30 years) in the Search Area, several other records are much older. Suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Pedionomus torquatus</i>	Plains-wanderer	CE	E	1	May	Unlikely - No recent records within the Search Area and no suitable habitat is present in Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Pluvialis squatarola</i>	Grey Plover	VU (Mi W)		1	Known	Possible - No recent records. Suitable habitat may be present.	Habitat description provided in EBS Ecology (2024).
<i>Rostratula australis</i>	Australian Painted Snipe	EN	E	1, 2	Known, 2011	Possible - Recent records (<10 years) at Torrens Island and Barker Inlet Wetlands. Habitat may not be suitable in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Stagonopleura guttata</i>	Diamond Firetail	VU	V	1	Likely	Unlikely - No recent records and suitable habitat is limited in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Sternula nereis nereis</i>	Australian Fairy Tern	VU	E	1, 2	Known, 2016	Possible – One recent record exists within the Search Area (<10 years). Several other very old records exist. Suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Thinornis cucullatus cucullatus</i>	Eastern Hooded Plover	VU	V	1	Known	Unlikely - Recent records (<10 years) in the Search Area. No suitable habitat was present in the Study Area.	Habitat description provided in EBS Ecology (2024).
<i>Xenus cinereus</i>	Terek Sandpiper	VU, Mi (W)	R	1, 2	Known, 2004	Possible – Three records exist within the Search Area, (<20 years). Suitable habitat is present in Study Area.	Habitat description provided in EBS Ecology (2024).
MAMMALS							
<i>Arctocephalus tropicalis</i>	Subantarctic Fur Seal	EN	E	2	2009	Unlikely - Recent records (<20 years) from the coast within the Search Area but no suitable habitat in the Study Area and vagrant to SA.	Habitat description provided in EBS Ecology (2024).

Scientific name	Common name	Conservation rating		Source	Latest record / PMST result	Likelihood of occurrence	Further details
		Aus	SA				
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU	R	1, 2	Likely, 2023	Possible - Recent records (<10 years) but limited suitable habitat is present in the Study Area: A handful of trees are present which may be roosted in however they are not food source trees. Likely to flyover.	Habitat description provided in EBS Ecology (2024).
<i>Neophoca cinerea</i>	Australian Sea-lion	EN		1, 2	Known, 2013	Unlikely - Recent records (<10 years) from the coast within the Search Area but no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).
REPTILES							
<i>Aprasia pseudopulchella</i>	Flinders Ranges Worm-lizard	VU		1	May	Unlikely - No previous records and no suitable habitat is present in the Study Area.	Habitat description provided in EBS Ecology (2024).

Conservation status

Aus: Australia (*Environment Protection and Biodiversity Conservation Act 1999*). SA: South Australia (*National Parks and Wildlife Act 1972*). Conservation Codes: CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare. Mi: Migratory, W: Wetland, T: Terrestrial.

Source of Information

1. EPBC Act PMST Report (February 2024) – 5 km buffer applied to Study Area.
2. BDBSA extract (November 2023) – 5 km buffer applied to Study Area.

8.3 Appendix 3 - List of EPBC Act fauna that are exclusively open ocean/marine/pelagic

Scientific name	Common name	Conservation rating		Source	Latest record / PMST result	Habitat description	Likelihood of occurrence
		Aus	SA				
AVES							
<i>Ardenna carneipes</i>	Flesh-footed Shearwater	Mi (M)		1	Likely	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Ardenna grisea</i>	Sooty Shearwater	Mi (M), VU		1	May	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Diomedea antipodensis</i>	Antipodean Albatross	Mi (M), VU		1	May	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Diomedea epomophora</i>	Southern Royal Albatross	Mi (M), VU		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Diomedea exulans</i>	Wandering Albatross	Mi (M), VU		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Diomedea sanfordi</i>	Northern Royal Albatross	Mi (M), EN		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Halobaena caerulea</i>	Blue Petrel	VU		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Macronectes giganteus</i>	Southern Giant-Petrel	Mi (M), EN		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Macronectes halli</i>	Northern Giant Petrel	Mi (M), VU		1	Likely	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Pachyptila turtur subantarctica</i>	Fairy Prion (southern)	VU		1	Likely	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Phoebetria fusca</i>	Sooty Albatross	Mi (M), VU		1	May	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Pterodroma mollis</i>	Soft-plumaged Petrel	VU		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross	Mi (M), VU		1	May	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Thalassarche cauta</i>	Shy Albatross	Mi (M), EN		1	May	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Thalassarche impavida</i>	Campbell Albatross	Mi (M), VU		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Thalassarche melanophris</i>	Black-browed Albatross	Mi (M), VU		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Thalassarche steadi</i>	White-capped Albatross	Mi (M), VU		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
MAMMALIA							
<i>Balaenoptera edeni</i>	Bryde's Whale	Mi (M)		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Caperea marginata</i>	Pygmy Right Whale	Mi (M)		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Eubalaena australis</i>	Southern Right Whale	Mi (M), EN	V	1, 2	Known, 2001	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Megaptera novaeangliae</i>	Humpback Whale	Mi (M)		1	Known, 1913	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
REPTILIA							
<i>Caretta caretta</i>	Loggerhead Turtle	Mi (W), EN		1	Likely	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Chelonia mydas</i>	Green Turtle	Mi (M), VU		1, 2	May, 2003	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed

Scientific name	Common name	Conservation rating		Source	Latest record / PMST result	Habitat description	Likelihood of occurrence
		Aus	SA				
<i>Dermochelys coriacea</i>	Leatherback Turtle, Leathery Turtle, Luth	Mi (M), EN		1	Likely	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
SHARKS							
<i>Carcharodon carcharias</i>	Great White Shark	Mi (M), VU		1	Likely	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Lamna nasus</i>	Porbeagle, Mackerel Shark	Mi (M)		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
FISH							
<i>Seriola lalandi</i>	Blue Warehou	CD		1	May	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed
<i>Thunnus maccoyii</i>	Southern Bluefin Tuna	CD		1	Known	Marine open ocean (pelagic) species.	Marine (Pelagic) - Not assessed

Conservation status

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Source of Information

1. EPBC Act PMST Report (February 2024) – 5 km buffer applied to Study Area.
2. BDBSA extract (November 2023) – 5 km buffer applied to Study Area.

8.4 Appendix 4 - List of EPBC Act exclusively migratory fauna that are possibly or unlikely to occur within in the Study Area

Scientific name	Common name	Conservation rating		Source	Latest record / PMST result	Likelihood of occurrence
		Aus	SA			
AVES						
<i>Apus pacificus pacificus</i>	Fork-tailed Swift (Pacific)	Mi (M)		1, 2	Likely, 1995	Possible - Recent records (<30 years) but suitable habitat is not present in the Study Area.
<i>Calidris alba</i>	Sanderling	Mi (W)		1, 2	Known, 2021	Possible - No records in the Search Area but suitable habitat is present.
<i>Charadrius bicinctus</i>	Double-banded Plover	Mi(W)		1, 2	Known, 1997	Unlikely - Only 3 records within the Search Area (Taparoo Beach). Habitat may be unsuitable.
<i>Charadrius veredus</i>	Oriental Plover, Oriental Dotterel	Mi (W)		1	Known	Unlikely - No recent records and no suitable habitat is present in the Study Area.
<i>Gallinago megala</i>	Swinhoe's Snipe	Mi (W)		1	Likely	Unlikely - No recent records and no suitable habitat is present in the Study Area.
<i>Gallinago stenura</i>	Pin-tailed Snipe	Mi (W)		1	Likely	Unlikely - No recent records and no suitable habitat is present in the Study Area.
<i>Lagenorhynchus obscurus</i>	Dusky Dolphin	Mi (M)		1	May	Unlikely - No recent records and vagrant to SA.
<i>Limicola falcinellus</i>	Broad-billed Sandpiper	Mi (W)		1, 2	Known, 2001	Possible - 3 records within the Search Area.
<i>Motacilla cinerea</i>	Grey Wagtail	Mi (T)		1	May	Unlikely - No recent records, no suitable habitat is present in the Study Area and vagrant to Australia
<i>Motacilla flava</i>	Yellow Wagtail	Mi (T)		1	May	Unlikely - No recent records, no suitable habitat is present in the Study Area and vagrant to Australia.
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	Mi (T)	E	1	May	Unlikely - No recent records and no suitable habitat is present in Study Area.
<i>Numenius minutus</i>	Little Curlew	Mi (W)		1, 2	Known, 1995	Possible - Only 2 records within the Search Area, suitable habitat is present.
<i>Numenius phaeopus variegatus</i>	Whimbrel	Mi (W)		1, 2	Known, 1974	Unlikely - No recent records and vagrant to Australia but habitat is present in Study Area.
<i>Pandion haliaetus cristatus</i>	Eastern Osprey	Mi (W)	E	1	Known	Unlikely - No recent records
<i>Phalaropus lobatus</i>	Red-necked Phalarope	Mi (W)		1	Known	Unlikely - No recent records and vagrant to SA.
<i>Philomachus pugnax</i>	Ruff	Mi (W)	R	1,2	2020	Possible - Only 2 records within the Search Area, suitable habitat is present.
<i>Pluvialis fulva</i>	Pacific Golden Plover	Mi (W)	R	1, 2	Known, 2015	Possible - Only 3 records within the Search Area, suitable habitat is present
<i>Sterna hirundo longipennis</i>	Common Tern	Mi (M)	R	2	1998	Possible - Recent records (<30 years) and suitable habitat is present in the Study Area however vagrant to SA.
<i>Sternula albifrons sinensis</i>	Little Tern	Mi (M)	E	1, 2	May, 2007	Possible - Recent records (<20 years) and suitable

Scientific name	Common name	Conservation rating		Source	Latest record / PMST result	Likelihood of occurrence
		Aus	SA			
						habitat is present in the Study Area.
<i>Tringa brevipes</i>	Grey-tailed Tattler	Mi (W)		1	Known	Unlikely - No recent records, no suitable habitat is present in the Study Area and vagrant to Australia.
<i>Tringa totanus</i>	Common Redshank	Mi (W)		1	Known	Unlikely - No recent records but suitable habitat is present in the Study Area.

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Source of Information

1. EPBC Act PMST Report (February 2024) – 5 km buffer applied to Study Area.
2. BDBSA extract (November 2023) – 5 km buffer applied to Study Area.



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**(T2D) GILLMAN SPOIL
RECEIVAL FACILITY**

Addendum – Option 2 Impact Area

FINAL

February 2025

(T2D) GILLMAN SPOIL RECEIVAL FACILITY

Addendum – Option 2 Impact Area

FINAL

Prepared by
Umwelt (Australia) Pty Limited

Project Director: Dr. Travis How
Project Manager: Angela Carpenter
Report No. R02
Date: February 2025



112 Hayward Avenue,
Torrensville SA 5031



This report was prepared using
Umwelt's ISO 9001 certified
Quality Management System.

Acknowledgement of Country

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V1	Dr. M. Louter	18/02/2025	Dr. T. How	19/02/2025
V2	A. Carpenter	20/02/2025	Dr. T. How	20/02/2025

Abbreviations

Abbreviation	Definition/Full Name
DIT	Department for Infrastructure and Transport
EBS Ecology	Environmental and Biodiversity Services Pty Ltd – trading as EBS Ecology (now Umwelt)
EHIAR	Environment and Heritage Impact Assessment Report
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
Impact Area	The area where spoil from the NS corridor will be placed as shown in Figure 1.1.
Mott MacDonald	Mott MacDonald Australia Pty Ltd
MNES	Matters of National Environmental Significance, as defined by the EPBC Act
The Project	The construction of a SRF site at 208 Eastern Parade in Gillman
SA	South Australia/n
SRF	Spoil Receiving Facility
SRF site	The two allotments which will hold the Impact Area
Study Area	The outer boundary of the potential impact area at 208 Eastern Parade in Gillman
T2D	River Torrens to Darlington Project
TEC	Threatened Ecological Community

1.0 Introduction

1.1 Background

The Department for Infrastructure and Transport (DIT) (the Proponent) is proposing the construction of a Spoil Receival Facility (SRF) site at 208 Eastern Parade in Gillman (the Project), as part of the overarching River Torrens to Darlington (T2D) Project. The land is owned by Renewal SA. Mott Macdonald Pty Ltd (Mott Mac) is undertaking the Development Application for Lot 502. The proposed Project has potential to impact on Matters of National Environmental Significance (MNES), as protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

EBS Ecology (now Umwelt Australia Pty Ltd) was initially engaged by Mott Mac in 2023 to undertake an ecological assessment, including field survey and EPBC Act Self-assessment for the MNES that are relevant to the SRF site. The outer boundary of the potential indirect impacted area of the proposed SRF site Gillman and immediate surrounds and surveyed by the field surveys (covering 359.19 hectares) is referred to as the Study Area (Figure 1.1 below).

The EPBC Act Self-assessment (Version 2, dated 26 March 2024) was based on direct impact of an impact area of 86.43 ha, referred to as Option 1. Option 1 avoided all direct impact to the mapped threatened ecological community (TEC) *Subtropical and Temperate Coastal Saltmarsh* (EPBC listed as Vulnerable) which is present within the SRF site.

Since the 2024 EPBC self-assessment, more environmental information and information on mitigation measures has become available, as detailed in the 3 June 2024 Final Revision of the Environment and Heritage Impact Assessment Report (EHAR) (Mott Mac 2024). In addition, Umwelt completed four targeted bird surveys in January and February 2025.

1.2 Scope of Works

In January 2025, Mott Mac and DIT requested an Addendum to the EPBC Act Self-assessment to be completed for a larger area of 108.15 ha, referred to as Option 2 (Figure 1.1 below). Option 2 directly impacts 1.11 hectares of the *Subtropical and Temperate Coastal Saltmarsh* TEC (Figure 1.2 below).

This addendum report contains an assessment of Option 2 impacts.

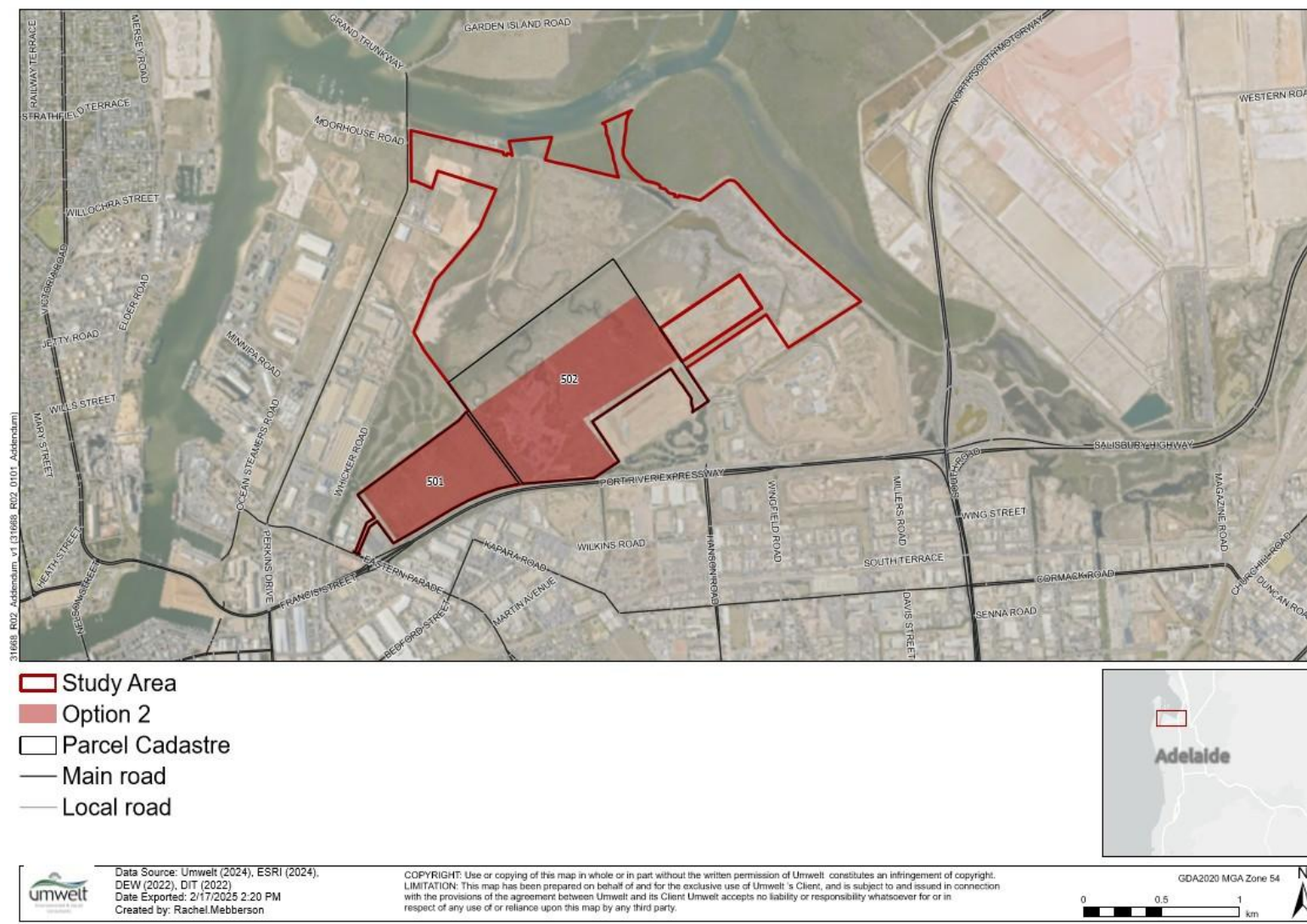


Figure 1.1 **Location of the Study Area and Option 2 Impact Area**

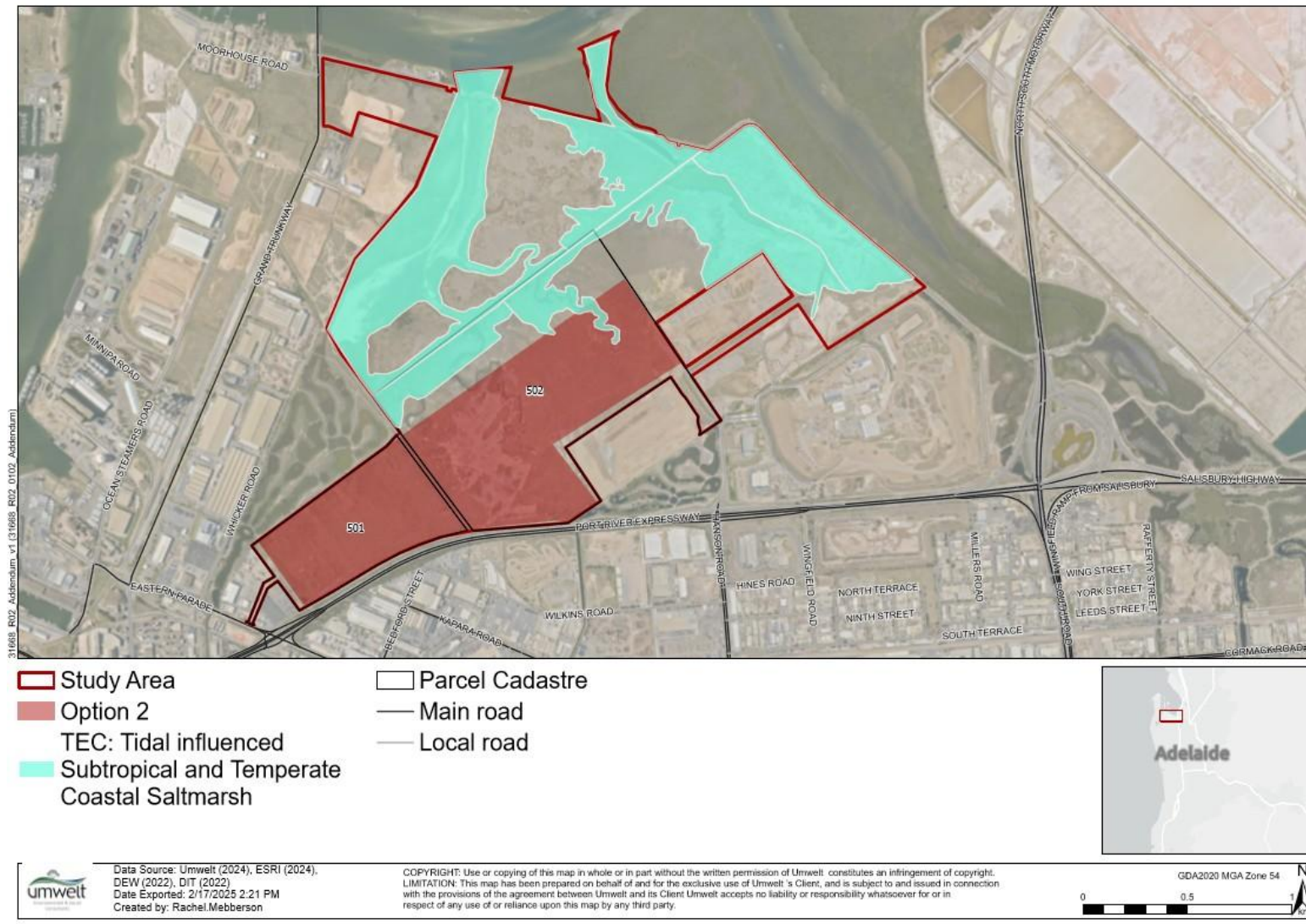


Figure 1.2 Option 2 showing impact to *Subtropical and Temperate Coastal Saltmarsh* TEC

2.0 Summary of Results

- Option 2 impacts 1.11 ha (0.76 %) of the 146.03 ha of mapped *Subtropical and Temperate Coastal Saltmarsh* TEC in the Study Area.
- The January/February 2025 targeted bird surveys have added to the understanding of site conditions under a dry summer, showing that stormwater contributes most to the habitat quality of the site and is not reliable in the summer migratory bird feeding season.
- No MNES were recorded within the Option 2 impact area during the four January-February 2025 bird surveys. One EPBC migratory bird species was recorded within the Study Area on one of the four January-February 2025 bird surveys: (*Calidris ruficollis* – Red-necked Stint, 15 individuals observed 9 January 2025), however the Option 2 impact area is unlikely to cause a Significant Impact (directly or indirectly) to Red-necked Stint as they are not regularly present and not in large enough numbers for a significant impact to occur.
- Lot 501 and 502 were predominantly dry due to a lack of stormwater inflows. No obvious tidal water influence was observed in the Study Area during any of the four targeted bird surveys. EPBC approval is not required for impact to a Vulnerable ecological community under the Significant Impact Guidelines and the Project therefore does not trigger a referral under the EPBC Act. The 1.11 ha TEC mapped as impacted by Option 2 is of a degraded quality and may not meet all of the TEC diagnostic criteria such as tidal influence. Field surveys noted hypersaline stagnant pools of water dotted along the mapped TEC. See Photo 2.1 for a photograph of the area taken 19 February 2025.



Photo 2.1 **Photo of TEC impact area at coordinate UTM 54H 275162 6143344, facing east.**

The revised Option 2 impact area of 1.11 is unlikely to directly or indirectly cause a Significant Impact to any MNES or potential MNES habitat. Option 2 does not regularly support a population of a Critically Endangered or Endangered threatened species and does not regularly support an important population of a Vulnerable threatened species. It does not impact important habitat for migratory shorebirds.

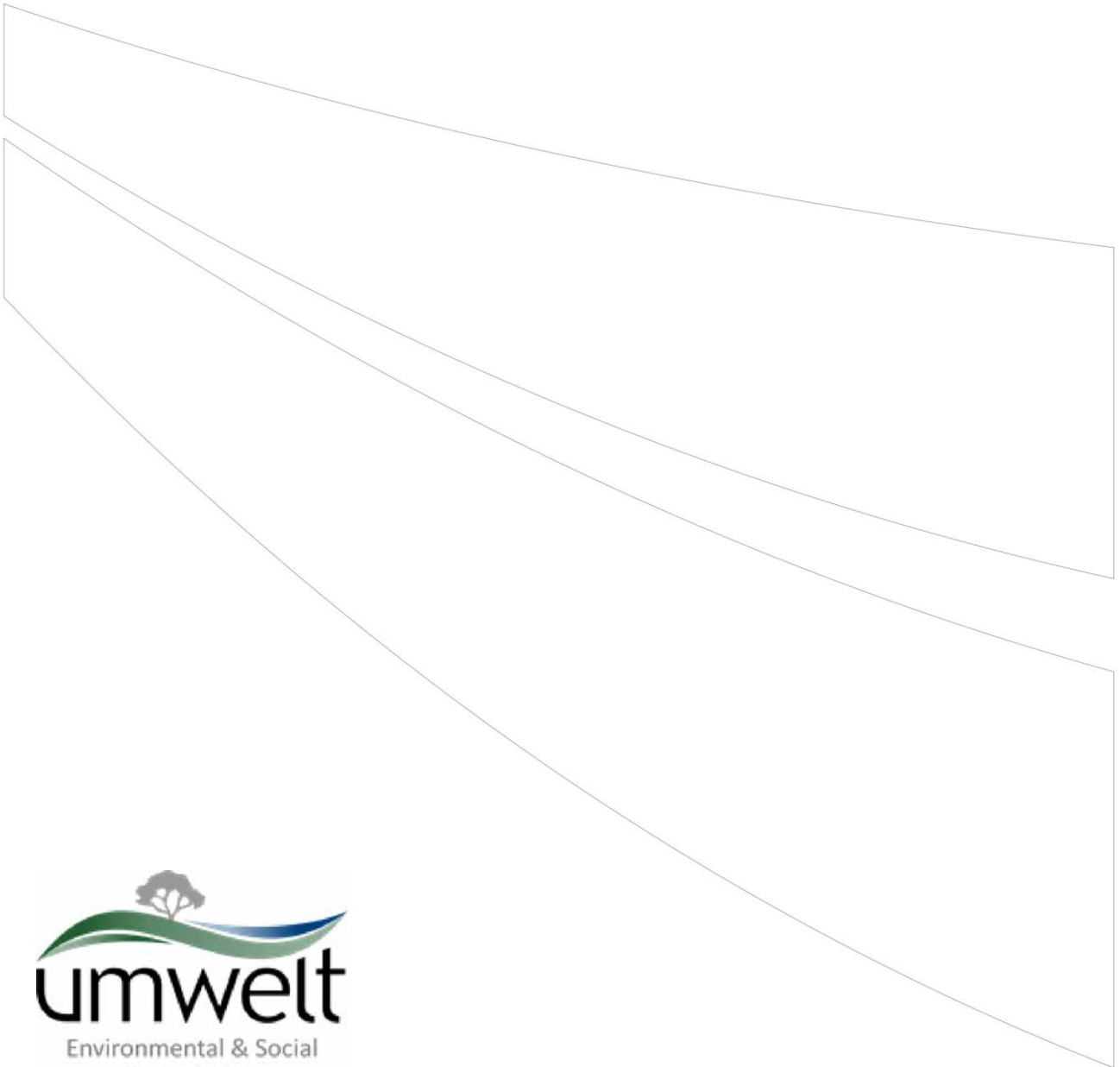
In conclusion, the Option 2 impact area will not trigger an EPBC referral.

3.0 References

Department of the Environment (DotE) (2013). Matters of National Environmental Significance - Significant Impact Guidelines 1.1. Canberra: Department of Climate Change, Energy, the Environment and Water.

EBS Ecology (2024). EPBC Act Self-assessment North-South Corridor River Torrens to North-South Corridor River Torrens to Darlington Project (T2D) Gillman Spoil Re-use Facility (26 March 2024). Report to Mott MacDonald Australia Pty Ltd. EBS Ecology, Adelaide.

Mott MacDonald (2024). Gillman Spoil Re-use Facility, Environment and Heritage Impact Assessment Report. (Rev 4 (D) 3 June 2024).



Appendix F – Hydrology Modelling Technical Note

TO US TECHNICAL NOTE [NSC-MMD-TN-0000-TEAS-037002] – FOR
INFORMATION

SITE	North South Corridor (Torrens to Darlington)		
DOCUMENT NUMBER	NSC-MMD-TN-0000-TEAS-037002		
SUBJECT	Gillman Site – Potential Spoil Placement Flood Modelling		
REVISION #	F		
AUTHOR	David Chick	DATE	07/02/2025
REVIEWER	Jeffrey Mail	DATE	07/02/2025
APPROVER	Michael Ampstead	DATE	07/02/2025

REVISION CONTROL

Table 1 Revision Control

REVISION	DATE	REVISION DETAILS
A	27/08/2024	Issue for Information
B	04/10/2024	Revised to review comments
C	24/10/2024	Adjusted based on comments
D	12/11/2024	Final Report
E	21/11/2024	Updated Lot 502 part fill extents
F	07/02/2025	Updated with ARR19 hydrology

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EXECUTIVE SUMMARY

The River Torrens to Darlington (T2D) Project completes the wider 78km Adelaide North-South Corridor (NSC) project. The South Australian Planning Strategy, including the 30-Year Plan for Greater Adelaide, the Strategic Infrastructure Plan for SA and the Integrated Transport and Land Use Plan, identified the NSC project as one of South Australia's most important transport corridors.

The project requires the establishment of a Spoil Reveal Facility (SRF) to receive, treat and re-use the spoil that will be excavated during construction of new tunnels. The spoil will comprise of a mixture of tunnel boring machine (TBM) generated spoil and bulk earthwork material excavated from the lowered motorway and tunnel portals.

For beneficial re-use of the spoil from the project Renewal SA's Gillman site has been nominated. The Gillman site selected for potential spoil placement comprises approximately 1.55km² of land to the north of the Port River Expressway, with the site being adjacent to and east of the Magazine Creek Ponding Basin, and within the Range Wetland Ponding Basin. Filling this site enables the land to be used for industry and employment in accordance with the 2014 Master Plan for the site and the 2015 Employment Lands (Gillman/Dry Creek and Wingfield) Development Plan Amendment.

This technical note identifies previous documentation regarding this filling opportunity, details a technical assessment that was completed to assess the flood impacts of potential filling activities, tests gate upgrade scenarios for the existing tidal outlet to the northern ponding area and presents findings on the outcomes of the assessment.

Key findings of the assessment

The land at Gillman is subject to flooding under existing conditions. The northern ponding area outlet at the existing tidal gate passes fluvial / rainfall flood event peak flows during times of lower receiving water levels in North Arm Creek. The flood volume is passed by the existing 3 x 2.44m tidal gates, with a 1% AEP storm event passing the structure over a period of approximately 48 hours when there are relatively high tidal tailwater conditions.

With the constraint of the tidal gates and receiving North Arm Creek water levels, future development causes flood impacts upstream of the gates, most evident at the locations of displaced flood storage capacity, notably adjacent the Range Wetland under the proposed fill scenarios. The assessment has considered Mean High Water Springs (MHWS) with and without climate change affects, and tidal surge conditions (provided by others) for North Arm Creek.

Filling of the Lot 501 site has minimal impacts to fringe areas at the interface between Magazine Creek and Range wetlands with the upstream urban areas, up to 0mm change in flood level at the upstream extent. Filling of the Lot 502 site to the extended fill scenario has minimal impacts to fringe areas at the interface between Magazine Creek and Range wetlands with the upstream urban areas. Increases of up to 10mm at the upstream extent of the Range wetland, and an overall maximum flood level increase of 60mm in the southern ponding area.

Potential gate size increases have been modelled to offset level impacts of fill scenarios, and it was found that 4 x 2.44m gates provide for the discharge of additional flood volumes with a target of maintaining water levels in the MHWS scenario. In the climate change scenario for MHWS there was residual flood impact observed with 4 x 2.44m gates so increasing the structure to include 5 gates can largely offset the spoil placement flood level impact under a future climate change scenario.

Residual issues of storage connectivity and localised afflux remain in the fill design scenarios across discrete locations within the wetland and storage areas. Further channel and review of flow control culverts at embankments is required to optimise the design solution. Refer Section 4.3.2

GLOSSARY

TERM/ACRONYM	DEFINITION
2d_bc	TUFLOW model input layer comprising boundary control features as defined by the TUFLOW manual
2d_zsh	TUFLOW model input layer comprising topography control features as defined by the TUFLOW manual
AEP	Annual Exceedance Probability
AGRD	Austroads Guide to Road Design
AHD	Australian Height Datum
ARI	Average Recurrence Interval
ARR1987	Australian Rainfall and Runoff guidelines 1987 edition
ARR2019	Australian Rainfall and Runoff guidelines 2019 edition
CC	Climate Change
CN	TUFLOW connector lines as defined by the TUFLOW manual
CPB	Coastal Protection Board
DEW	Department for Environment and Water
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
MHWS	Mean High Water Springs
NSC	Adelaide North-South Connector Project
RCP	Representative Concentration Pathway
SLR	Sea Level Rise
SRF	Spoil Receiving Facility
SX	TUFLOW boundary condition as defined by the TUFLOW manual
T2D	River Torrens to Darlington Project
TBM	Tunnel Boring Machine
TRDA	Torrens Road Drainage Authority
TUFLOW	Flood Modelling Software

1. Introduction

1.1. The T2D Project

The River Torrens to Darlington (T2D) Project is the final 10.5km section of the wider 78km Adelaide North-South Corridor (NSC) project. The South Australian Planning Strategy, including the 30-Year Plan for Greater Adelaide, the Strategic Infrastructure Plan for South Australia (SA) and the Integrated Transport and Land Use Plan, identified the NSC project as one of South Australia's most important transport corridors.

The project design consists of two tunnels joined by an open motorway. The Southern Tunnel will connect Darlington to Anzac Highway, while the Northern Tunnel will connect to Torrensville (River Torrens). The Southern Tunnel and Northern Tunnel will be joined by the open motorway.

1.2. Gillman Spoil Reveal Facility (SRF)

The project requires the establishment of a Spoil Reveal Facility (SRF) to receive, treat and re-use the spoil that will be excavated during construction of the T2D Project. The spoil will comprise of a mixture of tunnel boring machine (TBM) generated spoil and bulk earthwork material excavated from the lowered motorway and tunnel portals. Approximately 40% of the spoil will be generated by the TBM, with the remaining 60% generated by surface excavation.

To maximise the beneficial re-use of the spoil from the project, Renewal SA's Gillman site has been nominated as the preferred location for the SRF. At this site the value of the project's spoil can be maximised by contributing to enabling the land to be used for industry and employment in accordance with the 2014 Master Plan for the site and the 2015 Employment Lands (Gillman/Dry Creek and Wingfield) Development Plan Amendment.

The Gillman site selected for potential spoil placement comprises approximately 1.55km² of land to the north of the Port River Expressway. Refer to Figure 1 for a contextual map of the site in relation to its surroundings. Existing wetland and flood storage areas are indicated in Figure 2, with the site being adjacent to and east of the Magazine Creek Ponding Basin, and within the Range Wetland Ponding Basin. The Magazine Creek Wetland drains to Magazine Creek within the Magazine Creek Ponding basin, referred to herein as the northern ponding area. The Range Wetland drains to the Range Wetland Ponding Basin, referred to herein as the southern ponding area.

Figure 1: Location of the SRF site and Gillman.



Source: Indicative masterplan overlay by North South Corridor – Torrens to Darlingon project
Note: SRF boundary overlay shown for reference

1.3. Purpose of this technical note

This technical note has been developed to summarise the following considerations for potential spoil placement:

- Issues that previous documentation has identified regarding the potential to place spoil at Gillman:
 - o possible fill scenarios and a coordinated masterplan
 - o determination of the impacts of spoil placement at the northern and southern ponding areas
 - o available information on potential future tidal conditions
- Outcomes from new assessment of flood impacts arising from spoil placed within the Gillman area, comprising:
 - o preparation of a flood model to represent the current hydrological conditions in the ponding areas, including representation of current and imminently filled parcels of land in the vicinity of the site
 - o derivation of spoil fill scenarios for initial and ultimate filling arrangements
 - o impact of the spoil placement on flooding conditions
- Existing tidal gate structures at the northern ponding area outlet, and new assessment of potential flood impacts arising from spoil placement comprising:
 - o scenario testing for spoil placement under future climate change conditions
 - o review of tidal gate performance across the scenario testing to find potential trigger point/s for gates to require upgrades.

Reference is made to the Gillman Spoil Flooding Review NSC-MMD-TN-0000-TEAS-037002 for further details of review of previous documentation.

Figure 2: Location of the existing wetland and flood storage areas.



Source: Extract of Figure 1.1 from Gillman Masterplan Modelling of Flood / Tidal Interaction (Tonkin, 2014)

1.4. Previous investigations and documents

Due to the coastal location and existing topography, the re-use of the T2D spoil at Gillman may affect stormwater and tidal interactions. The area provides significant flood storage for rainfall / fluvial type flood events where runoff from the urban upstream catchment fills the (usually) dry ponding areas. The flood protection of the area surrounding the Gillman site is governed by:

- the operational tidal gates at the Port Adelaide seawall; and
- surface water inflows, site drainage channel's ability to convey and discharge surface water, local topography's ability to attenuate surface flows and tidal/storm influences at the site.

Previously issued documents relating to the stormwater and tidal studies at the Gillman site are listed in Table 2 below. For further details on existing stormwater and tidal interaction studies, refer to the Gillman Spoil Flooding Review NSC-MMD-TN-0000-TEAS-037002.

Table 2: Previous T2D-related reports and memos

REF	DOCUMENT TITLE	DOCUMENT NUMBER	REV	DATE
1. Flooding Study	Port Adelaide Seawater Stormwater Flooding Study Volume 1 Final Report Tonkin Consulting, WBM Oceanics Australia	[Externally prepared document; Vol 1, 20020477RA3D]	D	October 2005
2. Structure Plan	Gillman Structure Plan Final Report Jensen Planning & Design	[External prepared document; P5907-Final Report Gillman Structure Plan.30 April 09]		April 2009
2a. Range Outfall Design Report	Gillman Development Precinct Range Wetland Outfall Channel Hydraulic Modelling Tonkin Consulting	[External prepared document; 20121174FR1B]	B	February 2013
3. Seawall Study	Port Adelaide/LeFevre Peninsula (Phase 2) Port Adelaide River Seawall Study Volumes 1 and 2 Tonkin Consulting	[External prepared document; Vol 1, 20060417RA5 Vol 2, 20060417RA6B]	C	October 2013
4. Masterplan Flood Study	Gillman Masterplan Modelling of Flood / Tidal Interaction Tonkin Consulting	[Externally prepared document; Ref No. 20130427]	B	February 2014
5. Masterplan	Gillman Masterplan Final Report Jensen Planning & Design	[External prepared document; 2613-V5-GillmanMasterplanReport-Final-5.06.14]	5	June 2014
6. Climate Change Study	Western Adelaide Region Climate Change Adaption Plan Coastal and Inundation Modelling - Phase 3 Report Tonkin Consulting	[External prepared document; 20140329R3C]	C	February 2018

1.4.1. Masterplan review findings

The Masterplan provides stormwater modelling results for the full future developed scenario at Gillman. The Gillman SRF extent is only part of the full future developed scenario assessed in the Masterplan. The colour scheme, as shown in Figure 3 indicates peak flood depths and extents in the 1% Annual Exceedance Probability (AEP), and areas within the ponding areas that are shown without the flood depth overlay colour scheme are raised to be flood free as part of the Masterplan approach.

Areas east and west of the Grand Trunkway are dry because of anticipated filling for development. Finished levels assumed as part of the Masterplan for these areas Range from 1.6m AHD to approximately 3.4m AHD, a more detailed approach than earlier investigations in 2009 adopting a flat level of 2.9m AHD for the whole area.

Figure 3: Masterplan Flood Depth Assessment of a Potential Ultimate Development Arrangement

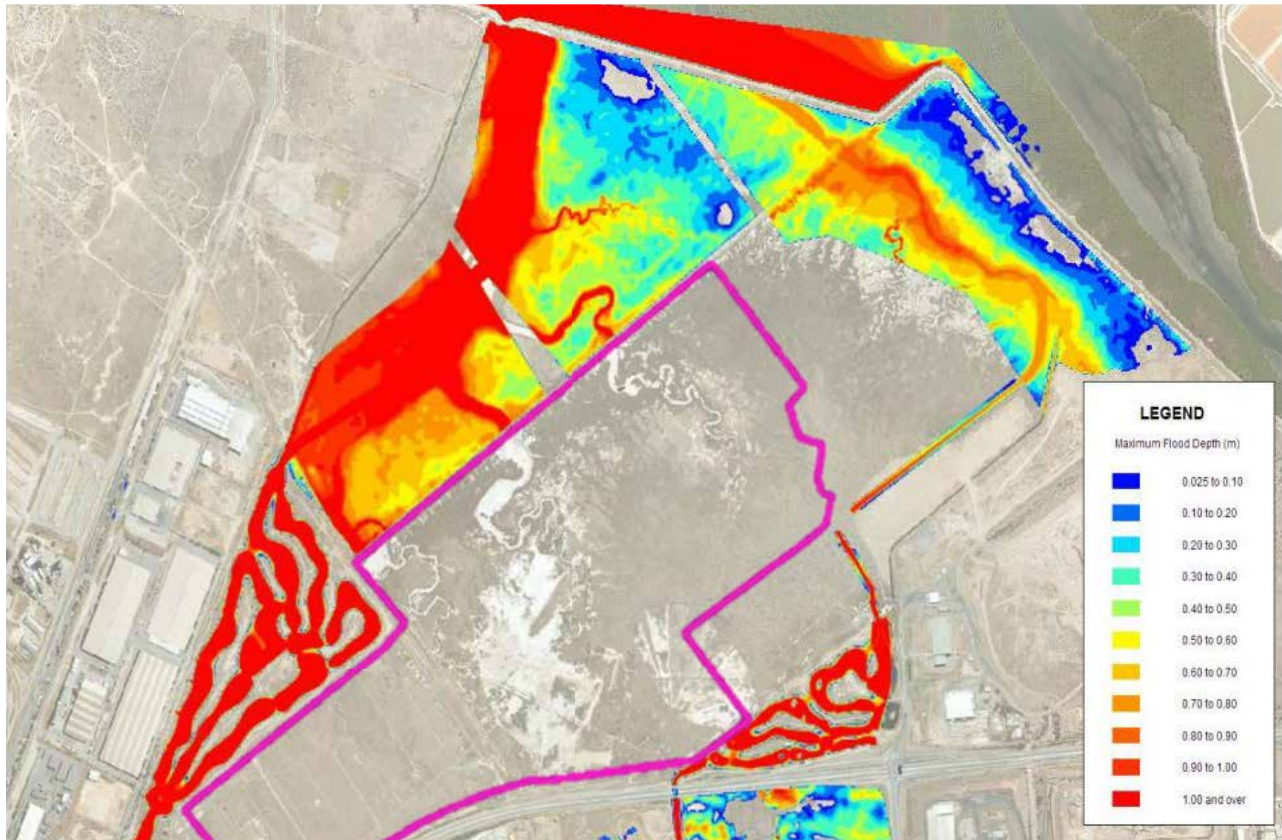


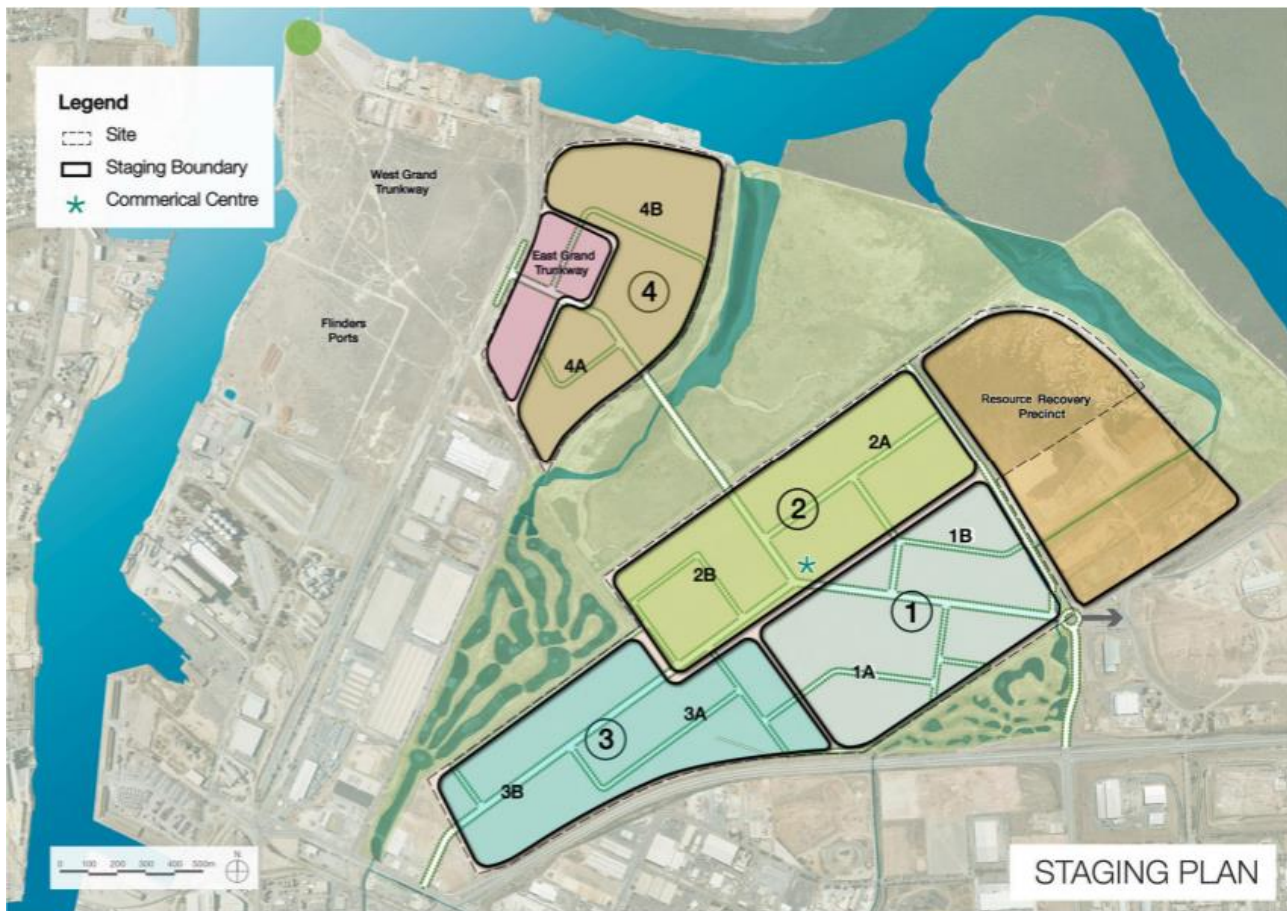
Figure 14 - Stormwater Modelling Results (Future Developed Scenario)

Source: Extract of Figure 14 from Gillman Masterplan Final Report (Jensen Planning + Design, 2014)

Note: SRF boundary overlay shown for reference

Flood levels through Base, Base + Sea Level Rise (SLR), Developed and Developed + SLR scenarios are presented in the Masterplan, indicating the sensitivity of the flood levels in the area to filling activity within the wetland area. A staged approach is presented for filling of the development footprint in four stages as indicated in Figure 4.

Figure 4: Masterplan Staging Plan for Development



Source: Extract of Figure 17 from Gillman Masterplan Final Report (Jensen Planning + Design, 2014)

Key Masterplan relevant findings:

- The assumed future development footprint in the Masterplan layouts is reproduced in Figure 4. This Masterplan footprint is larger than the proposed SRF extents (indicative black outlined polygon overlays shown in the masterplan layout)
- The Masterplan also focusses on the seawall protection levels, recommended to be achieved through seawall upgrades to facilitate the full development footprint and future climate conditions and sea level rise.
- The Masterplan provides limited detail for interim / staged development triggers for infrastructure works from smaller development footprints. The infrastructure staging plan indicates at Stage 1 development adjacent to the Range Wetland requires only the Range Wetland Basin Gate to be constructed (with local levee and channel works) to mitigate the filling effects on flood storage and conveyance.
- The limited staging information doesn't provide sufficient information to infer that the potential fill site could receive spoil placement without associated Magazine Gate upgrades (The Stage 1 information provided relates to land adjacent to the Range Wetland, outside of the potential fill site). Assessing the specific flood impacts in terms of conveyance and lost storage to determine the mitigating infrastructure work required for the potential fill site would require additional modelling.
- The fill conditions considered for development assumed approximately 4,250,000m³ to achieve the Coastal Protection Board (CPB) designated level across the wider development footprint in .

Note: It should be noted that the actual filling already commenced / proposed is different to that nominated in the masterplan, refer to section 2.1.3 on fill arrangements.

1.4.2. Gillman Structure Plan review findings

The Gillman Structure Plan considers select areas of the ponding basins and is discussed in Section 5.1 of the Structure Plan, including a potential filling scenario that identified the relatively shallow ponding areas for future development potential, reproduced as Figure 5 below. This filling is permitted once the infrastructure upgrades identified by the structure plan are complete, refer discussion in Section 0 on the design fill scenarios, including mitigation measures to avoid residual flood impacts to areas adjacent.

Figure 5: Structure Plan Potential Future (Scenario 3) Development.



Table 3: Structure Plan recommendations adopted in Port Adelaide River Seawall Study

	DESIGN LEVEL ELEMENTS (AHD)
100-year ARI Storm Tide	2.5 m
Sea level rise (to 2050)	0.3m
Land Subsidence	0.5m
Wave setup	0.2m
Wave Runup	0.2m
Amplification	-
Total (to 2050)	3.7m
Additional sea level rise (to 2100)	0.7m
Total (to 2100)	4.4m

Source: Extract of Table 2.1 from Port Adelaide River Seawall Study Volume 2 – Engineering Assessment (Tonkin, 2013)

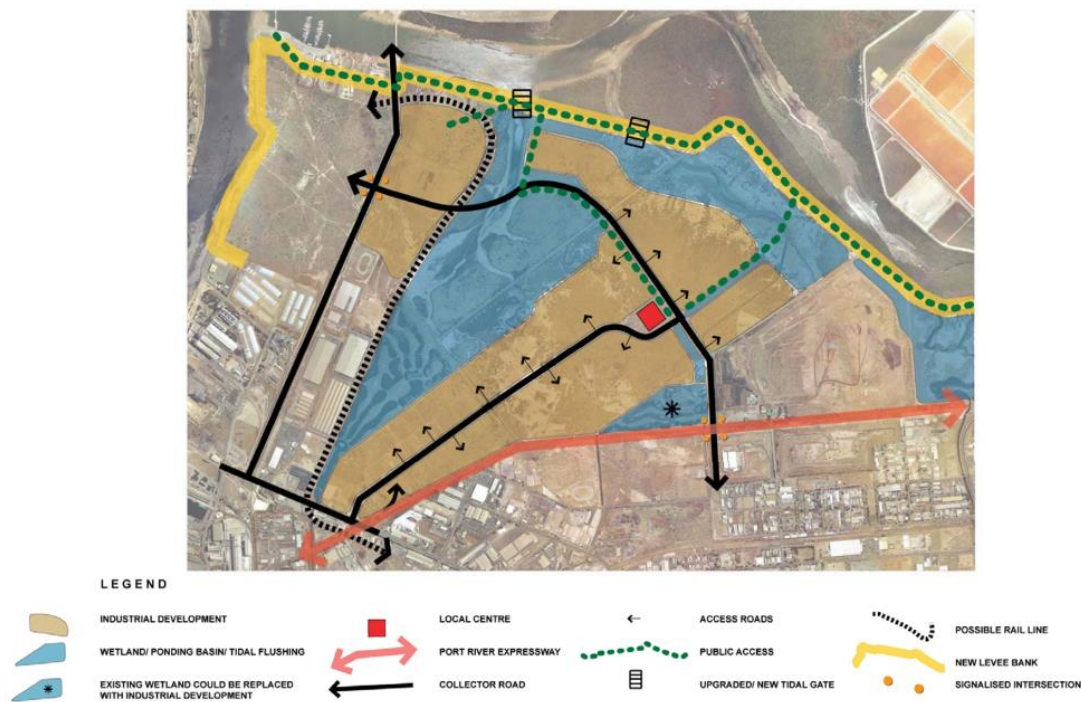
1.4.3. Filling with Structure Plan identified infrastructure upgrades

Filling of the land within the wetland storage area is anticipated through development lots as indicated in the Masterplan (Refer to Figure 4) and Structure Plan (Refer to Figure 6).

It can be assumed filling within the development parcels identified in the Masterplan will not result in significant flood impacts subject to the provision of the following upgrades (first identified in the Structure Plan and then incorporated into the masterplan):

- new gates are constructed at the Magazine Creek wetland, an increase from 3 flap gates of 2.4m x 1.5m to 5 total gates of 2.4m x 1.5m, and Range Creek wetland comprising 2 x 1.8m x 0.9m flap gates at discharge locations indicated in Figure 6
- completion of the tidal protection levee bank, indicated spatially in Figure 6. Note the flood protection levee works are not required to achieve flood level protection to the future development parcels associated with the spoil placement
- channel improvements through the southern ponding area shown wet in Figure 5
- filling that separates the flood storage areas of the range wetland from the Magazine Creek wetland areas.

Figure 6: Structure Plan layout indicating the location of infrastructure upgrades.



Source: Extract of Figure 9 from Gillman Structure Plan Final Report (Jensen Planning + Design, 2009)

2. Methodology of spoil placement assessment

This section discusses the methodology that has been adopted for the analysis summarised in this technical note and assumptions that have been made in preparing recommendations to respond to spoil placement at the Gillman SRF, specifically relating to flood management considerations.

Mott MacDonald have been commissioned to complete a full model build of the Gillman site, drawing data from the existing wider Tonkin modelling for the contributing catchment and provides representation of:

- the topographical conditions within the potential spoil placement area and surrounds, using an updated DEM derived from LiDAR;
- storm inflows from the upstream catchment area through Gillman;
- outlet gate structures for the storage area, modelled using dimensions provided in previous studies; and
- tidal boundary based on recent Department for Environment and Water (DEW) tidal event inundation modelling work undertaken by BlueCoast.

The data used to create the model are summarised below.

Table 4: Itemised datasets used in model input.

ID	DATA	DESCRIPTION
a)	LiDAR	LiDAR data was downloaded from Geoscience Australia at Elvis (fsdf.org.au). A 1m DEM was used as provided good coverage of the site with detailed enough resolution. Modified fill platforms completed as part of the Gillman structure plan implementation were supplemented to the base topographical information where advised by DIT.
b)	Torrens Road Drainage Authority (TRDA) stormwater network	Tonkin supplied an extract of the stormwater network to Mott MacDonald, but it originates from Torrens Road Drainage Authority.
c)	Inflows from wider Tonkin flood modelling - 1% AEP 36h event	Rev C - Inflow hydrographs provided by Tonkin for a 36hr 1% AEP storm as this was deemed critical duration from outputs of an existing wider flood model. 1% AEP storm hydrographs were derived using ARR87 techniques and involve a single design storm peak flow hydrograph. Rev D – Revised inflow hydrographs provided by Tonkin for a 36hr 1% AEP storm from outputs of an existing wider flood model. Revised 1% AEP storm hydrographs were derived using ARR19 techniques and consist of 10 temporal pattern flow hydrographs from the upstream stormwater catchment.
d)	Tidal boundary data	Two tidal boundary scenarios were tested, comprising separate events for the 1% AEP and 10% AEP, which provide approximately 17.5 hours of tidal event data.

2.1.1. Model Development

The following key scenarios were considered for modelling, listed here with reference to Figures that identify the relevant fill configuration:

- Existing case
 - EXG – Existing conditions, with fill having already been deposited adjacent Grand Trunkway and on the Jerkovic site at Hanson Road (indicated on Figure 10)
- Near term fill scenarios

- o DESa - Design condition, with fill placed on Lot 501 and the rectangular portion Lot 502 (Figure 12)
- o DESb – Design conditions, with fill placed on Lot 501 and the irregular shaped Lot 502 (Figure 14)

Ultimate fill scenarios

- o OP1 – Tidal gate analysis – Ultimate 502 fill with three tidal gates (existing) (Figure 26)
- o OP2 – Tidal gate analysis – Ultimate 502 fill with six tidal gates (double capacity) (Figure 27)
- o OP3 – Tidal gate analysis – Ultimate 502 fill with four tidal gates (one additional) (Figure 30)
- o OP4 – Tidal gate analysis – Ultimate 502 fill with five tidal gates (two additional) (Figure 31)

The tailwater conditions included in modelling include mean high-water springs (MHWS) and tidal surge event time series for 1% and 10% AEP.

Downstream boundary conditions for the model were taken from tidal data and applied using 2d_bc layers. In some locations, LiDAR provided insufficient representation of drainage channels. This channel definition was amended by creating 2d_zsh layers to enforce the channel bed levels and channel widths from inspection of aerial imagery. Drainage channels were also set slightly wider than measured to ensure flows were conveyed through the grid-based representation of the modelled terrain.

Issues were encountered in the larger concrete lined channels conveying flows through the stormwater network. To stabilise the model representation of large channel flows, SX regions and CN lines were applied for 1D 2D transitions and, where appropriate, 2d_zsh regions were used to alter LiDAR and create idealised channel representation.

2.1.2.Climate Change

Modelling results do not include the effects of climate change or sea level rise (SLR) uplift unless noted, and where applied, is included in the model with naming convention acronym CC. Two climate change scenarios were considered. The first is the SLR scenario for the MHWS boundary condition from Austroads (AGRD Part 5, Section 3.2.5 Changes in Sea Level) guidance, applying 0.8m for the RCP8.5 year 2100 horizon (MHWSCC). The second is the SLR scenario for the tidal surge boundary conditions from BlueCoast's numerical modelling (BlueCoast's Sea flood mapping study: Port Adelaide region (December 2023) prepared for the DEW) for the 1% AEP (TW1AEPCC) and 10% AEP (TW10AEPCC).

2.1.3.Assumptions

The assumptions made in the development of the flood model are summarised in Table 5 below.

Table 5: Modelling assumptions

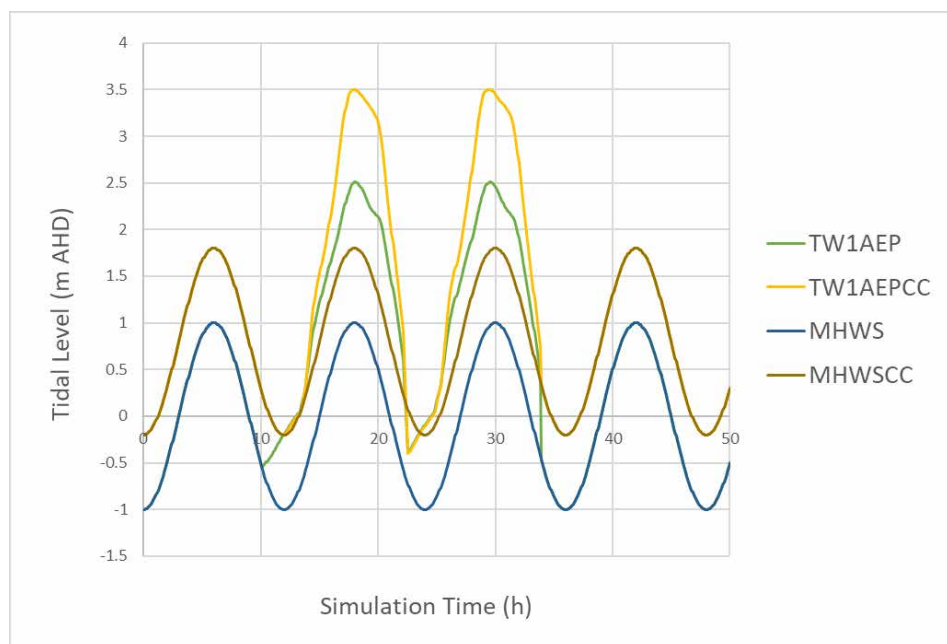
ASSUMPTIONS MADE REGARDING:	ASSUMPTIONS
Hydrology supplied by Tonkin	<ul style="list-style-type: none"> Only pipe network flow data was supplied by Tonkin for existing modelling of the area (model not supplied) For Rev D, Tonkin provided updated stormwater, consisting of 10 temporal patterns for the 36-hour 1% AEP storm, derived using ARR19 techniques. From the 10 patterns, it was necessary to determine the median temporal pattern by running the ensemble of storms using the Gillman flood model. In order to identify this median pattern for the upstream stormwater catchment, the influence the tide was removed (by applying a fixed level boundary to the model) and the 10 patterns were run and mapped. Storm 9 was identified as the median pattern influencing the majority of the area of interest.
Inflows applied	<ul style="list-style-type: none"> Boundary conditions for culverts and LiDAR supplementing terrain modifications were prepared, giving high priority to invert level data embedded within the Tonkin pipe network data Culverts identified through aerial imagery that are missing from Tonkin's dataset were assumed based on terrain and channel dimensions from LiDAR inspection
Tidal boundary	<p>Various tidal boundaries have been considered in the analysis, noted for each of the model simulations where each is presented in this report:</p> <ul style="list-style-type: none"> 10% and 1% AEP tidal surge water level curves provided by BlueCoast (current day and with 2100 SLR allowed for) MHWS tidal range comprising a diurnal cycle between -1.0m to 1.0m AHD (for current day, noting 0.8m of SLR for future scenario) <p>The 1% AEP future climate change curve has a higher tidal peak level (-0.65m to 2.51m AHD) than the MHWS after applying the SLR uplift of 0.8m (-0.2m to 1.8m AHD). The MHWS (with climate change uplift) tidal curve has a smaller range, or higher minimum level of -0.2m AHD which has a greater influence on the gate flow through the tidal protection levee</p>
Connectivity	<ul style="list-style-type: none"> Dummy culverts included in the Rev C modelling were removed for the Rev D modelling, following consultation with Tonkin Discharge pipes were added to the TRDA stormwater network, so outfalls occur in sensible locations as suggested by LiDAR elevation data and not constrained within the street reserve
Terrain representation	<ul style="list-style-type: none"> 1m LiDAR data provides a consistent coverage across the required model domain noting earthworks for filling activities since LiDAR capture have been reinforced through raised polygons to represent the filled platforms. <ul style="list-style-type: none"> Lot 501 and Lot 507 fill platforms Fill platform north of Range Wetland (accessed from Hanson Rd) Fill platform west of the Magazine Creek wetland channel outlet Range wetland channel outlet has been provided a consistent invert grade where LiDAR didn't capture the bottom channel level consistently. Bank representation remains as represented by LiDAR after review of site photographs, noting the wetland transition to downstream channel involves graded earth banks to control discharge from the wetland.

2.1.3.1. Tidal boundary and simulation time

The tidal boundary provided for surge events by BlueCoast (1% and 10% AEP and climate change) comprised a time series of 16 hours, this was extended to provide 50 hours of water level information to span the storm inflow event. This was achieved by duplicating the 16 hour timeseries, aligning high tidal surge levels to coincide with subsequent high tides of the diurnal cycle. Beyond the 32 hours of tidal surge data the % AEP tidal levels revert to MHWS levels, refer Figure 7.

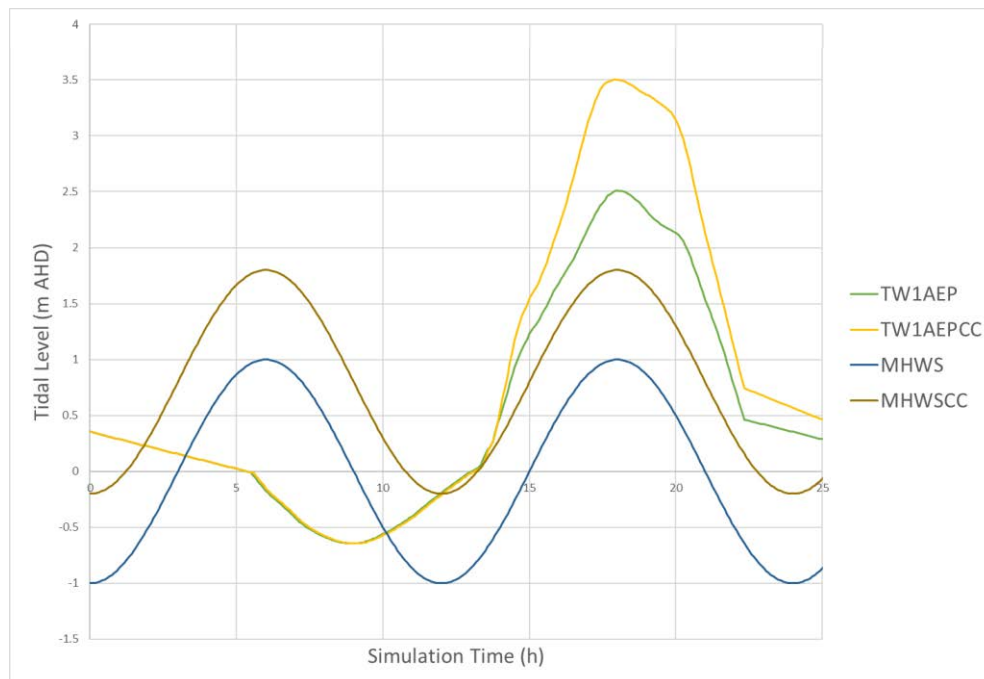
Peak tidal timing was aligned such that the tidal peak was coincident with storm inflow peak (from approximately the 18 hour mark). The full 50 hour simulation time was simulated for the tidal gate capacity testing runs to assess the drawdown capability of different gate configuration for the ultimate fill scenarios.

Figure 7: 50 hour, 1% AEP and MHWS tidal boundary curves



The first tidal peak (with coincident storm flow and tidal peaks) following the 18 hour mark was assumed for optioneering, as it gives the representation of worst case water level conditions. Dual peaks of the diurnal tidal pattern were very similar in maximum water levels from initial runs, so the model run time was halved to 25 hours for iterative design and impact testing. Modelling of the near term scenarios adopted 25 hours of the tidal boundary to reduce simulation time while retaining the worst case conditions from the alignment of tidal and storm peak influences.

Figure 8: 25 hour, 1% AEP and MHWS tidal boundary curves



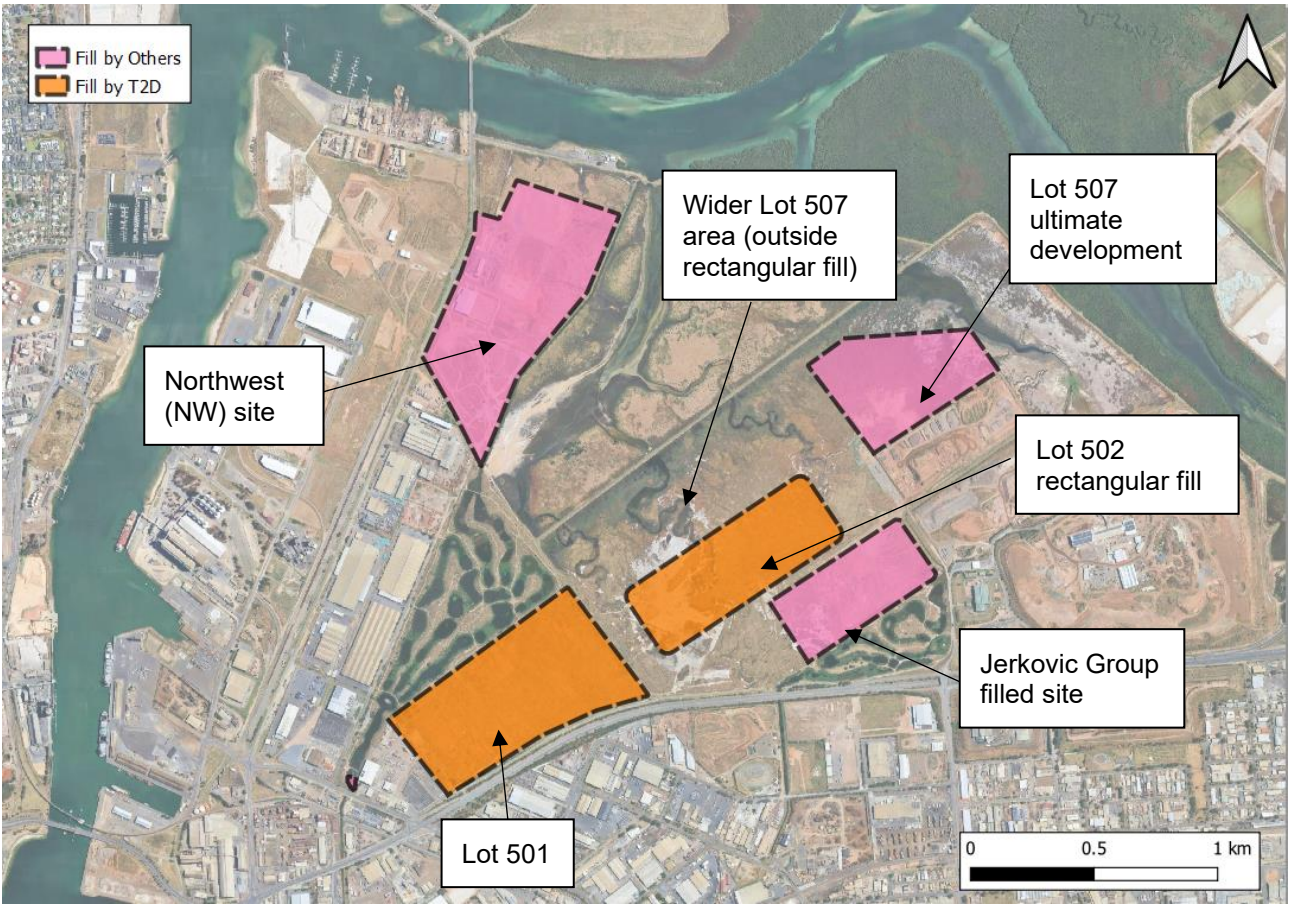
2.1.3.2. Fill areas

The deposit of fill in the flood storage areas has commenced with some of the land parcels indicated in Figure 9 having been filled or filling has already commenced. A list of the identified fill sites is presented below:

- 'Fill by Others'
 - Land already filled at the north-western limit of the northern ponding area, adjacent the Grand Trunkway
 - Land areas in progress of being filled (adjacent and north of the Range Wetland, associated with earthworks being undertaken by the Jerkovic Group)
 - Land north of the Range Wetland (Lot 507)
- 'Fill by T2D' locations assessed by NSC T2D
 - Land identified as Lot 501, south of the Magazine Creek wetland
 - Land identified as Lot 502, north of the Range Wetland (rectangular fill option shown in Figure 9)

The assumed filling approach for the purpose of this assessment is that fill deposits commence at Lot 501 and progress subsequently to Lot 502.

Figure 9: Fill locations (T2D and others)



3. Flood Modelling Assessment Results

The Gillman spoil placement assessment output a series of results, with the main goal of determining what upgrades, if any, are required to the sea gates to the north of the Gillman site to offset the impacts of fill placement. These results included the following analyses, grouped into near term scenarios and ultimate fill scenarios:

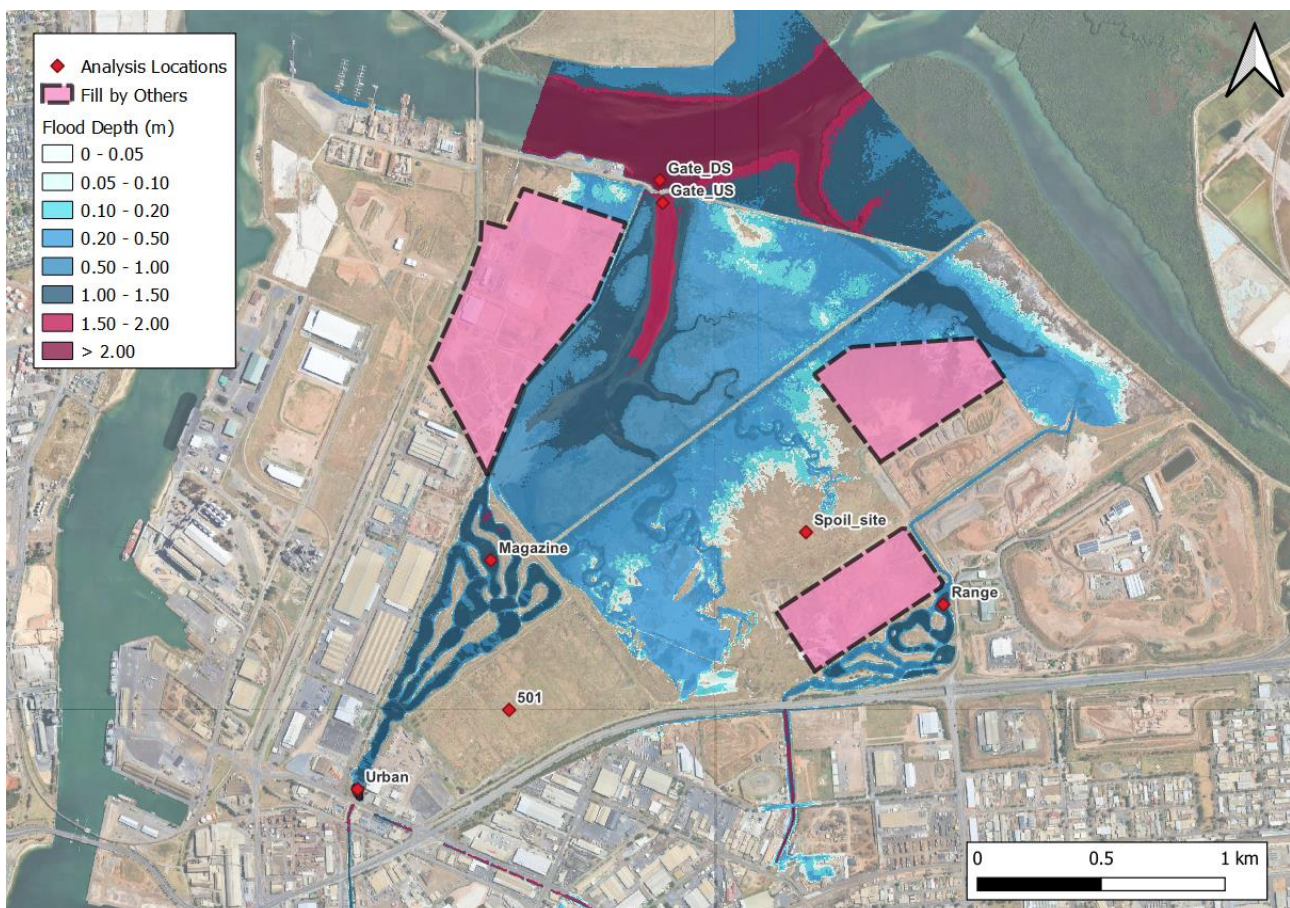
- Near term scenarios
 - o Impact of rectangular fill area within Lot 502 and filled Lot 501;
 - o Impact of extended fill area within Lot 502 and filled Lot 501;
- Ultimate fill scenarios
 - o Impact of final ultimate filling configuration of Lot 502 – used in tidal gate analysis; and
 - o Sensitivity tests applying various assumptions for gate upgrades.

Lot 501 is to be filled, but as this site is not subject to inundation for Lot 502 modelling purposes it has been taken that Lot 501 is already filled. Sensitivity testing was then completed to determine the impact, if any, on the Gillman site with additional filling of Lot 502.

3.1. Assessment of existing conditions

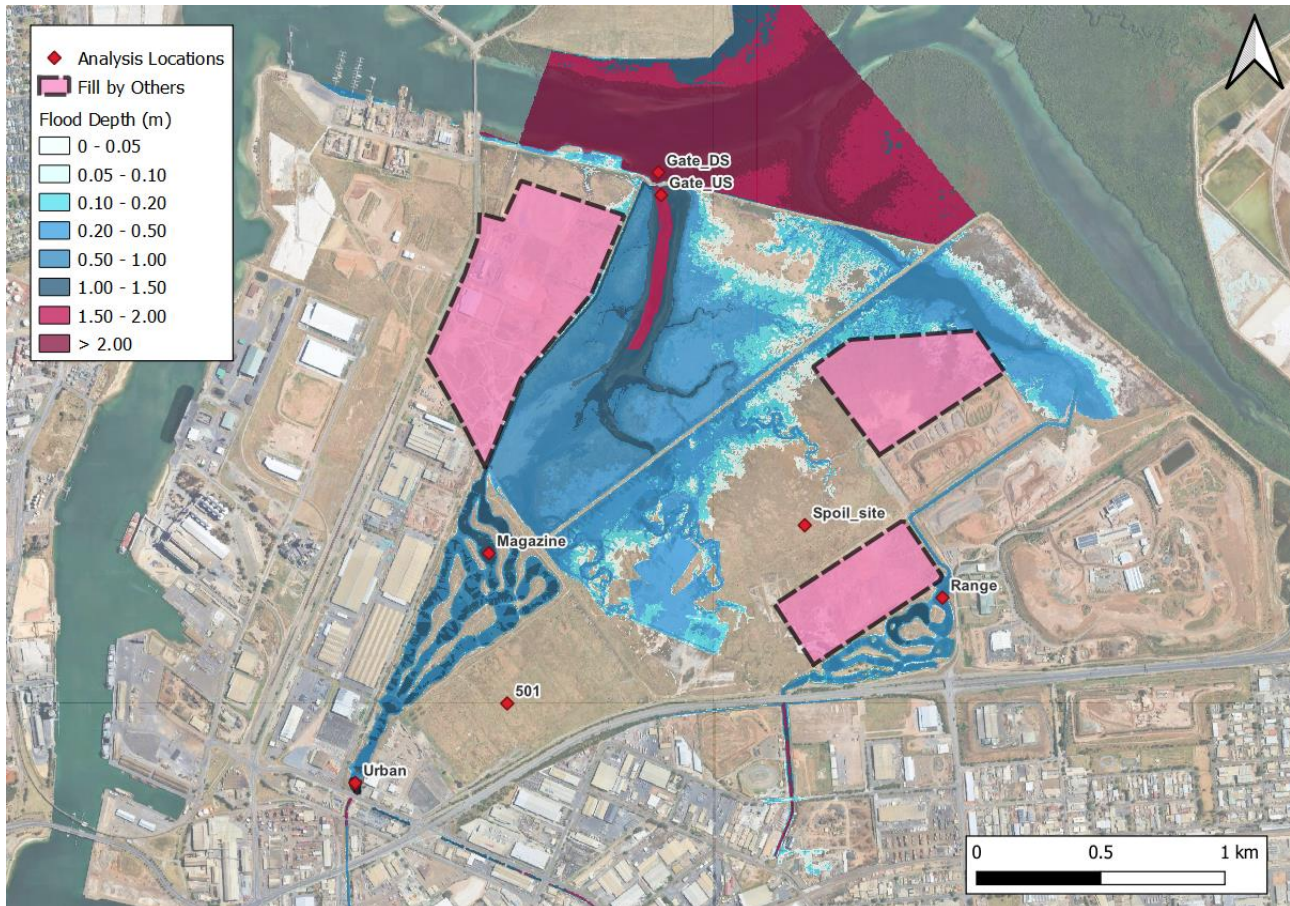
Under Mean High Water Spring plus Climate Change conditions (adopting the AGRD methodology for assessing sea level rise as discussed in section 2.1.2) it's observed that the Lot 501 area is dry and not performing a flood storage function in this scenario. Flooding is observed within Lot 502.

Figure 10: 1% AEP depth with MHWS+CC tailwater under existing conditions



A tidal surge event provided by BlueCoast's prior modelling was applied to this scenario, representing the receiving watercourse experiencing a 1% AEP magnitude flood tidal curve under existing fill conditions. Similar to the previous MHWS+CC conditions, it's observed that the Lot 501 area is dry and not performing a flood storage function in this scenario. Flooding is observed within Lot 502.

Figure 11: 1% AEP depth with 1% AEP tidal tailwater under existing conditions



A dedicated modelling assessment to the potential flood storage implications of the fill placement on Lot 501 was not required given the observation of no flood storage within Lot 501 under existing conditions. Ground levels through the Lot 501 area are in the range of 0.0 to 1.0m AHD generally, with the majority of the graded areas typically in the range of 0.4m to 0.8m AHD.

3.2. Assessment of near-term fill scenarios

It was assessed that Lot 501 filling activity doesn't reduce the floodplain storage potential for the 1% AEP events modelled (across the varying tidal waterbody receiving conditions). The following scenarios indicate the conditions under design fill scenarios comprising both the rectangular Lot 502 and extended Lot 502 fill area options (extended fill option extending the placement of earth fill into the wider Lot 502 area outside the rectangular polygon area). The change in water level attributed to the filling activity is termed afflux and is a comparison of the top water level with and without the filling activity.

3.2.1. Mean High Water Spring plus climate change

Mean High Water Spring plus Climate Change, adopting the AGRD methodology for assessing sea level rise as discussed in section 2.1.2.

With spoil placed across the rectangular Lot 502 footprint, and no change made to the tidal gates, flooding is generally predicted to increase around the spoil site, with an additional 27 mm of water level predicted. There are no impacts to the Magazine Creek or Range wetlands, nor is there any observable impact to the upstream stormwater networks related to this option.

Figure 12: 1% AEP depth with MHWS+CC tailwater, DESa (rectangular 502 fill) scenario (incl. Lot 501)

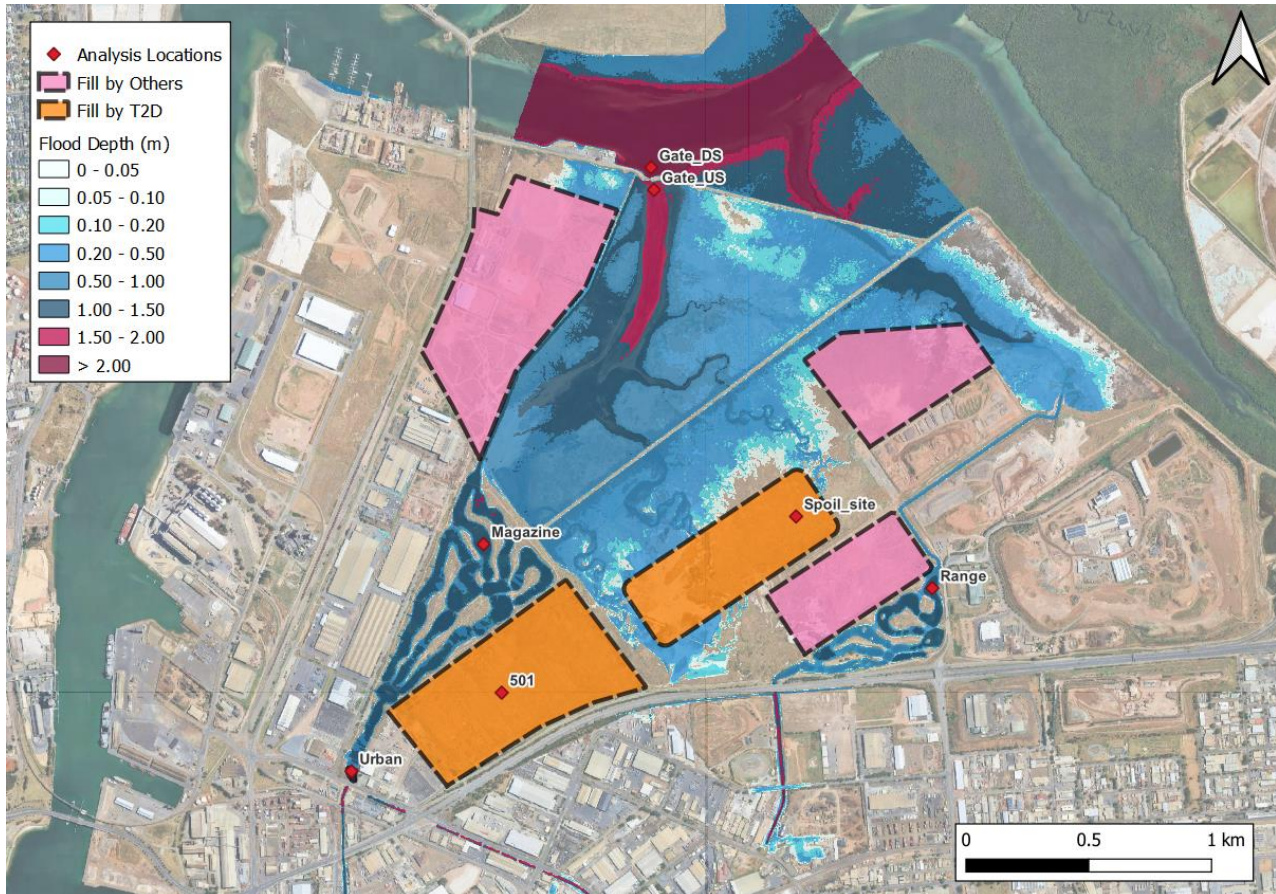
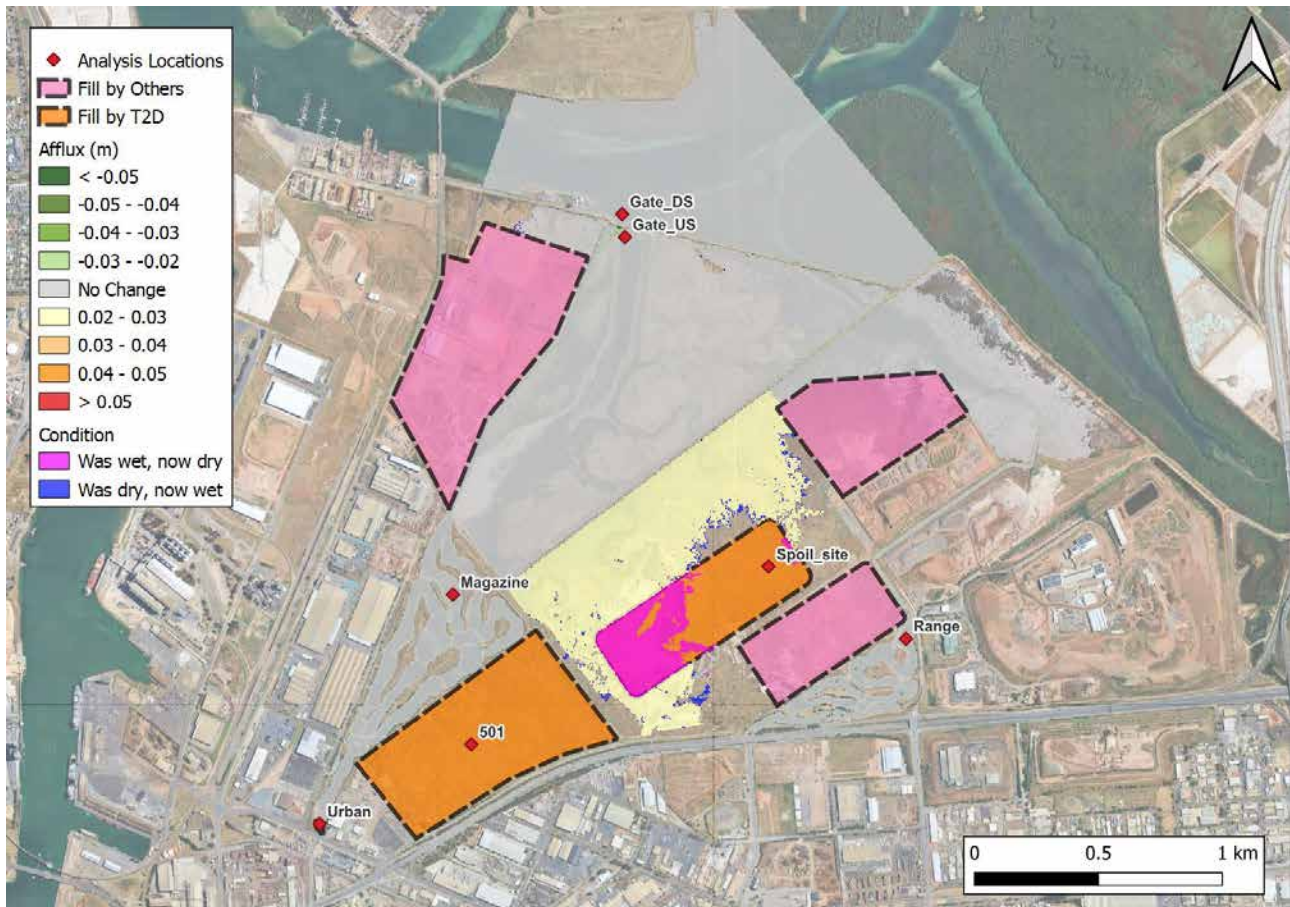


Figure 13: 1% AEP impacts with MHWS+CC tailwater, DESa (rectangular Lot 502 fill) scenario (inc. Lot 501)



The extended fill scenario was determined based on placement of fill within Lot 502 in an indicative area which would minimise disturbance to Subtropical and Temperate Coastal Saltmarsh which is a threatened ecological community.

With spoil placed across the extended fill footprint of Lot 502, and no change made to the tidal gates, flooding is generally seen to increase around Lot 502, with up to 55 mm of additional water level around the lot. There are no impacts to the Magazine Creek or Range wetlands, nor is there any observable impact to the upstream stormwater networks related to this option.

Figure 14: 1% AEP depth with MHWS+CC tailwater, DESb (extended Lot 502 filling) scenario (inc. Lot 501)

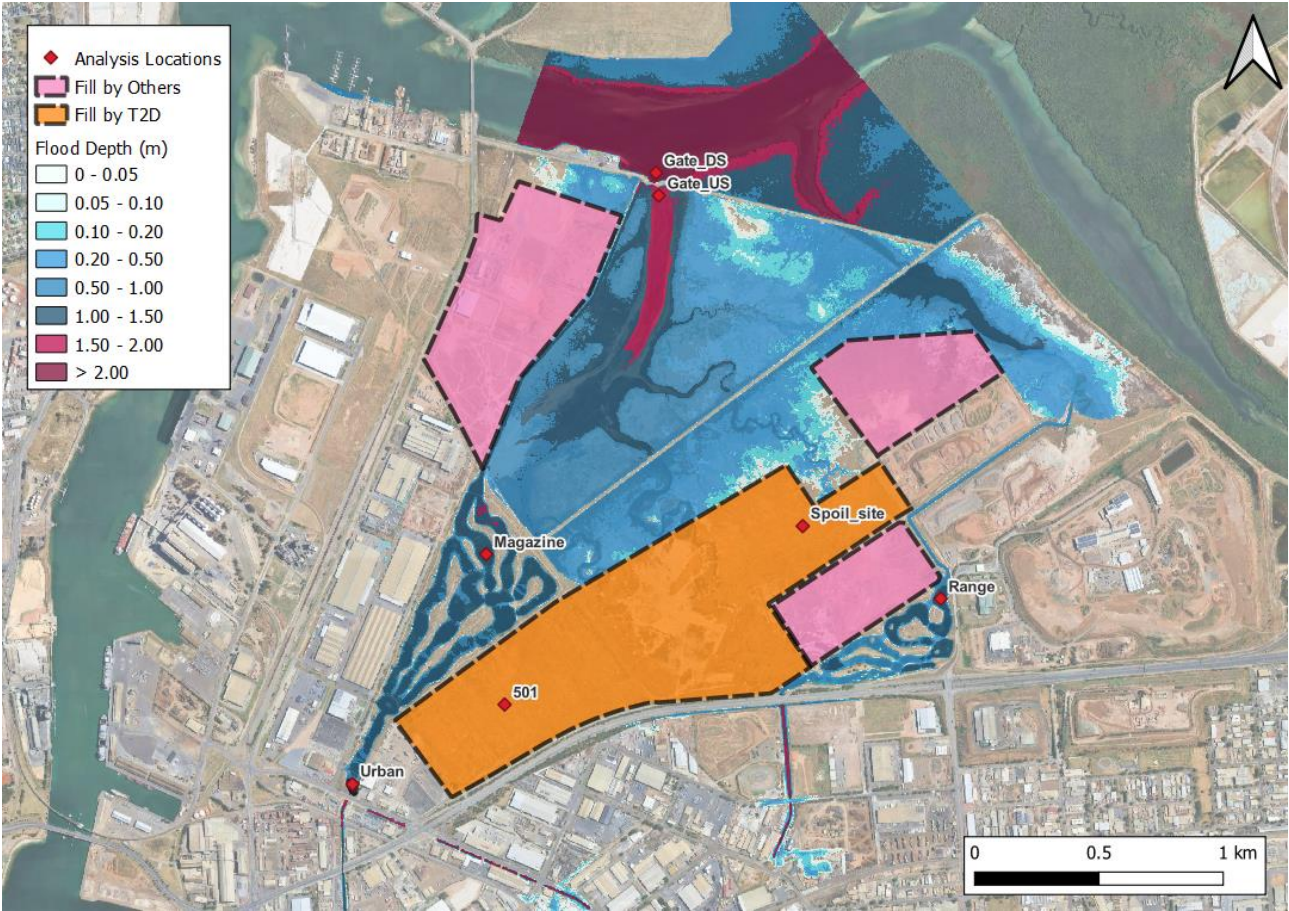
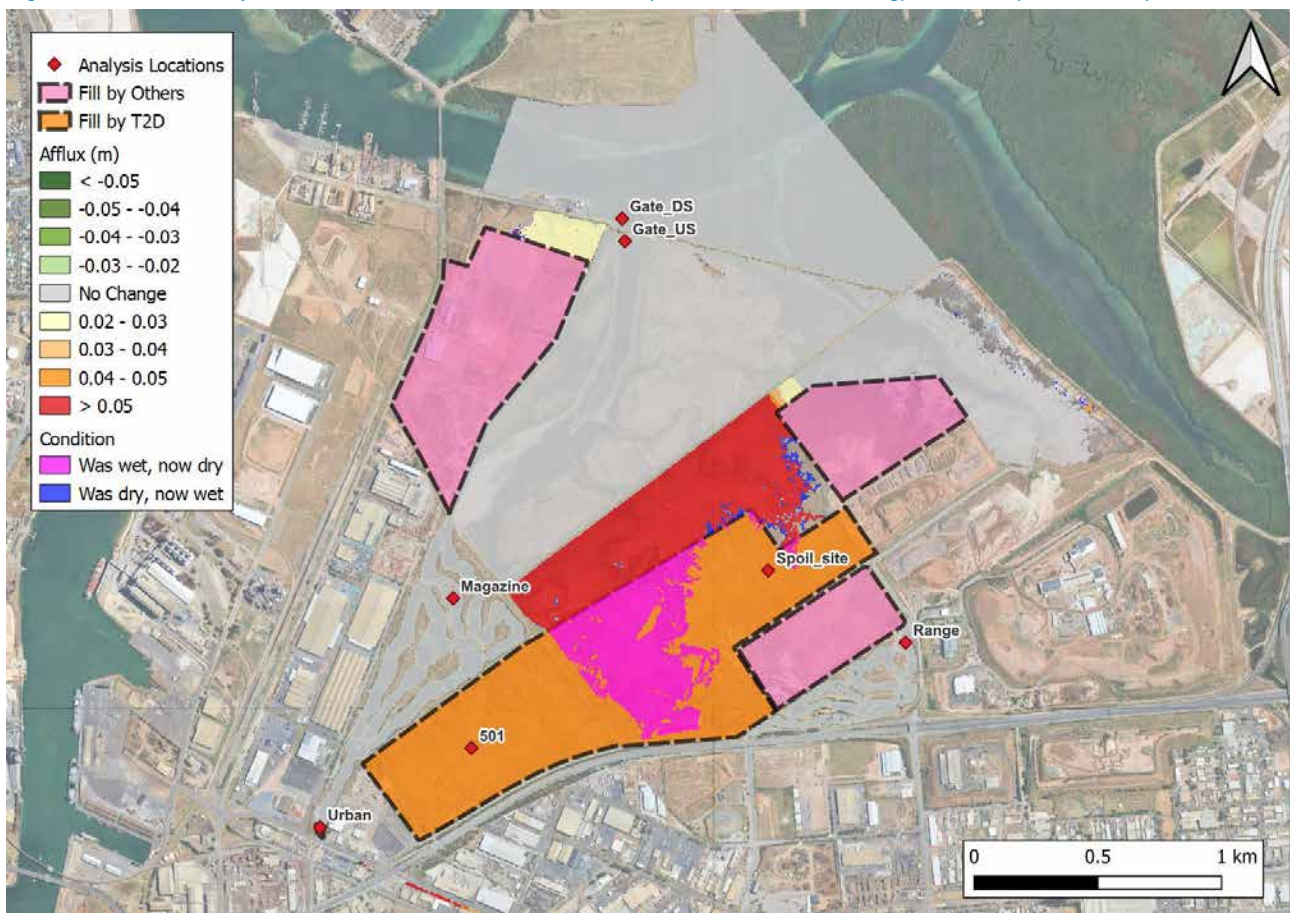


Figure 15: 1% AEP impact with MHWS+CC tailwater, DESb (extended Lot 502 filling) scenario (inc. Lot 501)



3.2.2. Tailwater of 1% AEP tidal curve (BlueCoast) (no climate change)

A tidal surge event representing the receiving watercourse in North Arm Creek experiencing a 1% AEP magnitude flood tidal curve (provided by BlueCoast's prior modelling) coincident with the storm flow was assessed.

With spoil placed across the extended fill on Lot 502 footprint, and no change made to the tidal gates, the depth of flooding is generally seen to increase in Lot 502. The increase in flood depth is predicted to be in the order of 49mm. The flood model does not predict any change to areas upstream of the Range and Magazine Creek wetland inlets (within the urban drainage system). This is extended to the upstream stormwater network which has no observable impact from filling related to this option.

Figure 16: 1% AEP depth with 1% AEP tidal tailwater, DESa (rectangular 502 fill) scenario (with Lot 501 and NW fill)

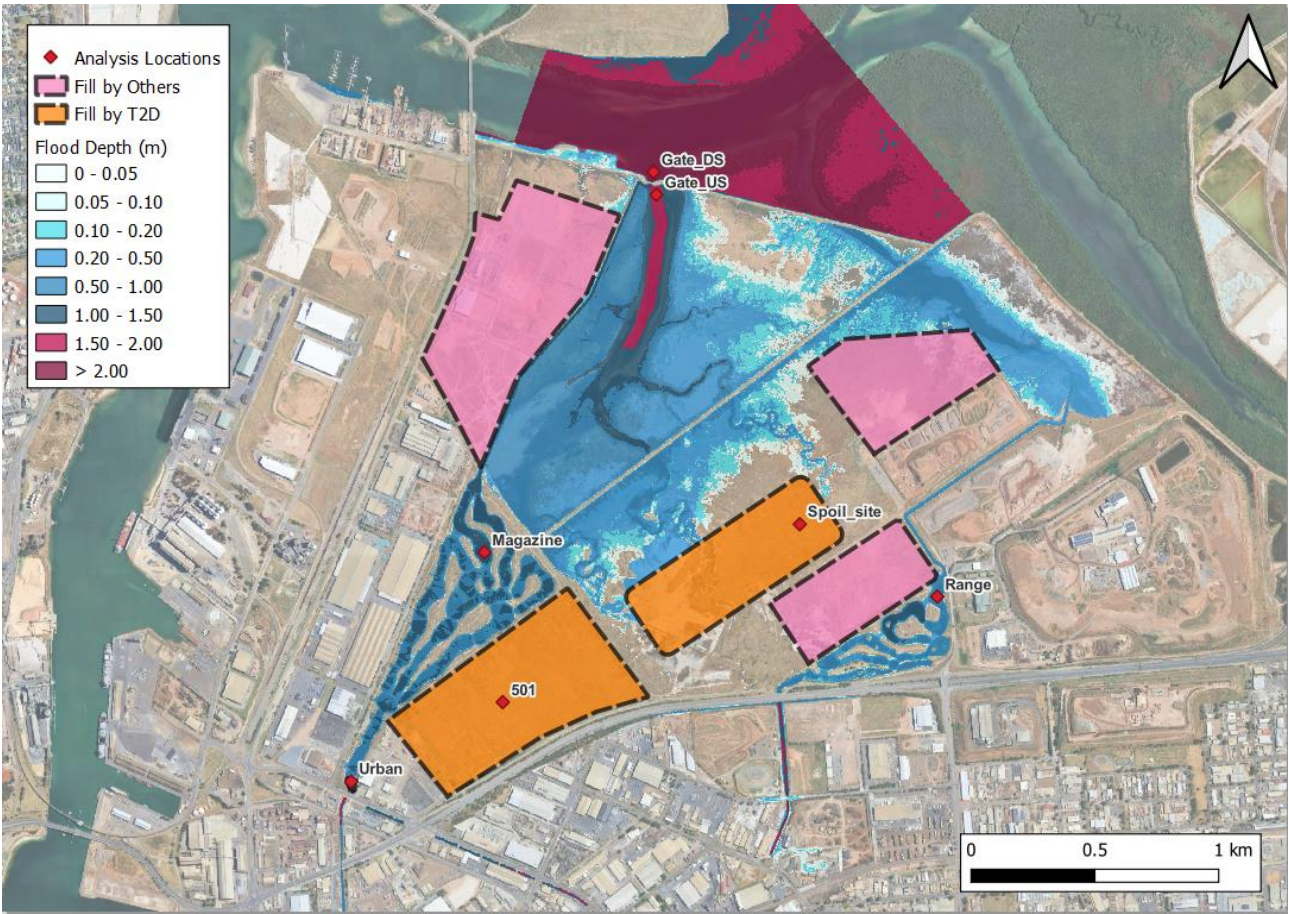
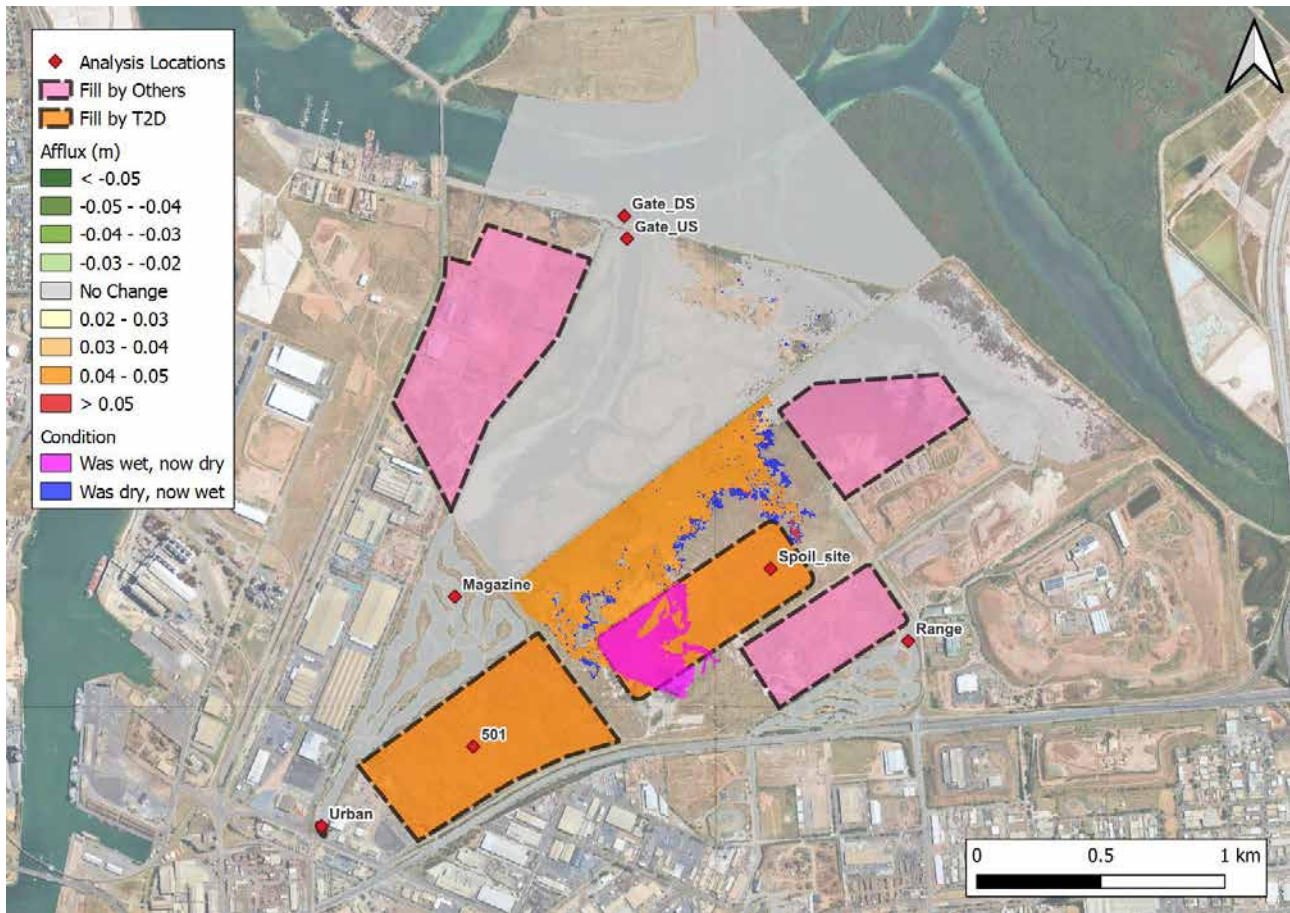


Figure 17: 1% AEP impacts with 1% AEP tidal tailwater, DESa (rectangular Lot 502 fill) scenario (with Lot 501)



With spoil placed across the extended fill on Lot 502 footprint, and no change made to the tidal gates, the depth of flooding is generally seen to increase in Lot 502. The increase in flood depth is predicted to be in the order of 70mm. The flood model does not predict any change to areas upstream of the Range and Magazine Creek wetland inlets (within the urban drainage system). This is extended to the upstream stormwater network which has no observable impact from filling related to this option.

Figure 18: 1% AEP depth with 1% AEP tidal tailwater, DESb (extended Lot 502 filling) scenario (with Lot 501)

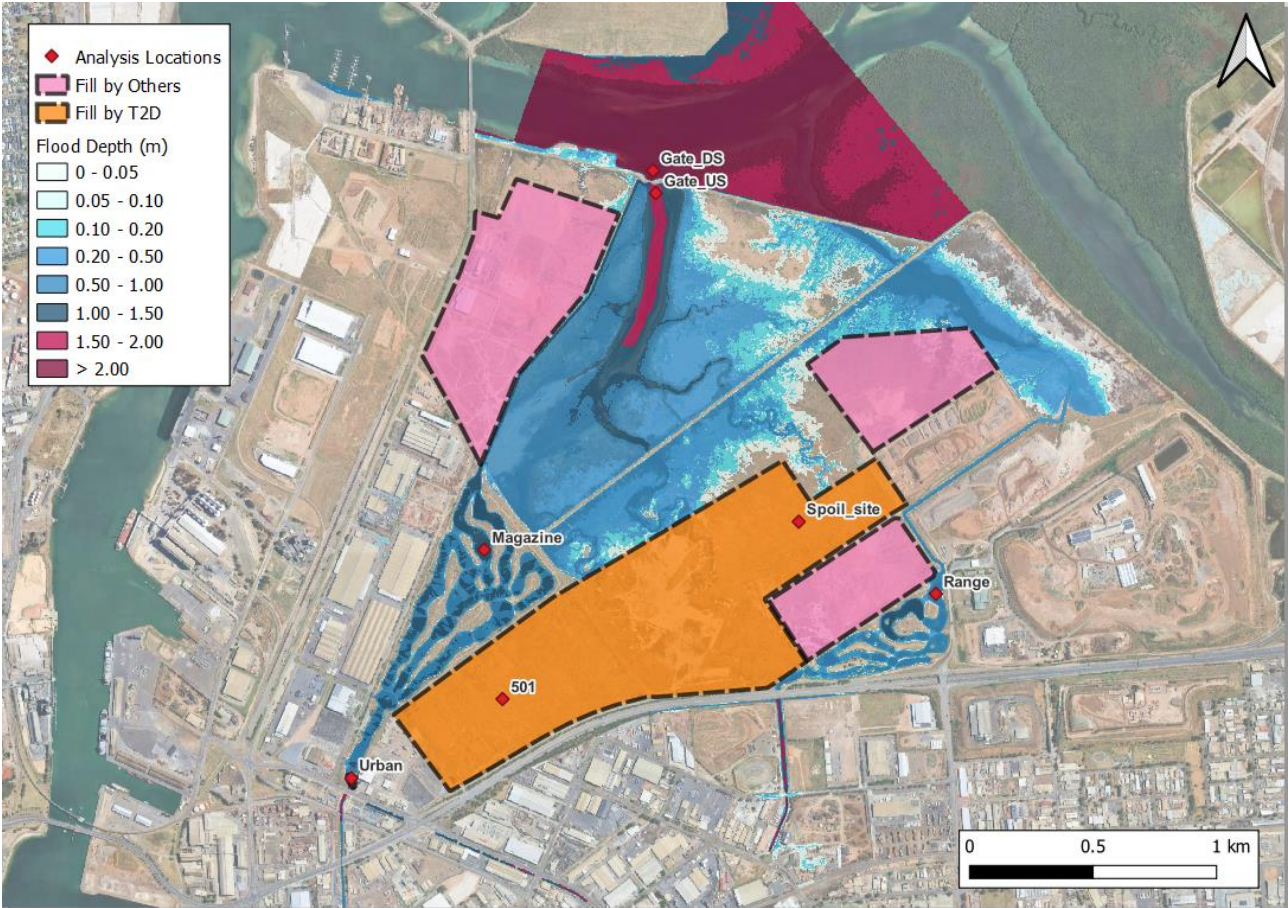
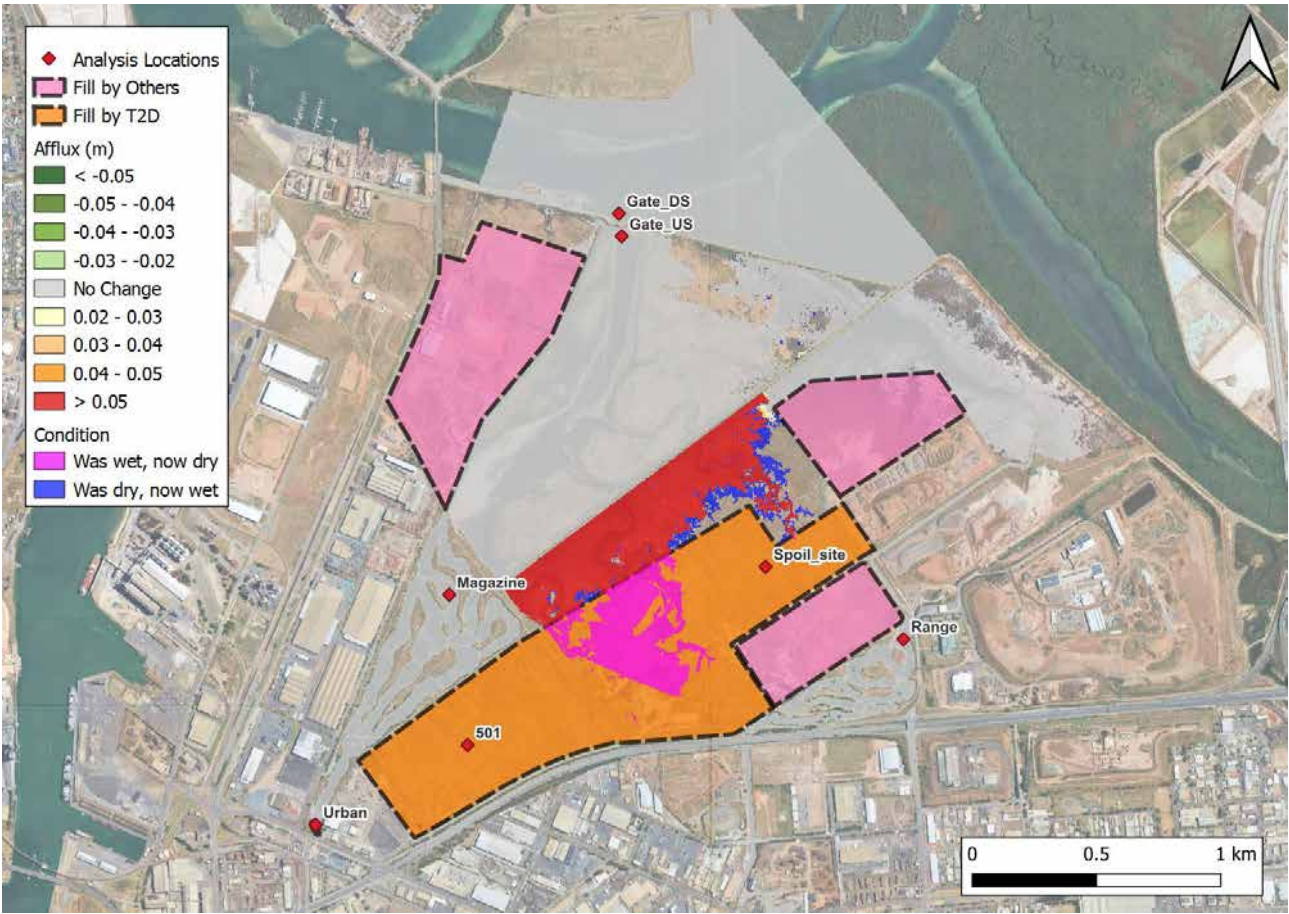


Figure 19: 1% AEP impact with 1% AEP tidal tailwater, DESb (extended Lot 502 fill) scenario (with Lot 501)



3.3. Assessment of ultimate fill scenarios

Results of the ultimate fill scenarios assessments are presented for the range of North Arm Creek receiving watercourse boundary conditions. The ultimate fill scenario is assumed to extend to the bund separating the northern and southern ponding areas.

3.3.1. Mean High Water Spring (with and without climate change)

Flood depths for the ultimate fill scenario under a Mean High Water Spring tide is shown below. The MHWS tidal boundary was used by Tonkin in their original study of the Gillman area so is a representative comparison to prior fill analysis for masterplanning). Changes in peak flood level for this scenario are shown in Figure 21. The extent of flooding is reduced with 'dry' areas observed where the Lot has been filled. An increase in peak level is predicted in the eastern ponding area.

Figure 20: 1% AEP depth with MHWS tailwater, ultimate fill scenario under current tidal gate conditions

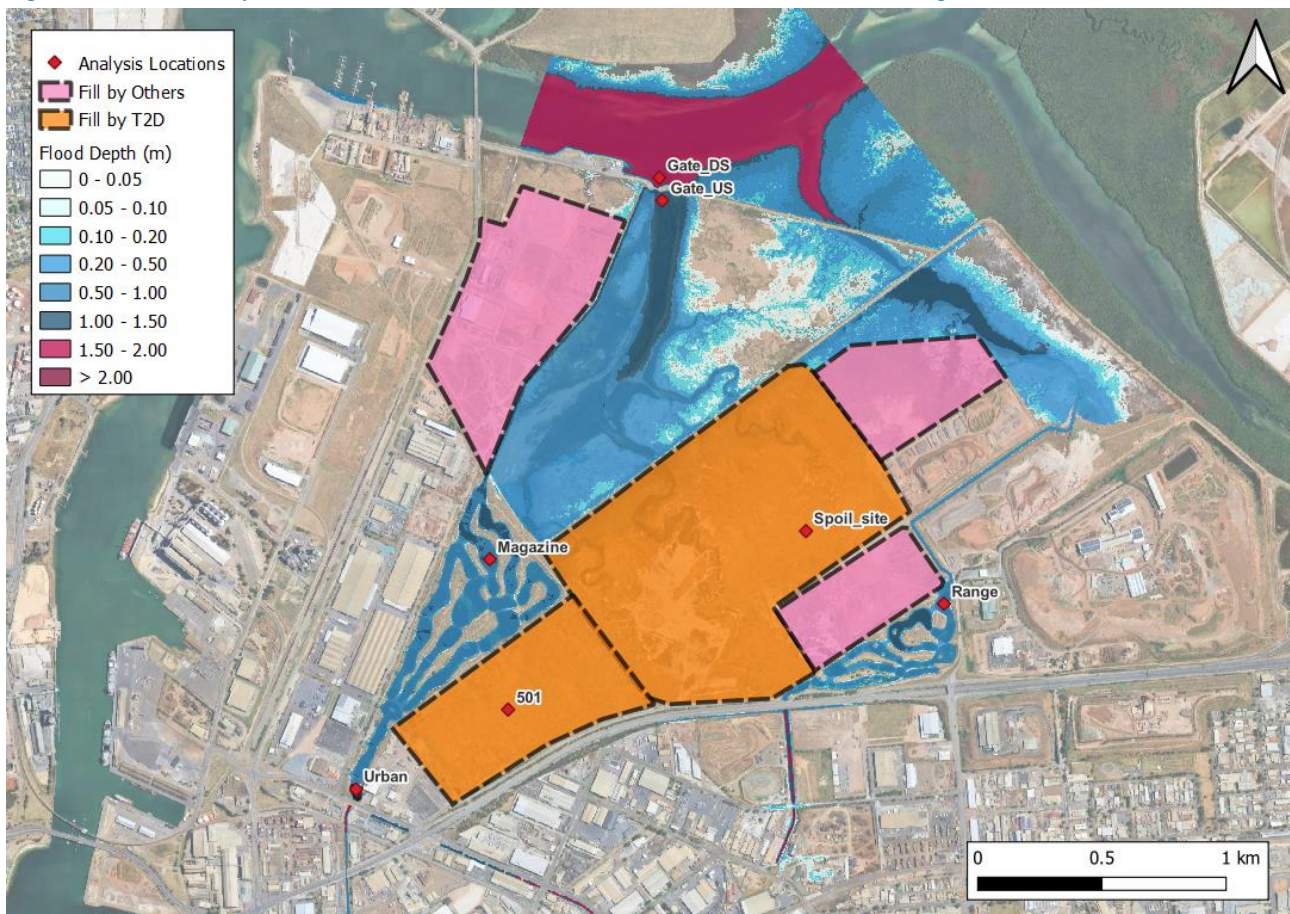
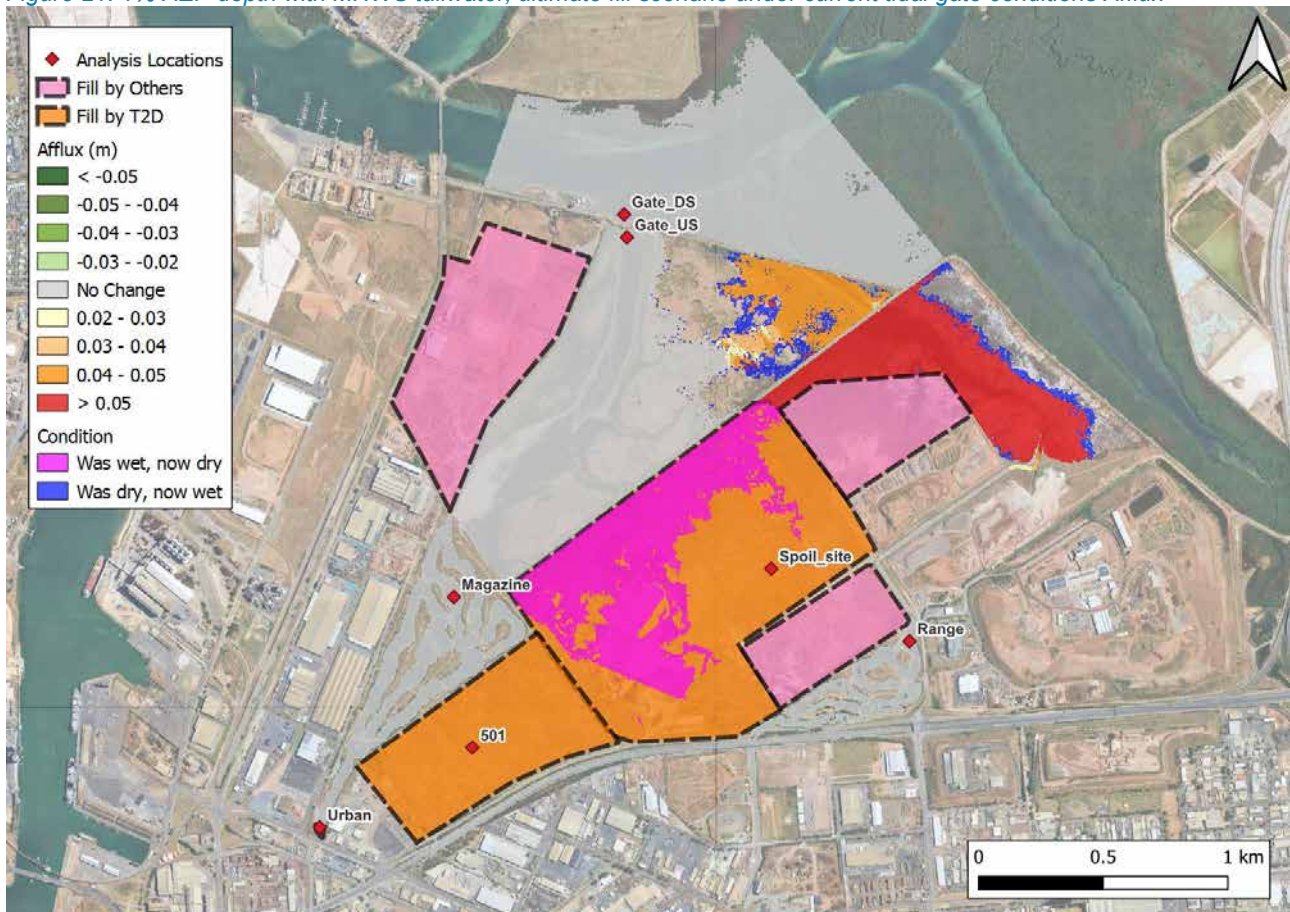


Figure 21: 1% AEP depth with MHWS tailwater, ultimate fill scenario under current tidal gate conditions Afflux



Applying the climate change uplift to the receiving watercourse in North Arm creek the inundation mapping increases in depth as seen in Figure 22 below. The resulting afflux is shown in Figure 23.

Figure 22: 1% AEP depth with MHWS+CC tailwater, ultimate fill scenario under current tidal gate conditions

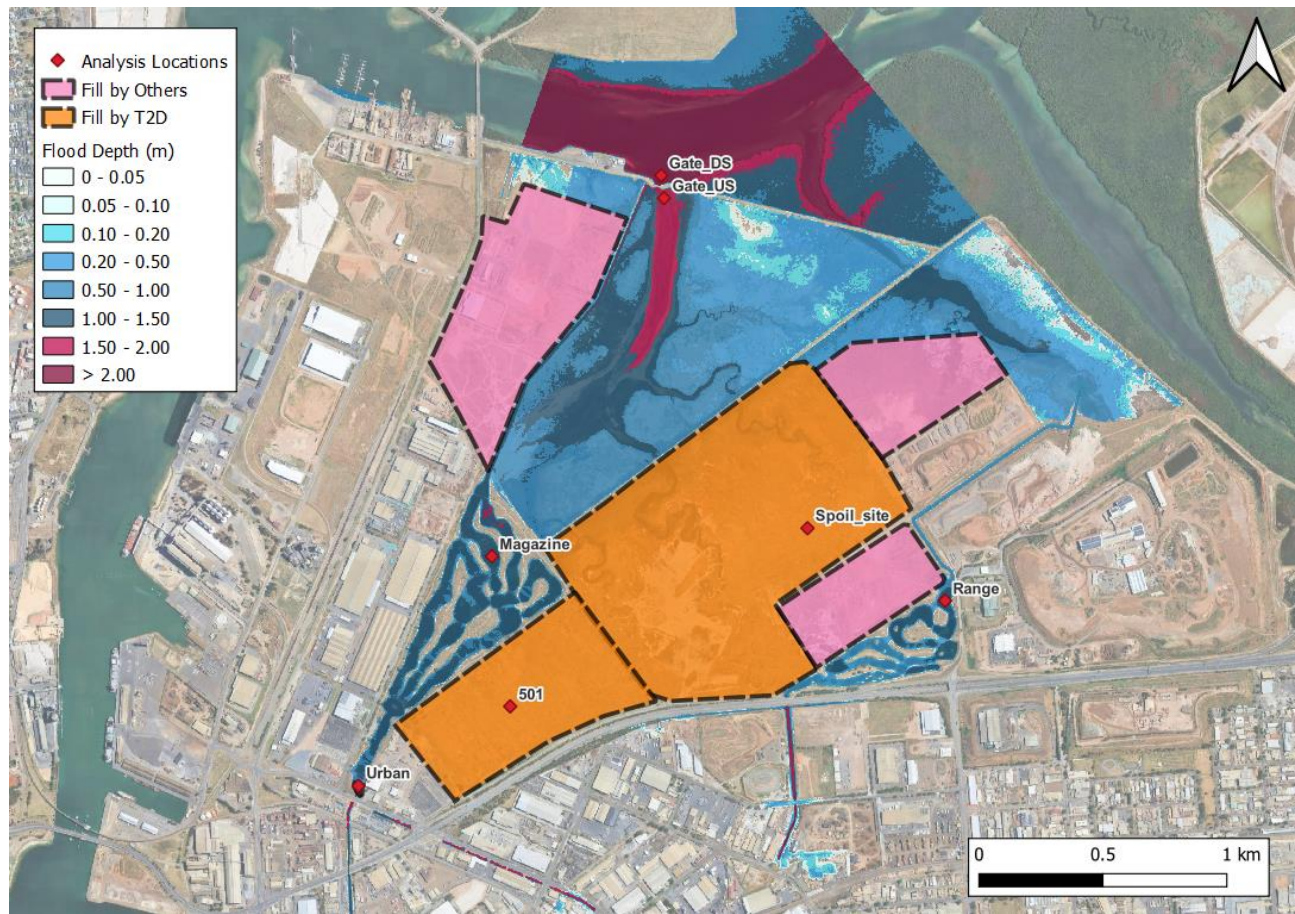
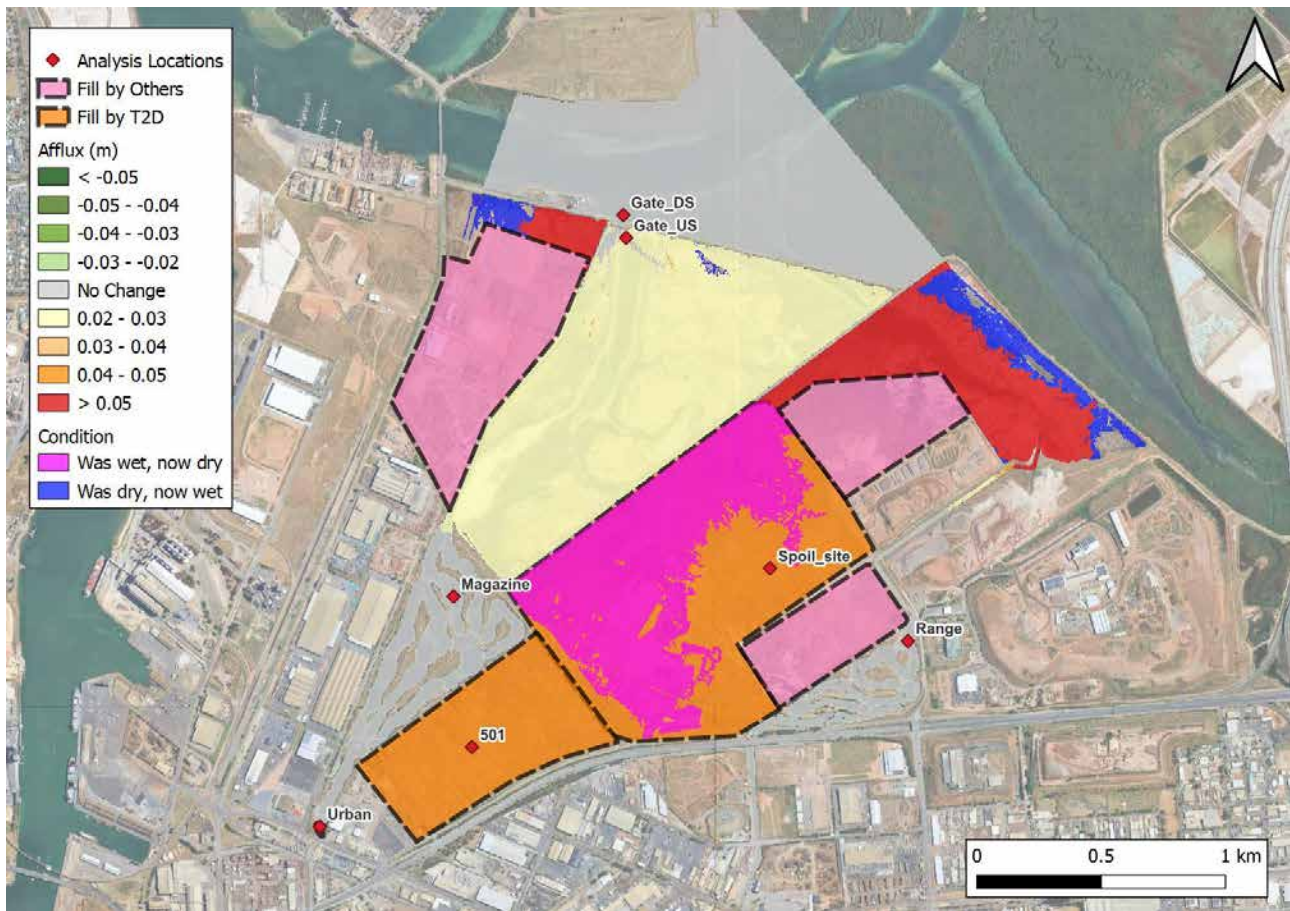


Figure 23: 1% AEP depth with MHWS+CC tailwater, ultimate fill scenario under current tidal gate conditions afflux



3.3.2. Tailwater of 1% AEP tidal curve (BlueCoast) (no climate change)

A tidal surge event representing the receiving North Arm Creek watercourse experiencing a 1% AEP magnitude flood tidal curve (provided by BlueCoast's prior modelling) was assessed. Spoil was placed across the ultimate filling footprint, and no change made to the tidal gates. The extent of flooding is reduced with 'dry' areas observed south of the raised embankment separating northern and southern ponding areas.

Figure 24: 1% AEP depth with 1% AEP tidal tailwater, Design (Ultimate) scenario (with lot 501 and NW fill)

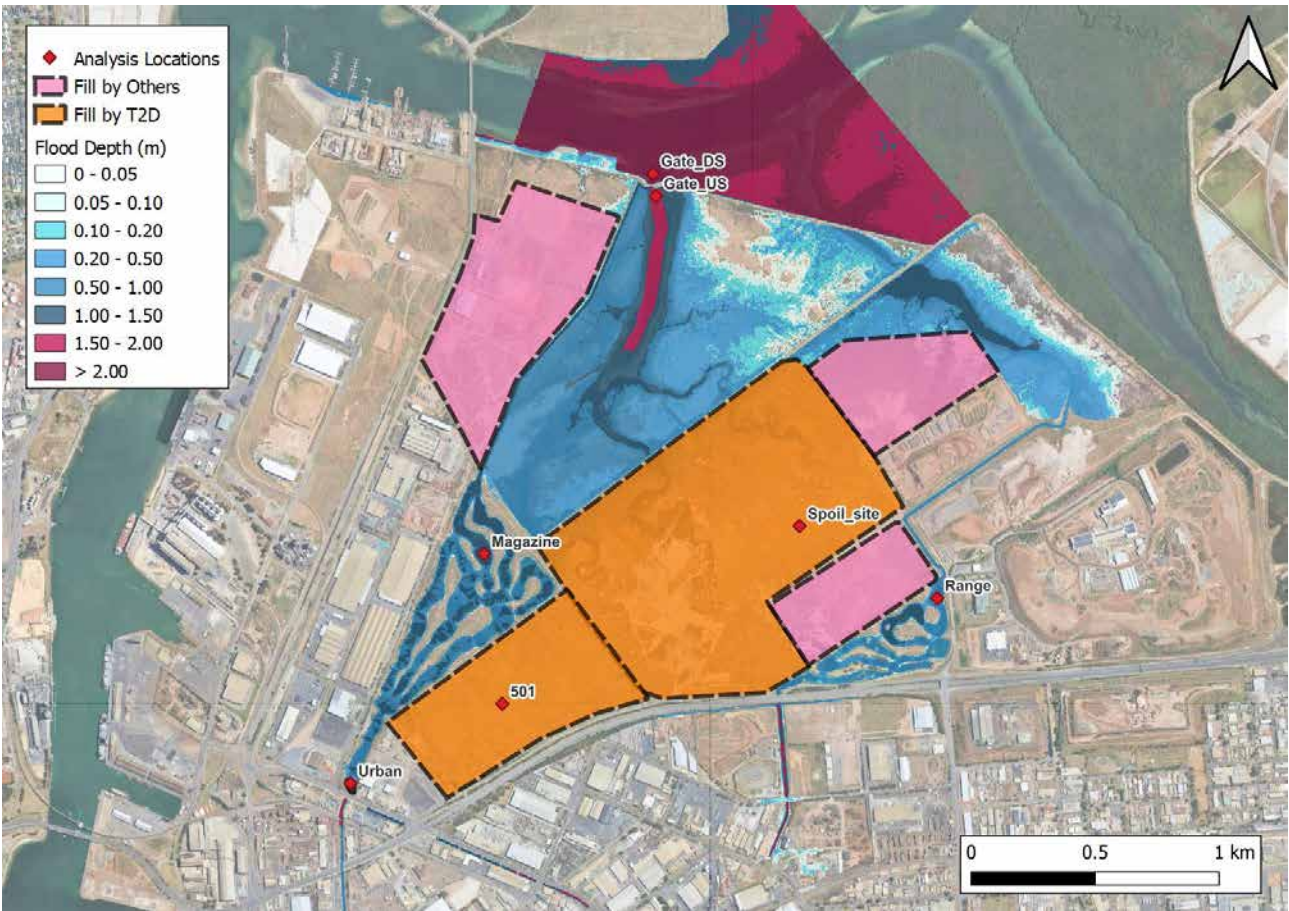
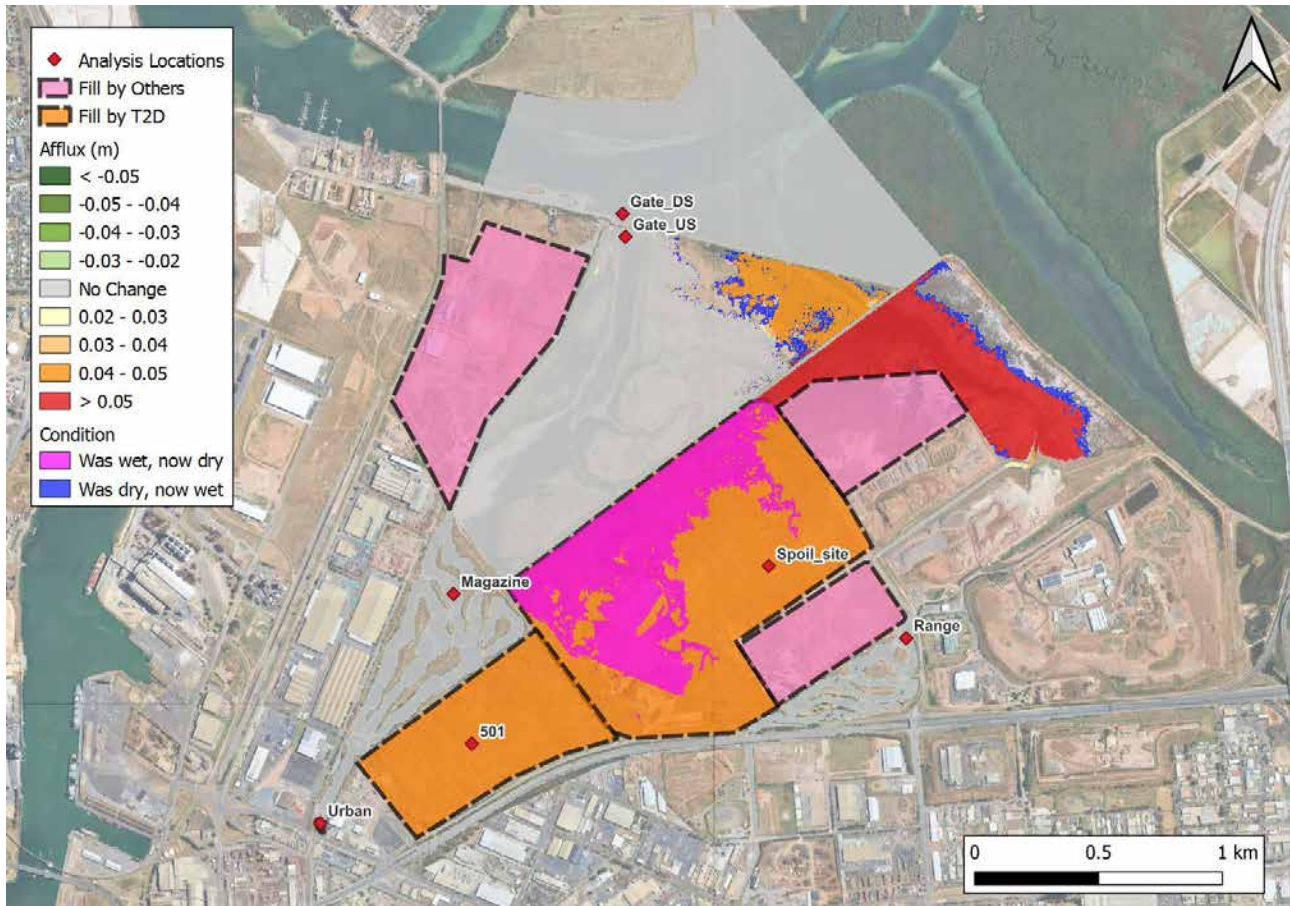


Figure 25: 1% AEP depth with 1% AEP tidal tailwater, Design (Ultimate) scenario (with lot 501 and NW fill) Afflux



3.3.3. Tidal gate capacity review

In total, four tidal gate Options were tested to determine the effects of increasing the number of tidal gates alongside the ultimate fill scenario on Lot 502. These scenarios, initially tested for the 1% AEP storm under both 1% AEP tidal tailwater conditions and MHWS+CC included:

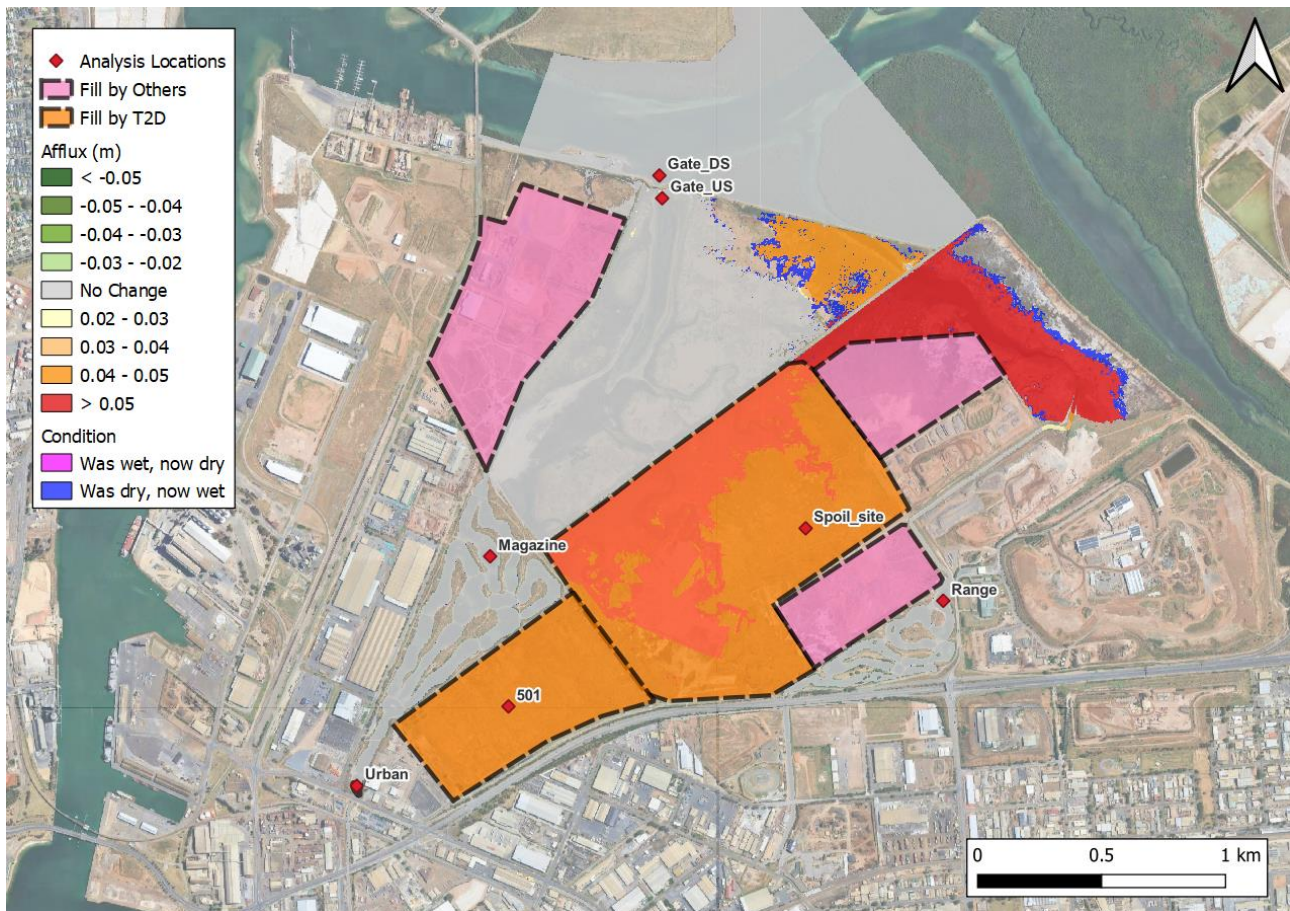
- Option 1 (OP1) – Tidal gate analysis – Ultimate 502 fill with three tidal gates (existing)
- Option 2 (OP2) – Tidal gate analysis – Ultimate 502 fill with six tidal gates (doubled capacity)
- Option 3 (OP3) – Tidal gate analysis – Ultimate 502 fill with four tidal gates (one additional)
- Option 4 (OP4) – Tidal gate analysis – Ultimate 502 fill with five tidal gates (two additional)

Option 1 – Existing (three gates) – 1% AEP Tidal Tailwater Level

With spoil placed across the ultimate filling footprint, and no change made to the tidal gates, an increase in peak water level up to 70 mm is predicted around Lot 507. This is the result of the proposed spoil fill blocking the existing southwest flow path that allows ponding flood water to disperse across Lot 502. Instead, it is being concentrated around Lot 507. The increase in peak level is also translated through the existing culvert, leading to an increase of 40 mm in the adjacent ponding area.

The flood model predicts no impacts to the northern ponding area or areas upstream of the Range and Magazine Creek wetland inlets (within the urban drainage system). This is extended to the upstream stormwater network which has no observable impact from filling related to this option.

Figure 26: 1% AEP impact with 1% AEP tidal tailwater, Updated Design Option 1 - Lot 502 (Ultimate footprint)

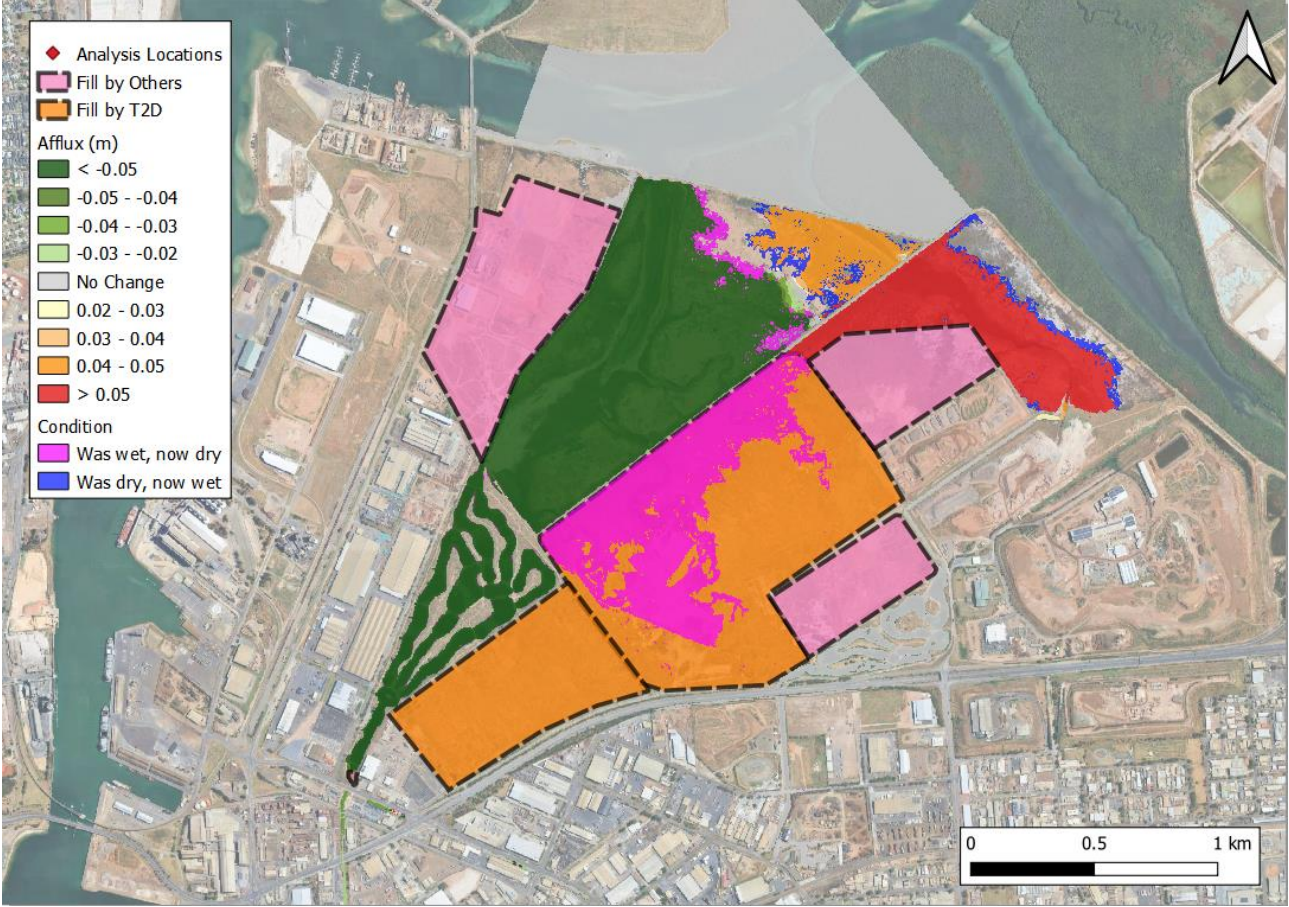


Option 2 – Double Capacity (six gates) – 1% AEP Tidal Tailwater Level

With spoil placed across the ultimate filling footprint, and existing tidal gates doubled to six no. 2.4m wide gates, flooding is generally seen to decrease across the northern ponding area and increase in the south. The increase in the south is due to the filling of Lot 502. The increase in level is limited to the land surrounding the pre-filled Lot that is already subject to inundation. There are no flood impacts to areas upstream of the Range and Magazine Creek wetland inlets (within the urban drainage system). This is extended to the upstream stormwater network which has no observable impact from filling related to this option. See Figure 27.

Flood depths in the northern ponding area are predicted to be reduced by up to 90 mm as a result of the larger gates being able to discharge a greater volume of water between the tidal peaks.

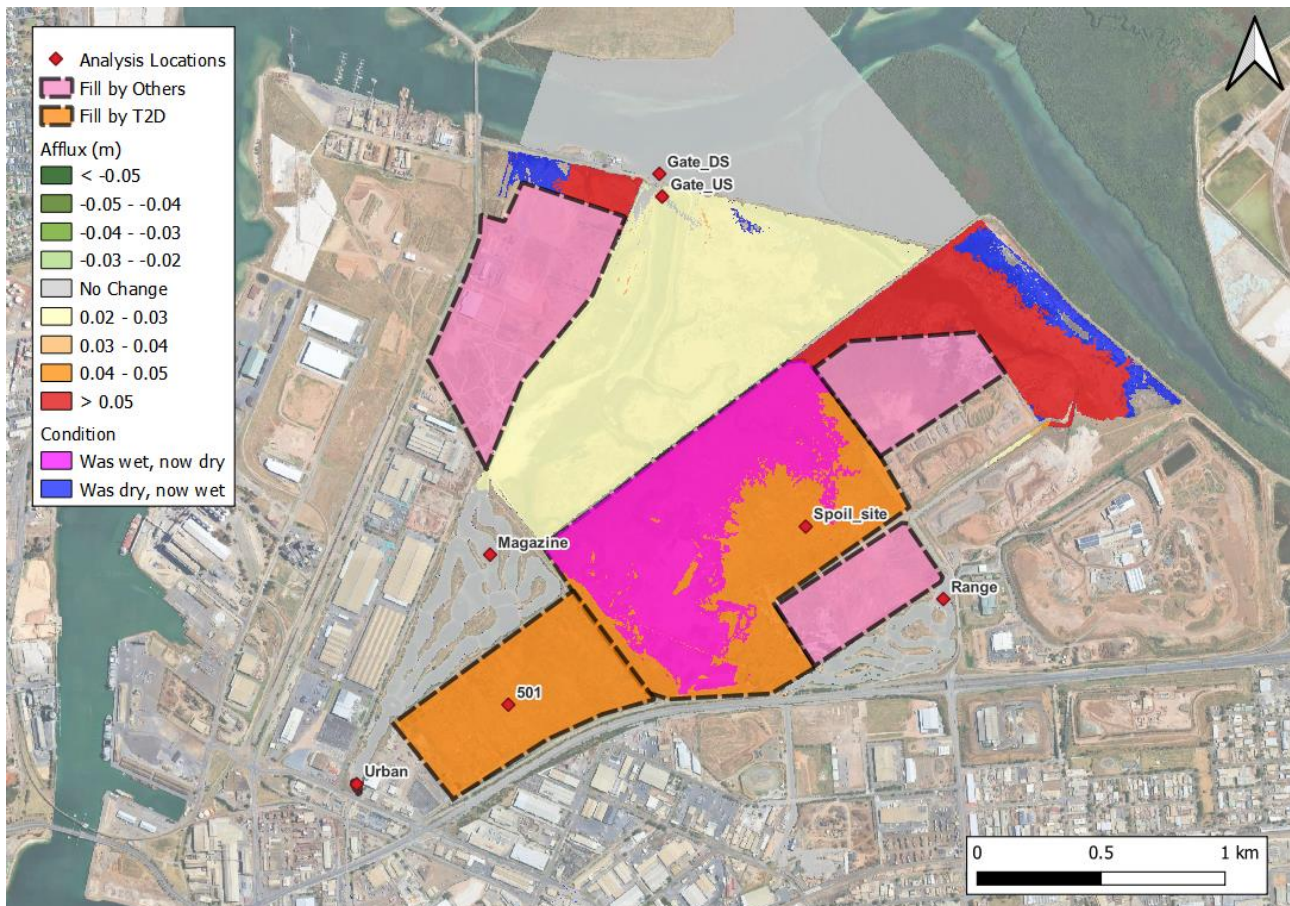
Figure 27: 1%AEP impact with 1% AEP tidal tailwater, Updated Design Option 2 - Lot 502 (Ultimate footprint)



An assessment was also completed assuming Mean High Water Spring plus Climate Change as the receiving tailwater conditions, adopting the AGRD methodology for assessing sea level rise as discussed in section 2.1.2.

Option 1 – Existing (three gates) – MHWS+CC Tidal Tailwater Level

Figure 28: 1% AEP impact with MHWS +CC tailwater, Updated Design Option 1 - Lot 502 (Ultimate footprint)



With spoil placed across the ultimate filling footprint, and no change made to the tidal gates, Figure 28 represents the flood differences observed under a MHWS with climate change scenario. Increases of up to approximately 25 mm are observed in the northern ponding area and 110 mm in the southern ponding area around Lot 507. There are no impacts to areas upstream of the Range and Magazine Creek wetland inlets (within the urban drainage system). This is extended to the upstream stormwater network which has no observable impact from filling related to this option.

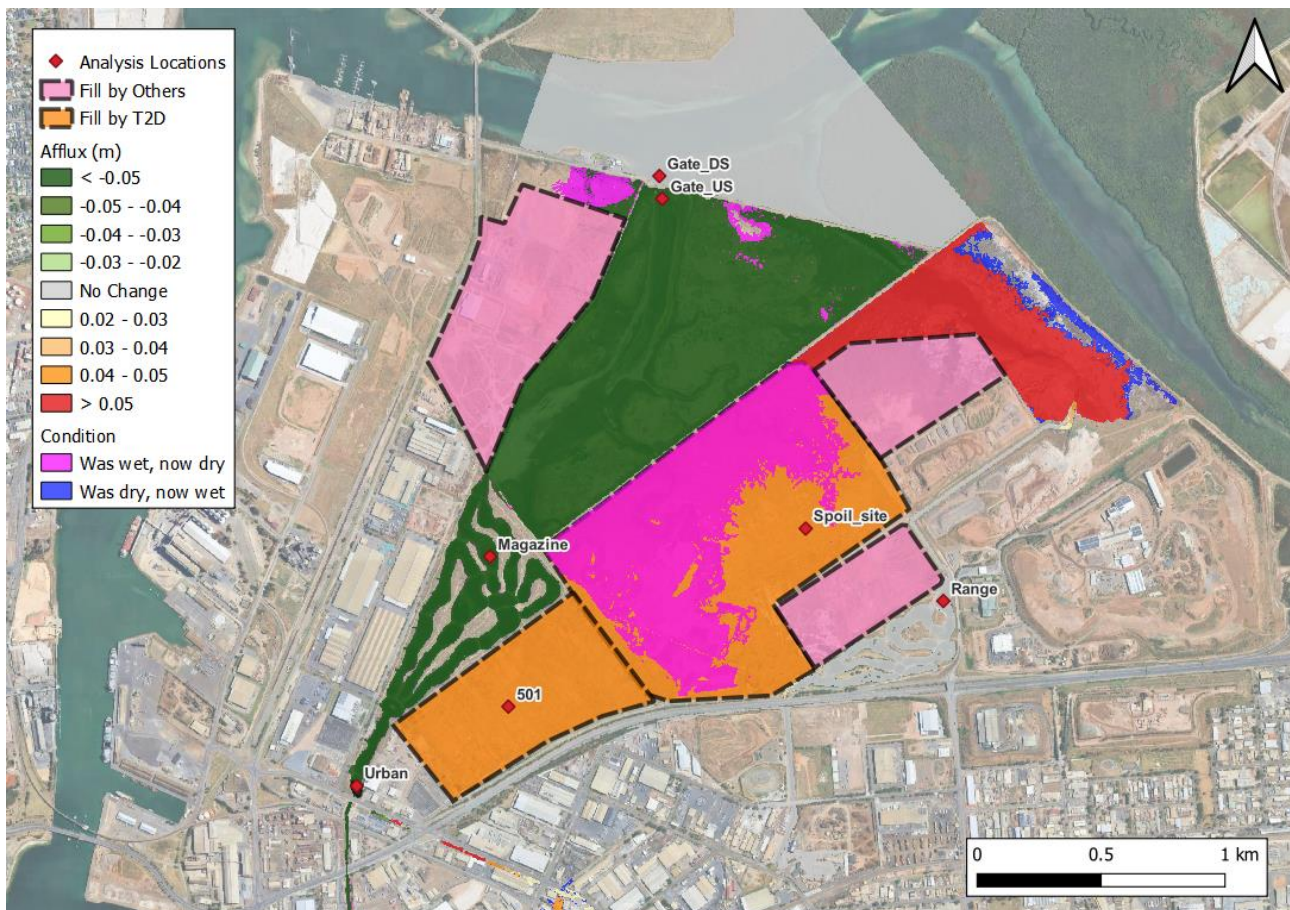
Option 2 – Double Capacity (six gates) – MHWS+CC Tidal Tailwater Level

With spoil placed across the ultimate filling footprint, and existing tidal gates doubled to six no. 2.4m wide gates, Figure 29 shows the difference in peak water level predicted under a MHWS with climate change scenario.

Flooding is generally seen to decrease across the north ponding area with an increase around Lot 507, which is separated from the main storage area by a levee and culvert. A decrease in level up to 90 mm is predicted in the northern ponding area, extending upstream through the Magazine Creek wetland.

Peak water level around Lot 507 is predicted to increase by 55 mm though are confined to the Lot and do not propagate upstream to the Range Wetland. There is no impact to the upstream stormwater network which related to this option.

Figure 29: 1%AEP impact with MHWS +CC tailwater, Updated Design Option 2 - Lot 502 (Ultimate footprint)



Further option iterations are presented with the MHWS+CC only, given that it has the higher of the lower tidal range levels, proving more conservative for the discharge of flow through the gate structures.

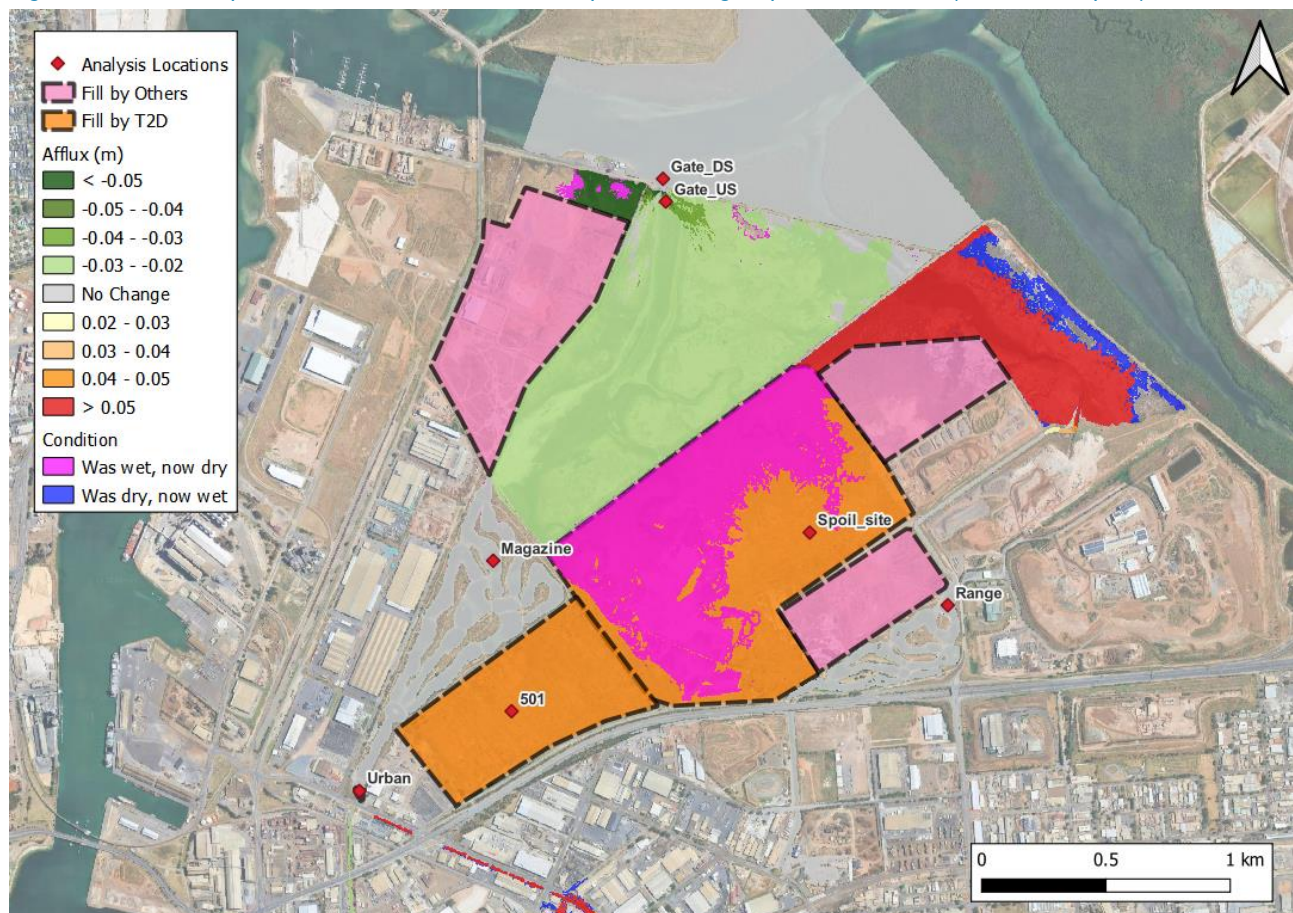
Option 3 – One Additional (four gates) – MHWS+CC Tidal Tailwater Level

With spoil placed across the ultimate filling footprint, and existing tidal gates supplemented with 1 additional 2.4m wide gate. Figure 30 represents the flood differences observed under a MHWS with climate change scenario.

Flooding is generally predicted to decrease across the north ponding area with an increase around Lot 507. A decrease in level up to 20 mm is predicted in the northern ponding area. There is no change in flood level in the Magazine Creek wetland.

Peak water level around Lot 507 is predicted to increase by 55 mm though are confined to the Lot and do not propagate upstream to the Range Wetland. There is no impact to the upstream stormwater network which related to this option.

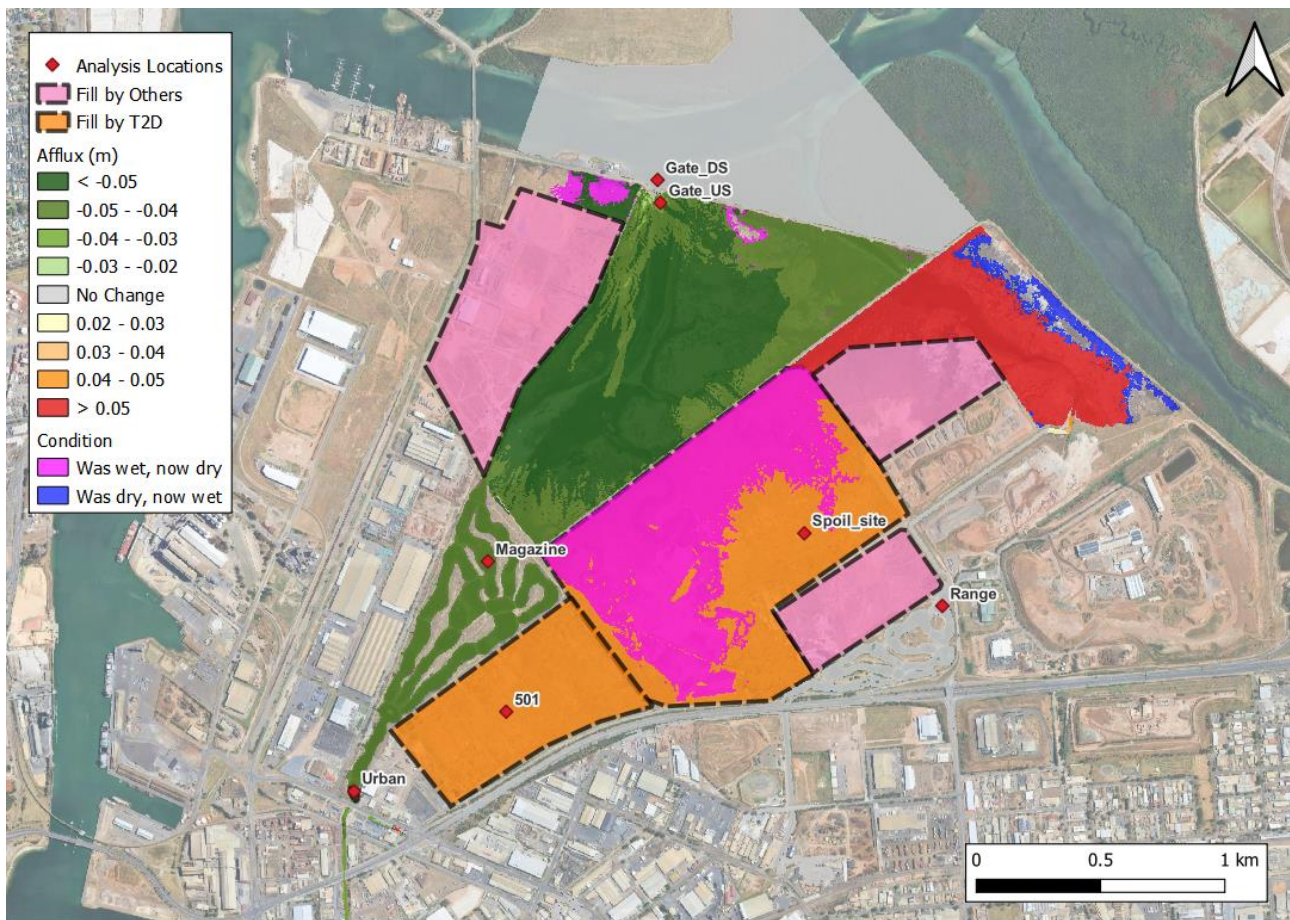
Figure 30 1%AEP impact with MHWS +CC tailwater, Updated Design Option 3 - Lot 502 (Ultimate footprint)



Option 4 – Two Additional (five gates) – MHWS+CC Tidal Tailwater Level

With spoil placed across the ultimate filling footprint, and existing tidal gates supplemented with two additional 2.4m wide gates. Figure 31 shows peak flood levels are predicted to decrease across the north ponding area and increase in the south. A reduction in level of up to 50 mm is predicted in the northern ponding area, with an increase of 60 mm in the southern ponding area around Lot 507. There are no increases in flood level upstream of the Range and Magazine Creek wetland inlets. This is extended to the upstream stormwater network which has no observable impact from filling related to this option.

Figure 31 1% AEP impact with MHWS +CC tailwater, Updated Design Option 4 - Lot 502 (Ultimate footprint)



It's noted that there is significant level difference of flood water as flow crosses the Port River Expressway via major culvert and discharges into the Range Wetland. The culvert appears inlet controlled and provides context to the observation of flood level change in the range wetland not propagating upstream of the expressway.

4. Recommendations and Opportunities

Through review of the flood event ponding behaviour at Gillman, a number of modelling assumptions and dependencies were identified, and considerations for further investigation are noted here for any potential design efforts to modify/upgrade elements of the ponding areas.

Representation of the channel draining the Range Wetland for the assessment of fill impacts was limited to the invert tracing of the central channel to maintain flow connectivity to downstream, and overbank areas within the channel section were based on recent LiDAR representation of the topography. This had the potential to reduce residual afflux issues in the Range Wetland where the constructed section has a higher capacity than that represented by LiDAR. A model dependency section below discusses this in detail.

4.1. Gate and levee scoping

The below investigation/design activities are required at later design stages to determine the scope of works for any potential gate and levee upgrades. This list is not exhaustive but represents considerations that were identified during the analysis. Figures following indicate the observed conditions of the Magazine Creek gate structure and levee embankments either side of the structure.

- geotechnical and geo-environmental (ASS & PASS) investigation for all improvement works. Gates, levee upgrades, temporary works (including SEA Gas Pipeline protection and/or diversion works)
- detailed survey of the existing levee including levels and adjacent structures including scour protection
- detailed survey and condition assessment of the existing gate structure and foundations for the Magazine Creek wetland discharge control gate
- hydraulic design for the potential modified gate structure, including inlet/outlet channel transition works and scour protection
- environmental studies, including specific studies on mangrove accretion and fish nursery impacts,
- contamination assessment for preparation of a management plan
- review of the gas pipeline requirements for survey, protection during potential upgrade works and the detailed design coordination / approvals for completion of the levee upgrades.

Figure 32: Image of existing levee (view to the east).



Figure 33: Image of existing levee (view to the east from existing floodgate structure).



Figure 34: Images of existing levee (east and west of gate), gate structure and gas pipeline (upstream face of structure).



4.2. Review of channel and levee effectiveness

Results of the modelling of fill scenarios indicate flood levels in the southern ponding basin (Lot 507, downstream of the Range Wetland) may be increased by the proposed fill scenarios.

The separation of the northern ponding basin from the southern ponding basin by the existing levee is subject to the flow capacity of the existing culverts through the levee. The size and number of culverts was assumed for this analysis, but these parameters are important factors in determining the residual afflux that occurs in the southern ponding basin.

To target improvements to the afflux in the southern ponding basin confirmation of the culvert sizes and whether masterplan discussion on the potential augmentation of the Range Wetland outlet configuration is under consideration.

The below investigation/design is required to determine the appropriate scope of works where there is a need for upgrades to the channels:

- detailed bathymetric and bank top survey of the existing channels
- environmental studies including mangrove accretion and fish nursery impacts
- contamination assessment, including ASS and PASS for preparation of a management plan for the management of removed material.

4.3. Dependencies

4.3.1. Filling Progression

The assessment undertaken assumes the filling approach commencing with Lot 501, progressing to Lot 502. Where a different approach is taken then the staged impacts of the new approach should be assessed as appropriate.

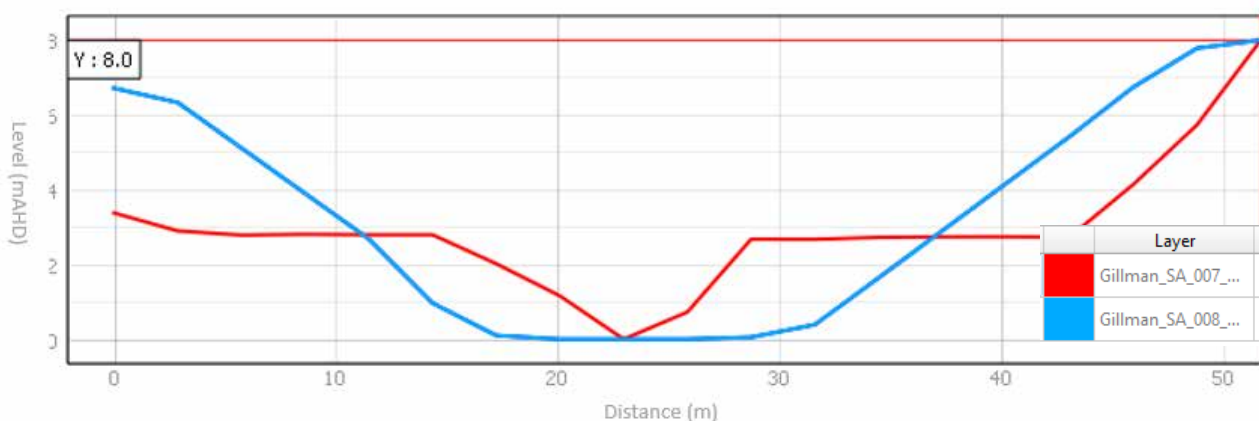
4.3.2. Range Wetland Outfall Channel Representation

The Gillman Development Precinct Range Wetland Outfall Channel Hydraulic Modelling (Tonkin 2013) report provided dimensions of the weir and channel that drain the Range Wetlands. This study relied on LiDAR representation for the weir which was found to be consistent with the detail data from Tonkin.

However, for the outfall channel, the design dimensions were larger than what was presented in LiDAR and therefore an assumption was made in the Gillman modelling assessment, the LiDAR channel dimensions was adopted for model runs.

Sensitivity testing was conducted to see if the increase in channel size would influence the flooding afflux of the Gillman SRF site. The impact of this widening lead to a minor increase in flooding downstream of the channel and a reduction in depth upstream, however, this change was negligible. Figure 34 shows the difference between the channel as picked up on LiDAR (red profile) vs the channel as per the 2012 report (blue profile).

Figure 35: Modelled representation of the Range Wetland Outfall Channel (v007 and v008)



Upon review of all 1% AEP storm and tidal combination events, the weir for the Range Wetland is drowned. With the design channel representation in the model conveying more flow downstream toward the southern ponding basin it is predicted that afflux could be decreased in the ponding basin by around 60 mm (event dependant). Therefore, the representation of the channel in the assessment provided in this report is conservative for the influence to ponding levels in Range Wetland, and non-conservative for the southern ponding area.

Figure 36: 1% AEP depth with MHWS tailwater, with channel widening at the Range wetlands and the option of four tidal gates at the downstream boundary

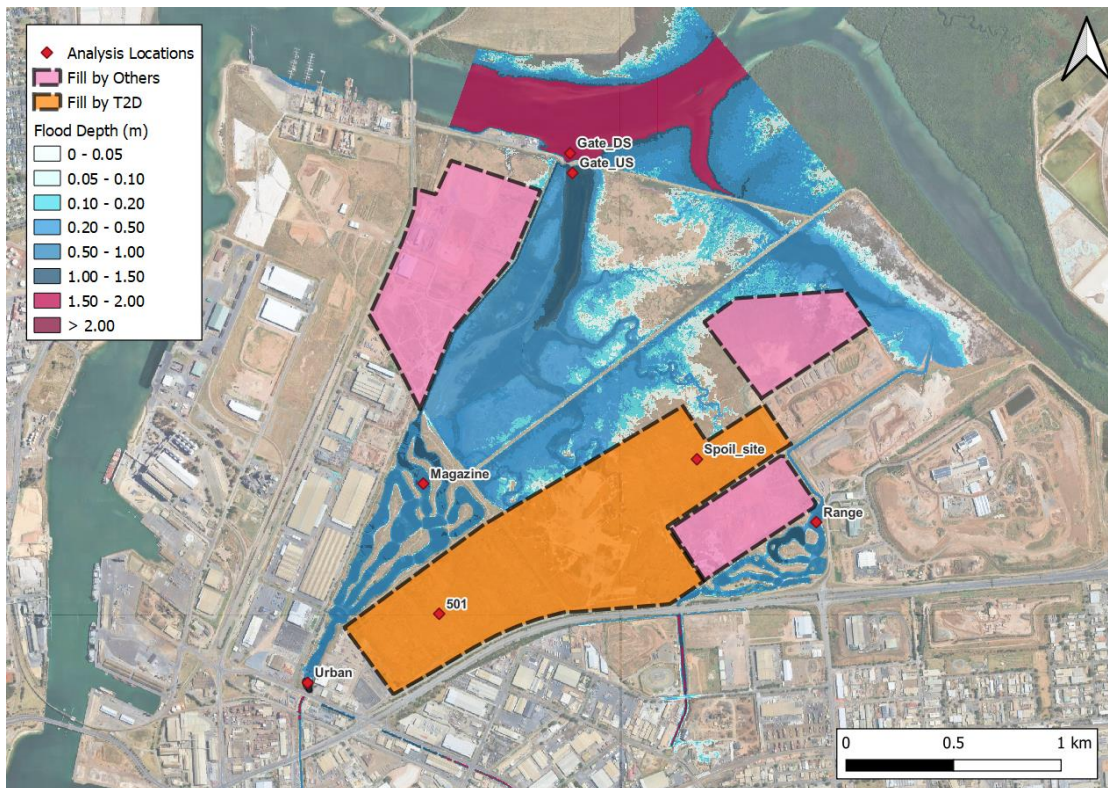


Figure 37: 1% AEP depth with MHWS+CC tailwater, with channel widening at the Range wetlands and the option of four tidal gates at the downstream boundary

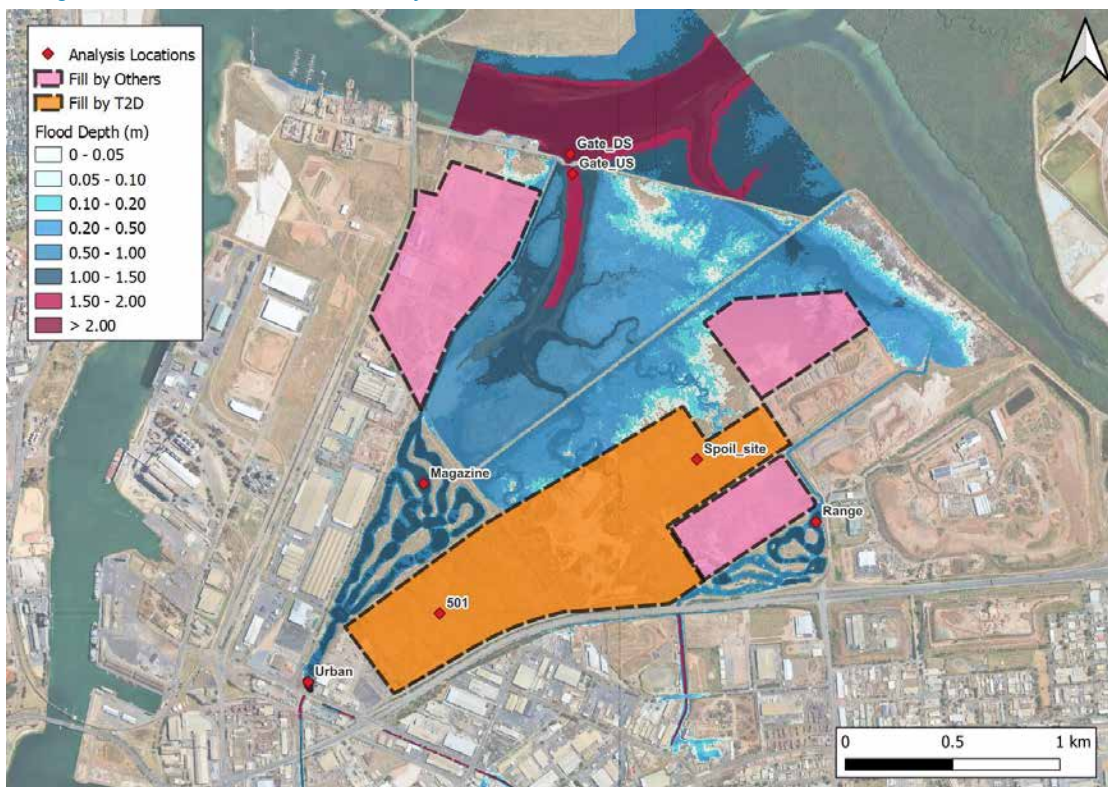


Figure 38: 1% AEP depth with 1% AEP tailwater, with channel widening at the Range wetlands and the option of four tidal gates at the downstream boundary

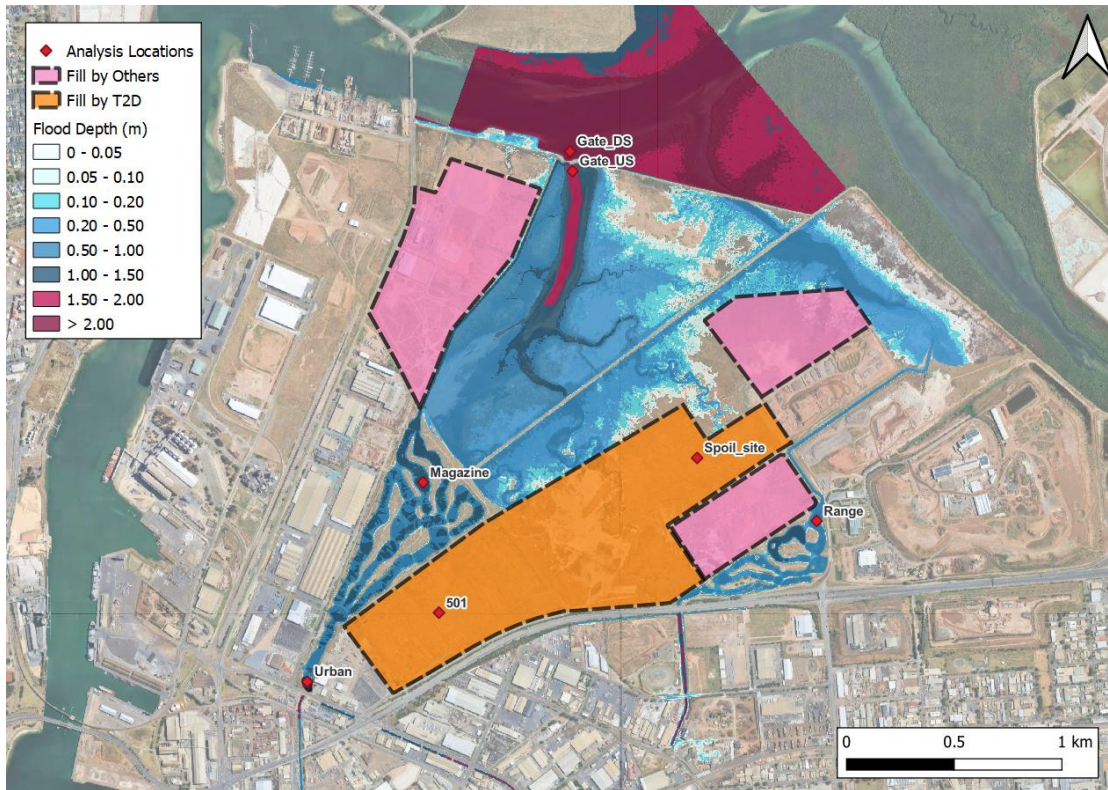
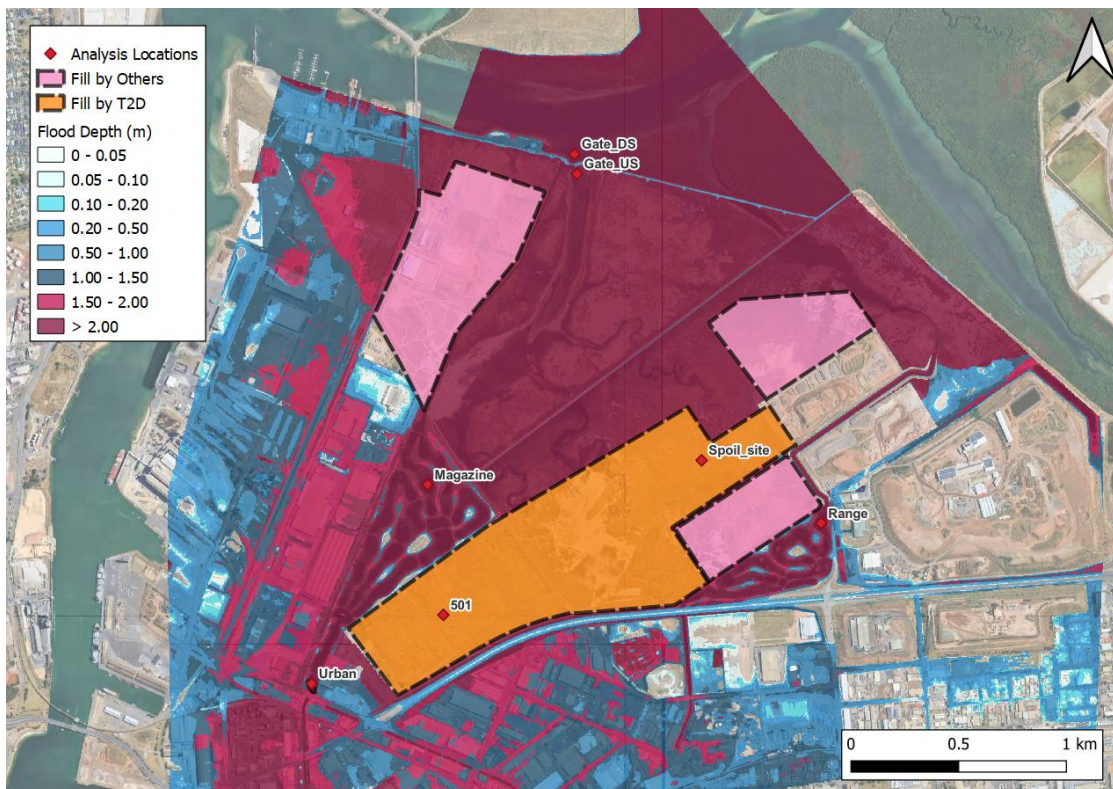


Figure 39: 1% AEP depth with 1% AEP+CC tailwater, with channel widening at the Range wetlands and the option of four tidal gates at the downstream boundary



5. Conclusion

The land at Gillman adjacent to the Magazine Creek and Range wetlands provides flood storage in the event of storms creating a large urban runoff flow. The area includes northern and southern ponding basins and is subject to flooding under existing conditions, which acts as a receiving waterbody for the upstream urban drainage networks. The ponding within the flood storage areas is then discharged to North Arm Creek but is constrained at times of elevated tidal levels within the creek downstream of the existing tidal gates located at the existing flood protection levee.

Previous work completed for the structure and master planning at Gillman had assessed opportunities for placing fill in various configurations at the northern and southern ponding areas to achieve development potential by raising portions of land to achieve flood immunity and limiting the flood impacts of the same.

The flood volume collected within the ponding area is passed by the existing three x 2.44m tidal gates, with a 1% AEP storm event passing the structure over a period of approximately 48 hours where there are relatively high tailwater conditions. Higher tailwater conditions can occur due to a range of factors including during coastal flood events, and the elevation of the water surface level within North Arm Creek is anticipated to rise in the future with climate change.

Future development proposed at Gillman and the associated filling of land will result in flood impacts upstream of the tidal gates. These impacts will be most evident where the filled land has displaced flood storage capacity and influences local flow paths, particularly in the northern ponding basin. This assessment has identified fill scenarios that have flood impacts to the ponding areas and provided information on scenarios where that influence is diminished at locations where the flood storage area receives flow from the urban upstream catchment, i.e. upstream of the Magazine Creek and Range wetlands. At these locations, the flood impact of placing the identified extended Lot 502 fill configuration within the flood storage area is negligible assuming MHWS+CC receiving watercourse conditions.

It's noted that there is significant level difference of flood water as flow crosses the Port River Expressway via major culvert and discharges into the Range Wetland. The culvert appears inlet controlled and provides context to the observation of flood level change in the Range Wetland not propagating upstream of the expressway.

Assessing the additional discharge required through the tidal gates to account for lost flood storage such that an equivalent flood level drawdown is observed required gate optioneering. Gate size increases have been modelled as discussed in Section 3.3.3, and it was found that four 2.44m gates (OPT3) provide for the discharge of additional flood volumes under an ultimate filling scenario (conservative) with a target of maintaining water levels in the MHWS event (or slightly improving them). Note this is a conservative assumption and testing has adopted tailwater conditions that provide a lower head difference across the structure (MHWS+CC).

In addition to this, connectivity of the various ponding basins could also be explored. There are remnant creek channels within the ponding basins, however, there do not appear to be any culverts through the levees to allow these areas to drain. Providing additional connectivity through the internal levees could distribute flood depths more evenly across the ponding basins, damping the effects of filling portions of the existing flood storage areas.

Residual issues of storage connectivity and localised afflux remain in the fill design scenario across discrete locations within the wetland and storage areas. Further channel and review of flow control culverts at embankments is required to optimise the design solution. This subsequent review would require a detailed bathymetric and bank top survey of the existing channels, environmental studies including mangrove accretion and fish nursery impacts and contamination assessment, including ASS and PASS for preparation of a management plan for the management of removal material.

Appendix G – Gillman SRF Driveway Access Assessment

NORTH-SOUTH CORRIDOR RIVER TORRENS TO DARLINGTON

Gillman Spoil Reuse Facility Lot
501 Access Driveway Assessment

DOCUMENT INFORMATION

ITEM	DESCRIPTION
Document Name:	Gillman Spoil Reuse Facility Lot 501 Access Driveway Assessment
Prepared By:	Mott MacDonald (MMD)
Responsible Work Stream:	Task 37

DOCUMENT CONTROL

REVISION NO.	REVISION DATE	AUTHOR	STATUS
1	Tuesday, 30 April 2024	MMD	Issue for Comment
2	Monday, 20 May 2024	MMD	Issue for Approval

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GLOSSARY

TERM	DESCRIPTION
AADT	Average Annual Daily Traffic
Eastern Parade Businesses	Local businesses located at Lot 202, Lot 1 and Lot 2
EB	Eastbound
HV	Heavy Vehicle
Lot 501 Access Driveway	Proposed upgrade to the Lot 501 Eastern Parade access point to facilitate existing business traffic and the traffic generated by the development
LV	Light Vehicle
MMD	Mott MacDonald
NSC	North-South Corridor
NSC PDO	North-South Corridor Program Delivery Team
PREXY	Port River Expressway
SB	Southbound
SRF	Spoil Re-use Facility
T2D	Torrens to Darlington
TBM	Tunnel boring machine
The Department	Department for Infrastructure and Transport
WB	Westbound

1. BACKGROUND

1.1. THE T2D PROJECT

The River Torrens to Darlington (T2D) Project is the final 10.5km section of a wider 78km Adelaide North-South Corridor (NSC) project. The 30-Year Plan for Greater Adelaide (2017), the 20-Year State Infrastructure Strategy (2020) and the Integrated Transport and Land Use Plan (2013) all identified the NSC as one of South Australia's most important transport corridors.

The T2D Project design consists of two sections of twin tunnels joined by an open motorway. The Southern Tunnels will connect Darlington to Anzac Highway, while the Northern Tunnel will connect to Torrensville (River Torrens). The Southern Tunnel and Northern Tunnel will be joined by the open motorway.

1.2. PURPOSE OF THIS DOCUMENT

The purpose of this document is to present an assessment for the existing conditions and proposed access arrangements associated with a development application for the Gillman Spoil Re-Use Facility (SRF) to service the T2D Project. The current development application relates only to the use of land at 208 Eastern Parade, Gillman generally referred to as Lot 501. For the purpose of this assessment, Lot 501 will be treated as a standalone parcel; however, references to combine Lot 501 and Lot 502 in future usage plans (Lot 502 is subject to a separate future development application) are stated for full understanding of the site usage intention.

Access to Lot 501 is proposed to be serviced by two access points on Eastern Parade and Hanson Road. Each access is proposed to be capable of acting as the primary access for both ingress and egress. The Hanson Road access requires a proposed link through Lot 502.

The proposed Eastern Parade access to Lot 501 uses an existing access loop for a small precinct containing several local businesses (to be referred "Eastern Parade Businesses") and proposes an upgrade to part of this access loop to facilitate existing business traffic and the traffic generated by the development (the upgrade referred herein as the "Lot 501 Access Driveway").

No traffic modelling at the Eastern Parade or Hanson Road access points been undertaken as part of this assessment.

1.3. SPOIL RE-USE FACILITY (SRF)

The T2D Project will require the establishment of a SRF to receive, treat and beneficially re-use the spoil that will be excavated during construction. The spoil from the T2D Project will comprise of a mixture of tunnel boring machine (TBM) generated spoil and bulk earthwork material excavated from the lowered motorway and tunnel portals. It is anticipated that the SRF will receive all of the TBM and bulk earthworks excavated during the construction of the northern and southern tunnels. Excavations are estimated to occur mid 2025 through early 2031.

The expected design vehicle for spoil haulage is a 23m Truck and Dog as advised by the Department. The site will operate 24 hours per day, 7 days per week for the duration of the construction of the T2D Project.

1.4. THE GILLMAN SITE

The Gillman site proposed for the SRF is located approximately 12km (in a direct line) north-west from the Adelaide Central Business District (CBD) on land to the north of the Port River Expressway (PREXY), in the suburb of Gillman, South Australia.

The SRF is located on vacant outer urban land surrounded by mixed land uses including commercial, utility / industry and waste receiveal land uses. The site is adjacent to several sensitive and protected aquatic and intertidal ecosystems nearby, including reserves, sanctuaries, and wetlands.

There are no residential land uses in proximity to the site, with the nearest residents one kilometre south in the suburbs of Ottoway and Rosewater, part of the City of Port Adelaide Enfield Council Local Government Area.

The site extent and surrounding land parcels are shown below in Figure 1-1. Lot 501 and Lot 502 will be utilized as the Gillman SRF subject to two separate development application processes.



Figure 1-1 Lot 501 Gillman SRF Location

1.5. STAKEHOLDER CONSULTATION

Eastern Parade Businesses include:

- Autonexus Adelaide

- Rivet Energy
- Howard-Kerr Transport
- Ampol
- Rapid.

A survey to understand the nature of these Eastern Parade Businesses (excluding Ampol), their access requirements, vehicle types used, hours of operation and volumes of vehicles accessing their business site was undertaken in February 2024 to gain insight into the existing access arrangements and conditions for the purpose of this Access Assessment. Responses to the survey are summarised in Section 2.

A public weighbridge is located within the site. The estimated traffic generation for the public weighbridge and Ampol is unknown.

At the date of this assessment, no further stakeholder consultation was undertaken regarding the Lot 501 proposal.

1.6.SURROUNDING ROAD NETWORK

The primary arterial roads relevant for access to Gillman Lot 501 are Eastern Parade, Hanson Road and PREXY, the characteristics of which are summarised in Table 1-1. All roads listed are under the jurisdiction of the Department for Infrastructure and Transport (State maintained roads).

Table 1-1 Surrounding Road Network

ROAD NAME	NO. OF LANES (TWO-WAY)	POSTED SPEED	MEDIAN DIVIDED	ROAD HEIRARCHY CLASSIFICATI ON	AADT* % CV
Port River Expressway (PREXY)	6 lanes to the east of Hanson Road, 4 lanes to the west of Hanson Road Entry/Exit lanes differ	90km/h on expressway 60 km/h on entry/exit lanes	Yes	Motorway Major Traffic Route Freight Route	At Hanson Road: 35,200 13.5% At Eastern Parade: 34,000 12.5%
Hanson Road	2 lanes (unmarked) to the north of PREXY	50 km/h (unposted) to the north of PREXY	No (to the north of PREXY)	Major Traffic Route and Freight Route to the south of PREXY	North of PREXY: 2,500 80%
Eastern Parade	4 lanes	60 km/h	No	Freight Route	North of PREXY: 3,600 39%

*Traffic Volume Estimates accessed from LocationSA November 2023

2. EXISTING CONDITIONS

This section summarises existing conditions at the access points for the proposed Lot 501 Gillman SRF development and the current usage by Eastern Parade Businesses.

2.1.ACCESS ARRANGEMENTS

Existing access arrangements for each are described below.

2.1.1. EASTERN PARADE

At Eastern Parade, access is shared with Eastern Parade Businesses, with existing ingress and egress separated by 120m as shown in Figure 2-1, with right in / left in and right out / left out provided at each connection point respectively. These separated ingress and egress points create a one-way internal clockwise circulation road.

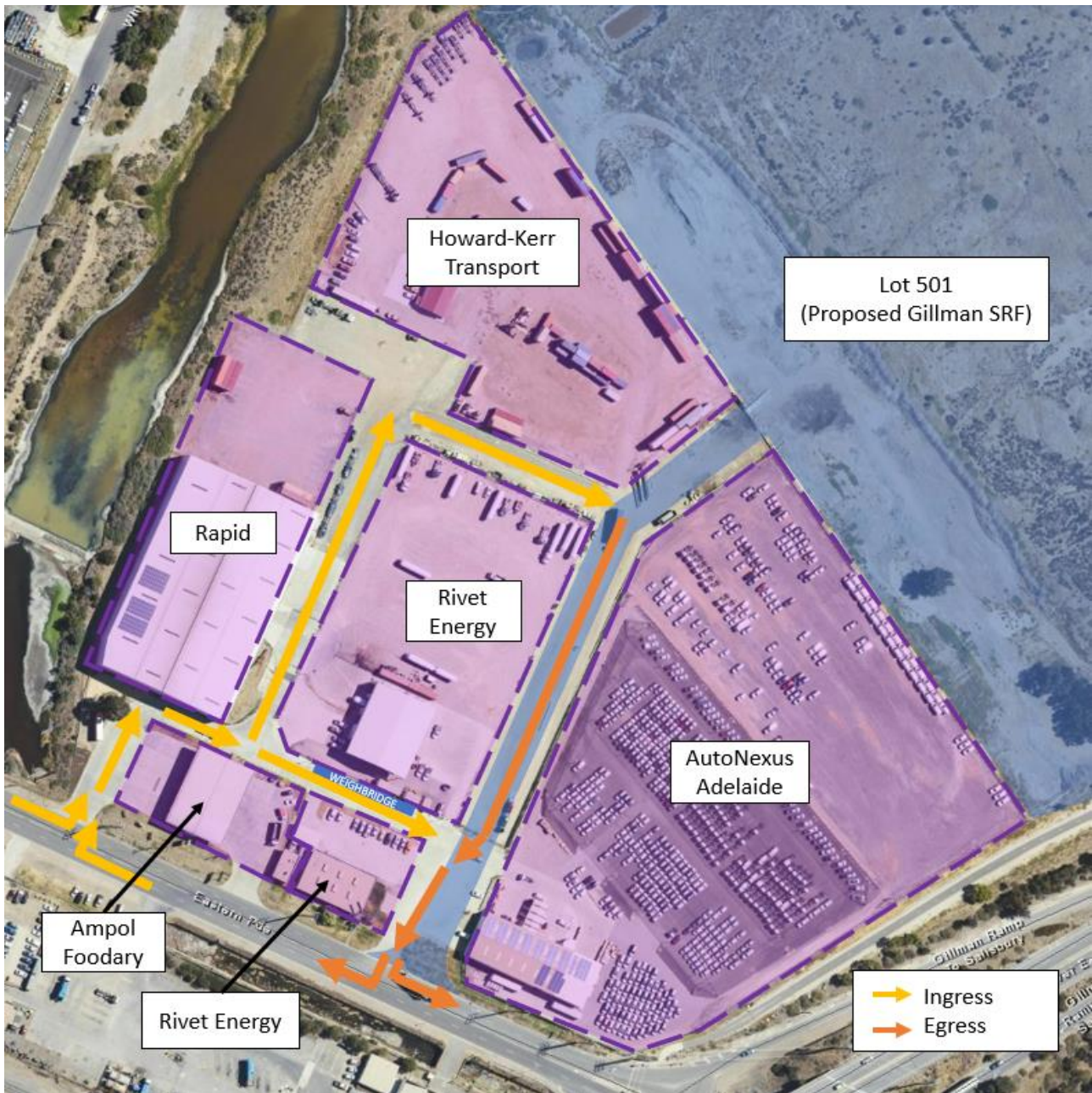


Figure 2-1 Existing Site Movement Pattern via Eastern Parade (Basemap source: LocationSA)

Figure 2-2 shows a representation of the existing ingress and egress pattern for individual Eastern Parade Businesses.



Figure 2-2 Existing Eastern Parade Business Access Arrangement (Basemap source: LocationSA)

2.1.2. HANSON ROAD

Hanson Road north is established and utilised by large heavy vehicles to access the waste and recycling centres on the eastern side of Hanson Road. Hanson Road north is partly sealed with no line marking. There is currently no shared access with other businesses, and existing access is informal.

2.2. VEHICLE TYPES AND VOLUMES

This section summarises the existing vehicle types and volumes using the proposed Gillman Lot 501 access points.

2.2.1. EASTERN PARADE

Eastern Parade Businesses provided information regarding the vehicle types and volumes accessing their respective sites within the survey described in Section 1.5. Table 2-1 summarises the responses regarding the vehicle types and volumes accessing Business sites per day.

Table 2-1 Existing Eastern Parade Business Vehicle Access Hours and Volumes

BUSINESS NAME	HOWARD-KERR TRANSPORT	RAPID	RIVET	AUTONEXUS
Operating hours	03:00 – 16:00 Monday to Friday	05:00 – 17:00 Monday to Saturday	24/7	06:00 – 16:00 Monday to Friday
Daily volumes by vehicle type	Light vehicle: 40 Semi-trailer: 50 B-Double: 25 B-Triple / road train: 25	Light vehicle: 5 Rigid truck: 10 Semi-trailer: 10 B-Double: 10 B-Triple / road train: 10	Light vehicle: 10 Semi-trailer: 15 B-Double: 10 B-Triple / road train: 10 A-B Triple: 2	Light vehicle: 15 Rigid truck: 10 Semi-trailer: 20 B-Double: 10 B-Triple / road train: 1
Peak movement times	Early morning - < 07:00 and morning peak, 7:00 – 10:00	Mainly in the morning, but can be busy all day	Morning peak, 7:00 – 10:00	All Day

Table 2-2 summarises the total volume per vehicle type accessing the Eastern Parade precinct.

Table 2-2 Existing Eastern Parade Business Total Vehicle Types and Volumes

VEHICLE TYPE	HOWARD-KERR TRANSPORT	RAPID	RIVET ENERGY	AUTONEXUS	TOTAL
Light Vehicle	40	5	10	15	70
Semi-Trailer	50	10	15	20	95
Rigid Truck		10		10	20
B-double	25	10	10	10	55
B-Triple/Road Train	25	10	10	1	46
A-B Triple			2		2
Total	140	45	47	56	288

A total of 288 vehicles associated with the Eastern Parade Businesses access the site area daily. 70 are light vehicles and 218 are large heavy vehicles.

A peak hour volume was estimated using information provided by Eastern Parade Businesses as seen above in Table 2-1 and Table 2-2. An assumption of 40% of vehicles arriving within a 3-hour peak demand period with current available volumes (no anticipated growth) were used in calculations to determine a single peak hour demand as seen below in Table 2-3.

Table 2-3 Eastern Parade Businesses Peak Hour Demand

		HOWARD-KERR TRANSPORT	RAPID	RIVET ENERGY	AUTONEXUS	SUB TOTAL	TOTAL
Light Vehicle	Light Vehicle	5	1	1	2	9	9
Heavy Vehicle	Semi-Trailer	7	1	2	3	13	15
	Rigid Truck	0	1	0	1	2	
Large Heavy Vehicle	B-Double	3	1	1	1	6	11
	B-Triple/Road Train	3	1	1	0	5	
	A-B Triple	0	0	0	0	0	
TOTAL		18	5	5	7	35	35

2.2.2. HANSON ROAD

There is currently no consistent vehicle use at the proposed Hanson Road north access point.

2.3. PEDESTRIAN / ACTIVE TRANSPORT / PUBLIC TRANSPORT

There is currently no dedicated pedestrian access to the site. A boundary fence along the perimeter of the site, including along the SUP, prevents unauthorized entry. There are no paved footpaths along Eastern Parade. There is no formal pedestrian infrastructure within the Eastern Parade precinct.

The Port River Bikeway (from Port Adelaide to Northern Connector) is a Shared User Path (SUP) which runs along the southern boundary of the site to the north of the PREXY. It includes a signalised crossing across the PREXY and Eastern Parade at the Eastern Parade / Francis Street / PREXY intersection.

No Adelaide Metro public transport services are located around the boundaries of the site or undertake movements at the intersections adjacent to the site. The nearest bus stop is 1.0km walk from the site access point (Stop 36 Bedford Street or Stop 35A Eastern Parade).

3. PROPOSED DEVELOPMENT ACCESS

This section documents the Gillman Lot 501 proposed development access and amendments to existing traffic patterns and volumes. The Lot 501 development is proposed to be accessed via both Hanson Road and Eastern Parade. Under circumstances where either access point is impeded or unavailable, the SRF is to be capable of operating by either single access (both ingress and egress).

The Eastern Parade access for spoil haulage vehicles is to be via left in / left out only due to proximity to the Eastern Parade / PREXY intersection. Spoil haulage access via Hanson Road is proposed to have all movements permitted, however development related traffic is expected to be left in / right out.

The Department will upgrade both access roads as part of early works to support the SRF, while also ensuring existing access arrangements for neighbouring properties are retained and safe interfaces with the Port River Bikeway on Hanson Road.

The proposed Lot 501 development is shown in Figure 3-1.

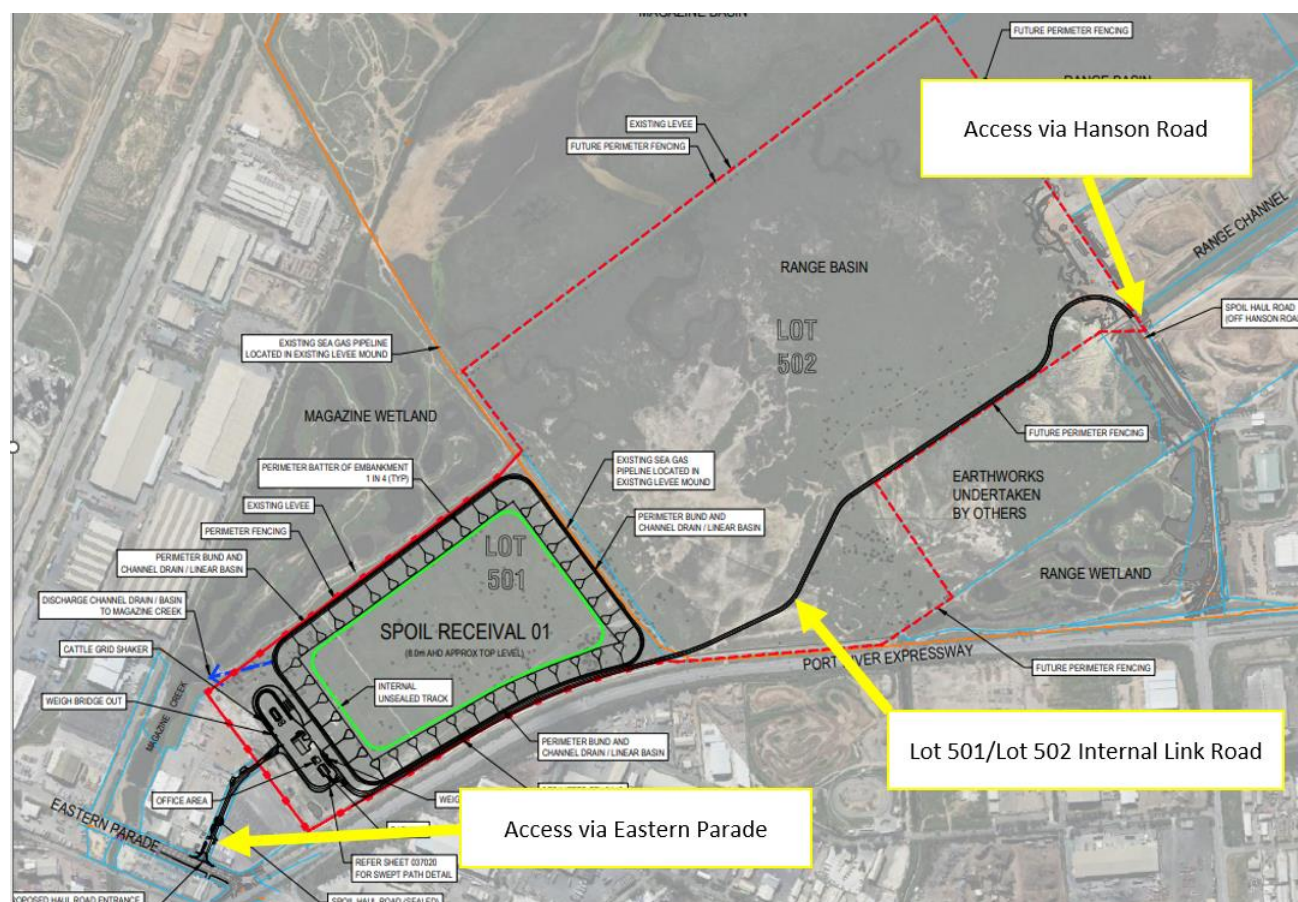


Figure 3-1 Access to Lot 501 and 502

3.1.VEHICLE TYPES AND VOLUMES

Vehicle types and volumes associated with the Lot 501 development and changes to arrangements for Eastern Parade Businesses are summarised within the following sections.

3.1.1. PROJECT GENERATED TRAFFIC

The proposed Gillman Lot 501 development traffic will consist of spoil trucks containing surface excavation and TBM spoil, staff vehicles and deliveries (fuel, cement, other necessary goods). A summary of project generated traffic is provided in Table 3-1.

Table 3-1 Project Generated Traffic

VEHICLE PURPOSE	VEHICLE TYPE	GENERATED TRIPS PER DAY (ONE-WAY)	ESTIMATED PEAK HOUR TRIPS
Spoil Haulage	23m Rigid Truck and Dog	544 (Maximum) 280 (Average)	33 (Maximum) 17 (Average)
Staff Trips - On-site staff over two shifts	Light Vehicles	30	12
Fuel Delivery – fuel for on-site vehicles and machinery	19m Semi-Trailer	1	-
Miscellaneous deliveries	8.8m Heavy Vehicles	4	-

The maximum quantity of spoil trucks is estimated to occur within Q1 of 2028 at 33 per hour based on a 12-hour surface excavation shift per day and 24-hour TBM shift (17 per hour if using a 24-hour excavation schedule). The potential for this scenario hinges on the simultaneous occurrence of TBM excavations and multiple surrounding surface excavation areas. However, the actual truck counts can only be determined upon completion of a final construction schedule and availability of fleet and personnel.

Within the above figures, an expected 12 trucks per hour will be due to TBM spoil haulage vehicles.

The expected rates at which spoil vehicles will be accessing the SRF can be found below in Table 3-2.

Table 3-2 Spoil Trucks Access to SRF Frequency

PEAK HOUR TRIPS	FREQUENCY OF ACCESS (RECURRING/APPROXIMATE)
Maximum (33 per hour)	2-minute intervals (during 12-hour daytime shift)
Average (17 per hour)	3-minute intervals (during 12-hour daytime shift)
Night (TBM Only – 12 per hour)	5-minute intervals

Fuel and miscellaneous deliveries may be limited to occur only out of peak hour. Staff trips are estimated at 30 per day for Gillman Lot 501 and 502 combined. One hundred percent of staff are expected to arrive through Eastern Parade for the purpose of this assessment and 80% are estimated to access during peak hour across 2 shifts.

Surrounding Road Network

For egress of the site, queues for spoil haulage vehicles turning left out of the Lot 501 Access Driveway or Hanson Road access are to be contained within the site boundary. The low AADT of Eastern Parade and Hanson Road at the Gilman SRF access locations suggests delays incurred waiting for a safe gap to undertake the left out or right in movement will not be significant.

The impact of project generated traffic at signalised intersections on the surrounding road network was undertaken in a previous assessment. SIDRA Intersection traffic modelling for AM and PM peak hours indicated that for Project Case Scenarios:

- At the intersection of Hanson Road / PREXY: Additional vehicles associated with spoil haulage (turning right onto Hanson Road north to ingress and left from Hanson Road north to egress) do not result in any queue overflow on the intersection and do not result in any significant impact to the intersection's performance.
- At the intersection of PREXY / Perkins Drive / Francis Street: For additional vehicles associated with spoil haulage (turning right onto Perkins Drive to ingress), modelling indicated that the existing right turn short lane was insufficient to contain project generated traffic at the peak spoil haulage rate during the intersection peak hours. The Department is to consider whether intersection upgrades are required given alternative access to the SRF is via Hanson Road.
- At the intersection of Eastern Parade / Grand Trunkway / Perkins Drive: For additional vehicles associated with spoil haulage (turning right onto Eastern Parade), modelling indicated that the existing right turn short lane was insufficient to contain project generated traffic at the peak spoil haulage rate during the intersection peak hours. The Department is to consider whether intersection upgrades are required given alternative access to the SRF is via Hanson Road.
- At the intersection of Eastern Parade / PREXY: Additional vehicles associated with spoil haulage (turning left onto PREXY to egress) do not result in any queue overflow on the intersection and do not result in any significant impact to the intersection's performance.

Any permits and/or adjustments to the Department's RAVnet to accommodate the spoil haulage vehicles will be managed by the Department.

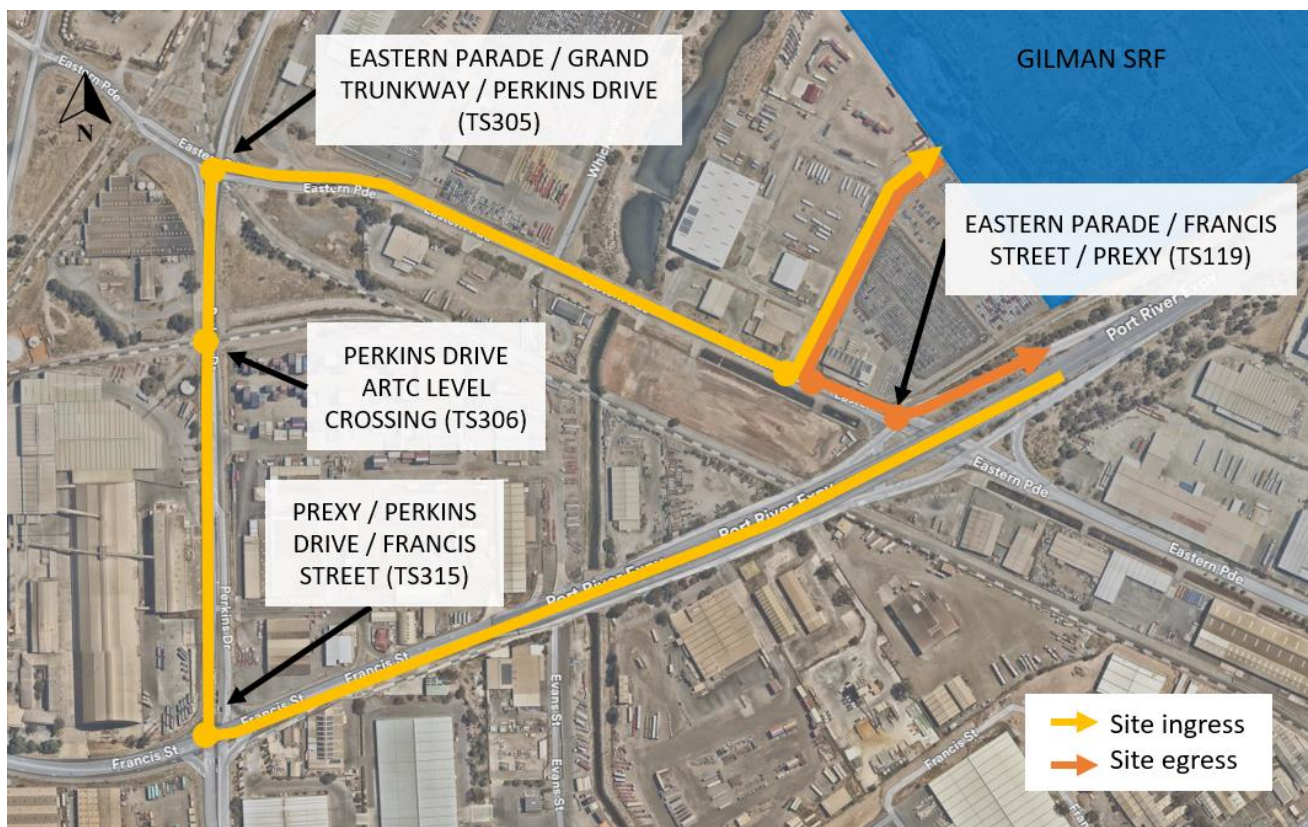


Figure 3-2 Spoil Haulage Route from Port River Expressway

3.2. EASTERN PARADE LOT 501 ACCESS DRIVEWAY

The proposed Lot 501 Access Driveway is proposed to connect Eastern Parade to Gillman Lot 501. The Lot 501 Access Driveway is to be located within the existing Lot 501 boundary. The Lot 501 Access Driveway is approximately 270 meters in length and will incorporate five (5) access points for use by Eastern Parade Businesses. Indicative drawings to be found in Appendix A.

3.2.1. OPERATION

The following sections discuss the proposed Lot 501 Access Driveway's use by project related vehicles and Eastern Parade Businesses.

Spoil Haulage Vehicle Access

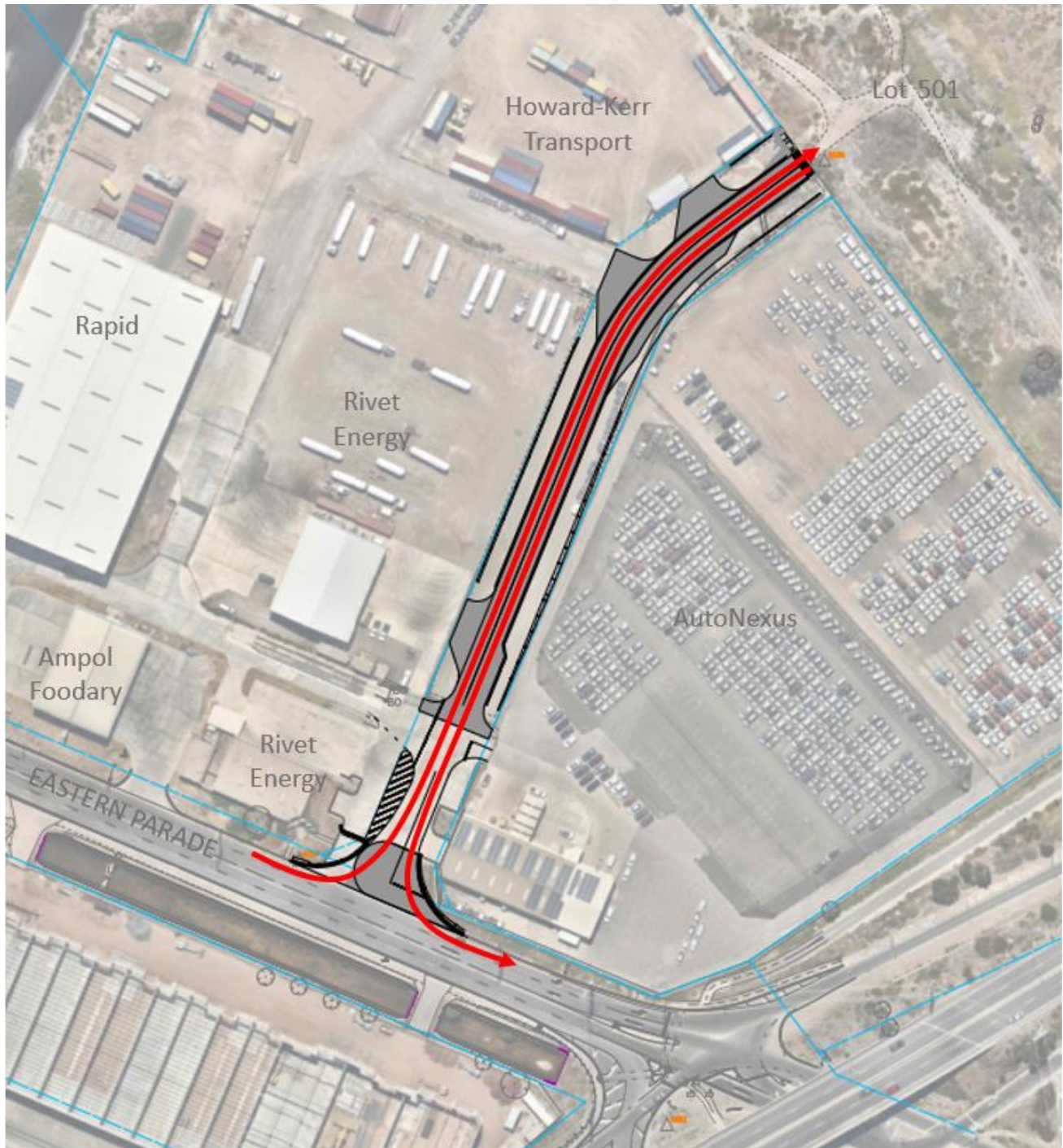


Figure 3-3 Eastern Parade Access proposed alignment and project vehicle path

A turn path analysis with corresponding design vehicle types for respective Eastern Parade Business and Gillman SRF use can be found in Appendix B.

Eastern Parade Businesses Access

The Eastern Parade access as discussed above will be available for existing business usage within the planned traffic flow pattern. Eastern Parade proposed access is shown in Figure 3-4.

The below considerations have been made in Table 3-3 and cross referenced in Figure 3-4.

Table 3-3 Lot 501 Access Driveway Considerations and Amendments

LOT 501 ACCESS DRIVEWAY CONSIDERATIONS AND AMENDMENTS		REFERENCE ON FIGURE 3-4
	Existing Howard Kerr Transport egress to be closed. Proposed egress along southeast boundary.	1
	Lot 501 Access Driveway to be widened at turn to allow for vehicle movements egressing Howard Kerr Transport and internal circular road.	2
	Existing internal circular route to remain and egress to Lot 501 Access Driveway to be formalized for use by existing Eastern Parade Businesses.	3
	Existing Rivet Energy egress to be closed. Proposed Rivet access along Lot 501 Access Driveway to remove movement from proposed give-way arrangement.	4
	Existing AutoNexus access alignment to be maintained and utilized as an ingress and egress.	5
	For Eastern Parade Businesses a right and left in will be allowed at existing entrance point to the west of Ampol Foodary. To maintain existing arrangement, the Lot 501 Access Driveway exit will allow for right and left turns out onto Eastern Parade for Eastern Parade Businesses. Left in/left out at the Lot 501 Access Driveway will be used for Project Related vehicles accessing Lot 501.	6
	Give way marking and signage to be installed at the junction of the weighbridge/circular route, Lot 501 Access Driveway and AutoNexus access. Widened egress from weighbridge/circular route to accommodate Lot 501 Access Driveway to have right of way.	7

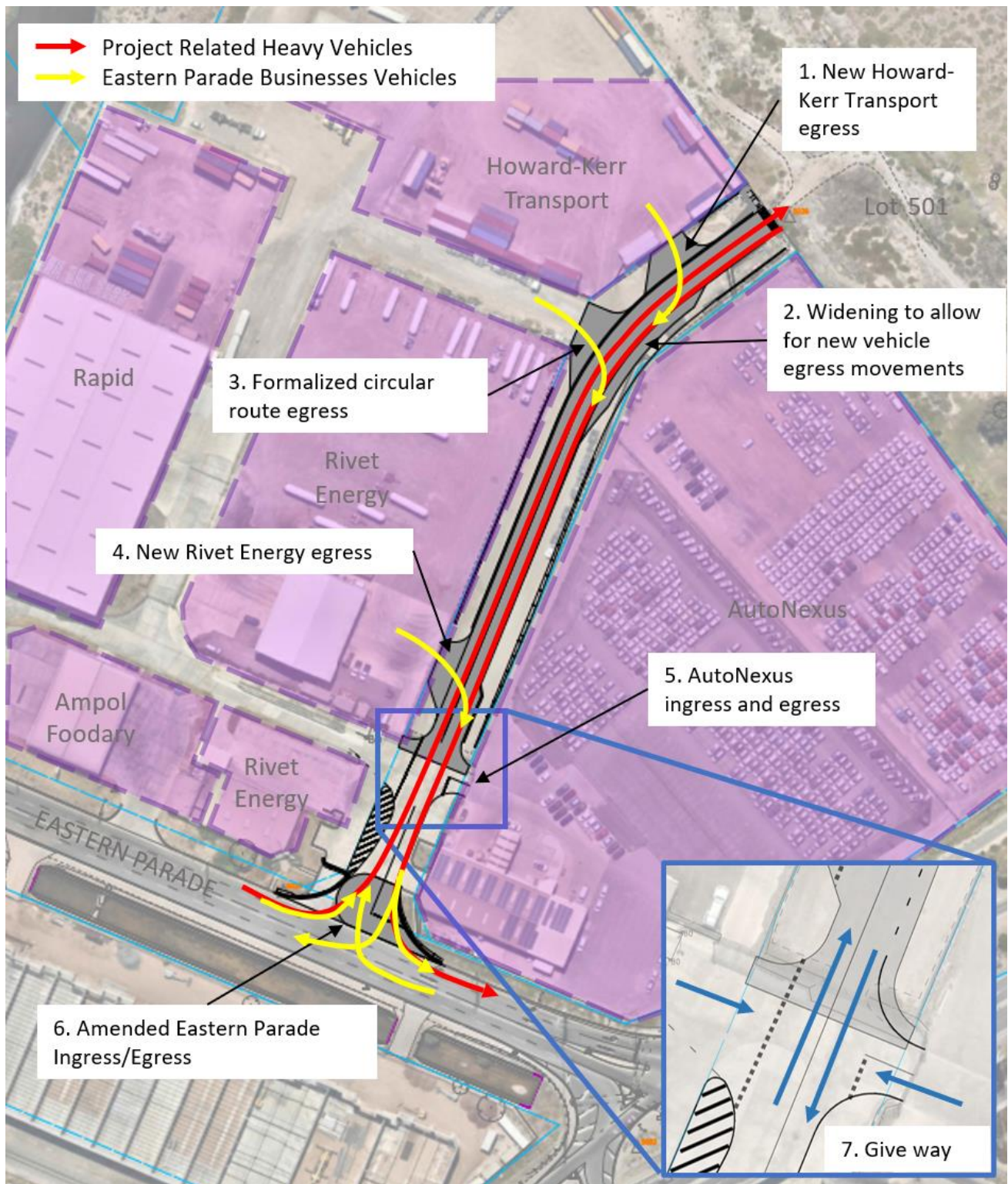


Figure 3-4 Lot 501 Access Driveway layout

3.2.1. OVERALL TRAFFIC VOLUMES

The maximum estimated total daily volumes for the Gillman SRF at the peak of construction, based on estimates of peak concurrent surface excavations and TBM spoil movements, is outlined in **Error! Reference source not found..** Given the ability for either of the Eastern Parade or Hanson Road access to accommodate traffic movements, an assessment has been done on the assumption that 100% of movements will be via Eastern Parade and considered movements from existing businesses as a worst-case scenario.

Table 3-4 Total Daily Volumes

VEHICLE TYPE	VEHICLE PURPOSE	PROJECT GENERATED TRIPS (ONE-WAY)	EXISTING BUSINESS TRIPS (ONE WAY)	TOTAL TRIPS (ONE WAY)
Heavy Vehicles	Spoil Haulage, fuel, deliveries/ large and heavy large vehicle, etc	544 (Maximum) 280 (Average)	218 (Average)	762 (Maximum) 498 (Average)
Light Vehicles	Staff Vehicles	30	70 (Average)	100

544 is the maximum number of trips generated based on estimates of peak concurrent surface excavations and TBM excavations stated within program. An average of 280 spoil trucks per day has been calculated.

A total peak hour demand volume using the Eastern Parade Access can be found in **Error! Reference source not found..**

Table 3-5 Total Peak Hourly Volumes

VEHICLE TYPE	VEHICLE PURPOSE	PROJECT GENERATED TRIPS (ONE-WAY)	EXISTING BUSINESS TRIPS (ONE WAY)	TOTAL TRIPS (ONE WAY)
Heavy Vehicles	Spoil Haulage, fuel, deliveries/ large and heavy large vehicle, etc	33 (Maximum) 17 (Average)	26	59 (Maximum) 43 (Average)
Light Vehicles	Staff Vehicles	12	9	21

3.3. HANSON ROAD

The proposed development will upgrade and extend the existing sealed surface of Hanson Road north to connect with the internal spoil haulage link road within the Gillman SRF site. These proposed works, which are not development and part of the development application for the SRF, include line marking the existing unmarked road and formalising access to the existing waste and recycling centre via:

- A right turn short lane of approximately 210m on Hanson Road for right turn movements in
- A low angle left turn merge lane of approximately 160m for left turns out

Access to other sites is to be paved up to the respective property boundary where there is no existing sealed access.

The proposed Hanson Road north upgrades are shown in Figure 3-5.

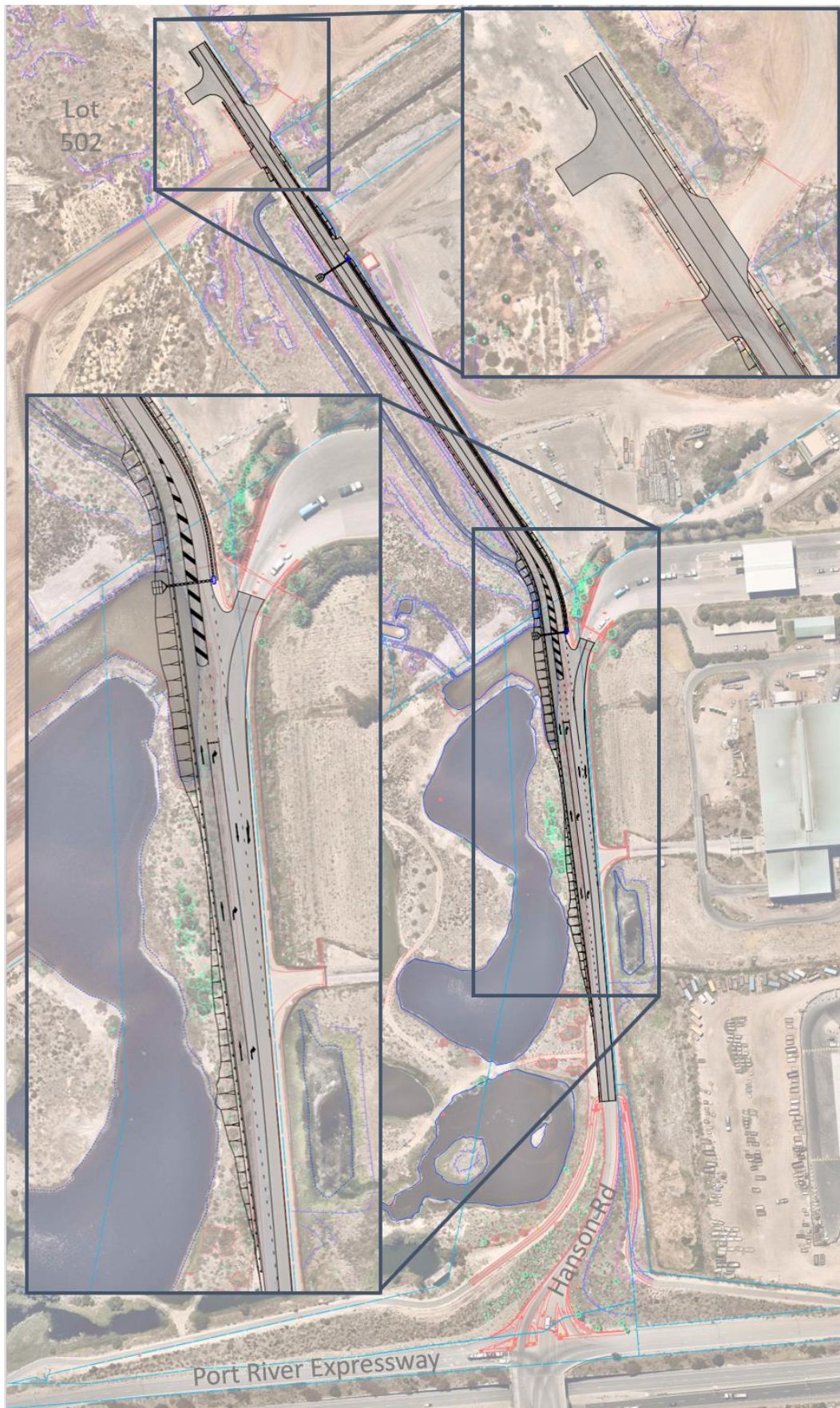


Figure 3-5 Lot 502 access via Hanson Road

3.4. PEDESTRIAN / ACTIVE TRANSPORT / PUBLIC TRANSPORT

There is no anticipated increase in pedestrian volumes or impact on active and public transport routes associated with the proposed Lot 501 development. No additional pedestrian infrastructure has been proposed at this stage of design.

Access to the Gillman SRF via Hanson Road intersects the Port River Bikeway via an unsignalised crossing just to the north of the PREXY interchange. At this location, the road has a notable grade which provides additional sight distance, but increases the required vehicle stopping distance. A sight distance check and mitigation measures such as warning signage and further protection for shared use path users are to be considered by the Department.

4. SUMMARY

The proposed Gillman Lot 501 development comprises a SRF facility to receive, treat and beneficially re-use spoil that will be excavated during construction of the NSC T2D Project. At the peak of operation for Gillman Lot 501, 33 spoil haulage round trips per hour are expected to access the proposed facility using 23m Truck and Dogs. Additionally, other vehicles will be required to support the treatment of spoil and operation of the facility such as fuel trucks and staff light vehicles.

An Access Assessment was undertaken to document the impacts of the proposed Gillman SRF on existing conditions. The proposed Gillman SRF is proposed to operate via two access locations on Eastern Parade and Hanson Road. Each access is proposed to be capable of acting as the primary access for both ingress and egress. This is via left in / right out at the Hanson Road access and left in / left out only at the Eastern Parade access.

The respective access points are proposed to have the following impacts on existing conditions:

- Eastern Parade:
 - The existing shared access with Eastern Parade Businesses is proposed to be developed to provide a Lot 501 Access Driveway. This Driveway is proposed to be used by Gillman SRF vehicles and existing local businesses and vehicle turn paths were developed accordingly. The peak hour volumes for Eastern Parade Businesses and Gillman SRF vehicles are summarised in Table 4-1.

Table 4-1 Peak Hour Existing Eastern Parade Business and Project Related Vehicles

TRAFFIC TYPE		LIGHT VEHICLE	HEAVY VEHICLE	TOTAL VEHICLES
Eastern Parade Business Traffic	Howard Kerr Transport	5	13	19
	Rapid	1	4	5
	Rivet Energy	1	4	5
	AutoNexus	2	5	7
Project Related	Project Spoil	0	33	33
	Project Staff	12	0	12
TOTAL VEHICLES		21	59	81

- Hanson Road:
 - The proposed development will upgrade and extend the existing sealed surface of Hanson Road north to connect with the internal spoil haulage link road within the Gillman SRF site. These proposed works include line marking the existing unmarked road and formalising access to the existing waste and recycling centre. Access to other sites is to be paved up to the respective property boundary where there is no existing sealed access.

APPENDIX A – INDICATIVE DESIGN DRAWINGS

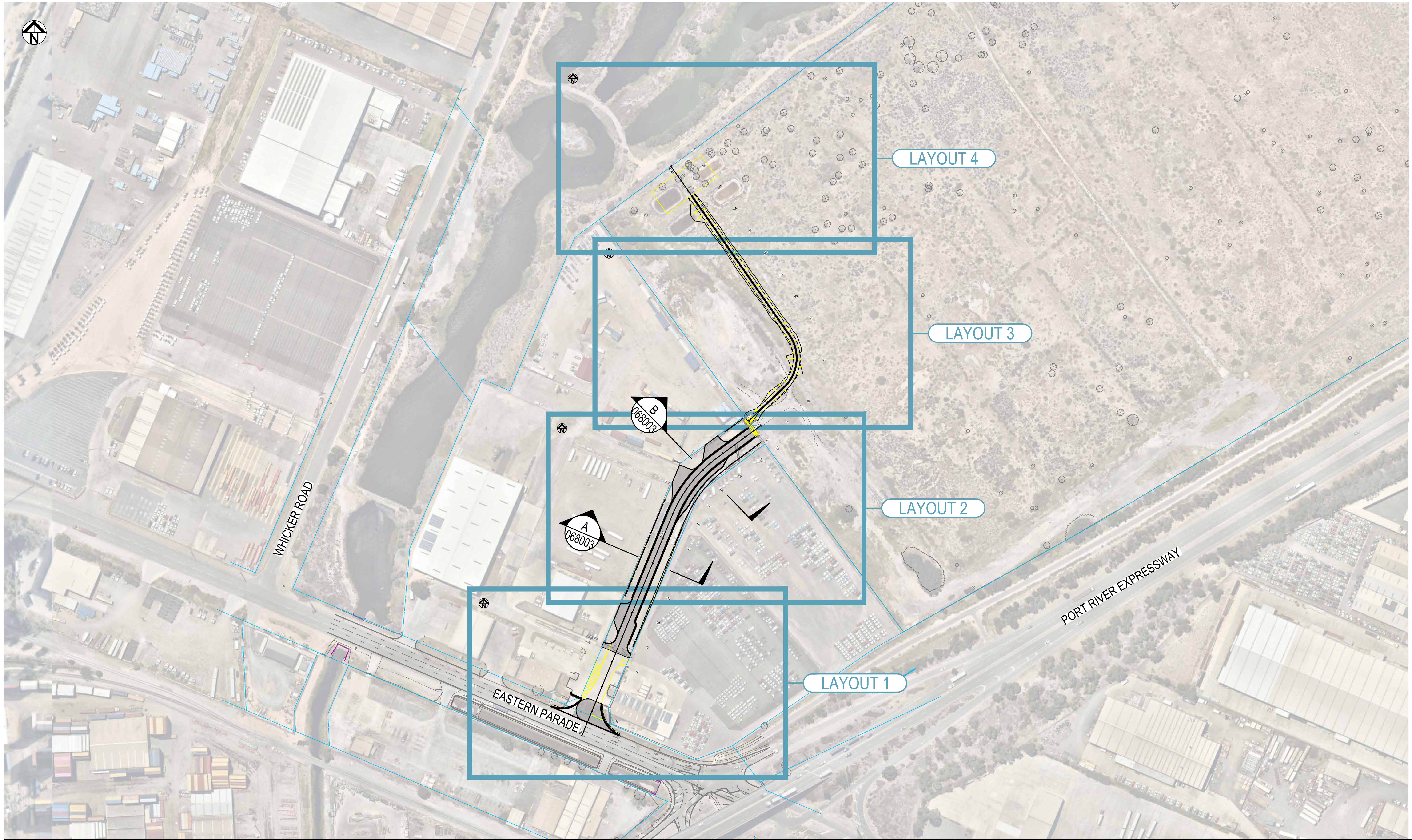

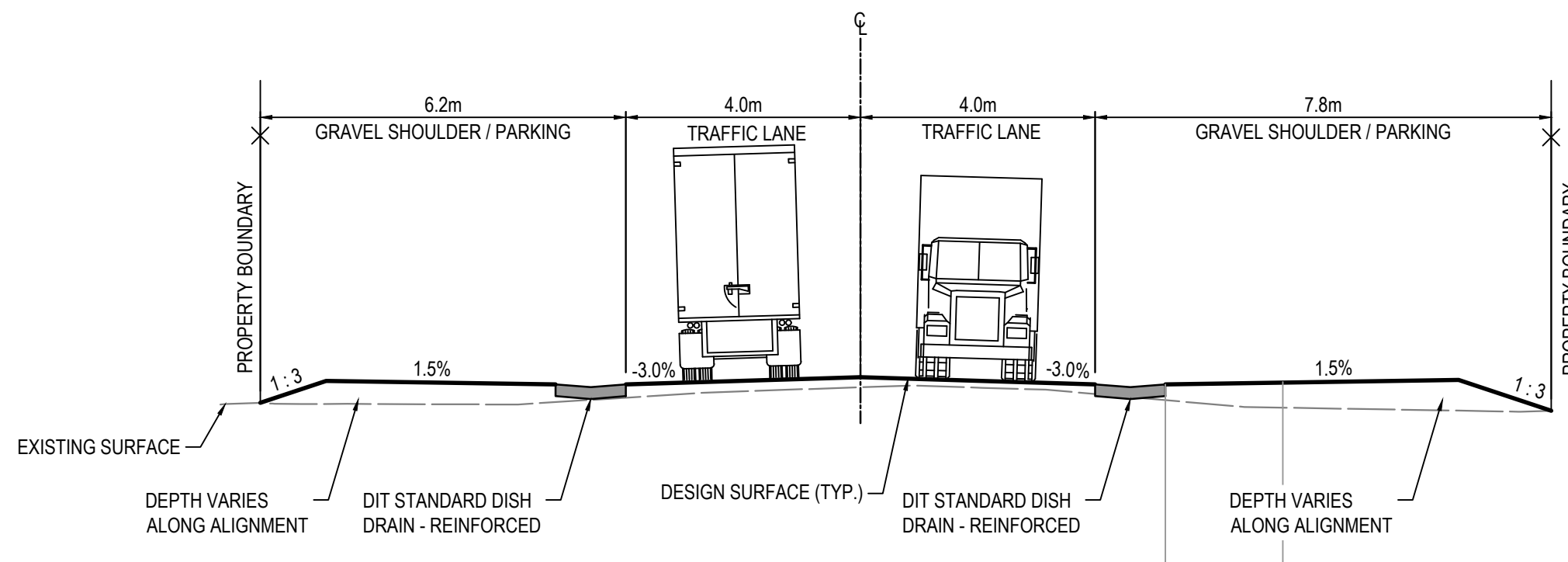


IMAGE: JANUARY 2023

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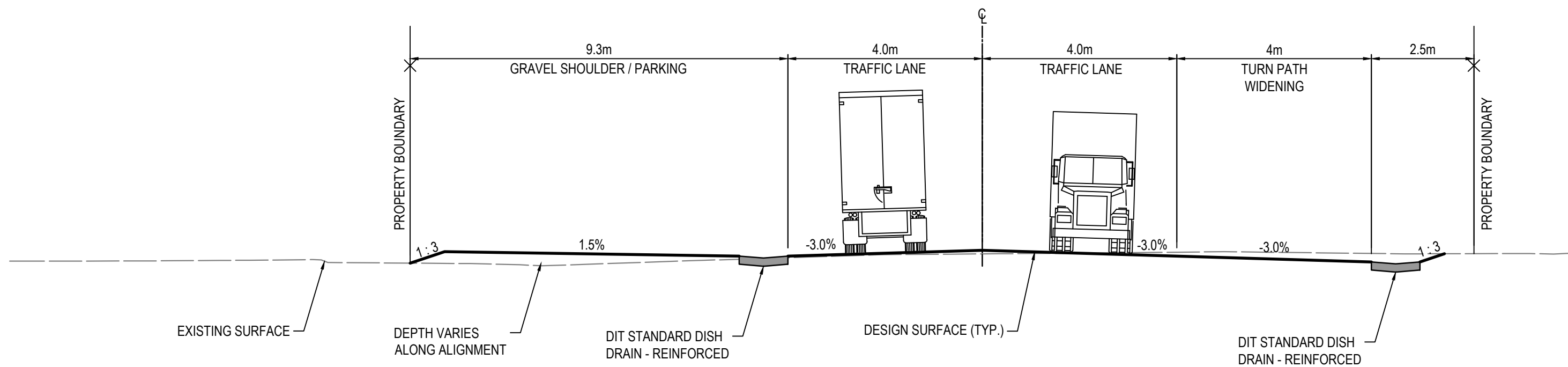
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							<div>DESIGN No.:</div>	<div>SURVEY No.:</div>	<div>PROJECT START ROAD RUNNING DISTANCE:</div>		<div>PROJECT END ROAD RUNNING DISTANCE:</div>						
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<div>B</div> <div>A</div>	100% FINAL DESIGN ISSUE ISSUED FOR 70% DESIGN		<div>MM</div> <div>MM</div>			15/05/2024 8/04/2024					<div>DESIGNED:</div>	<div>DRAFTED:</div>	<div>ACCEPTED FOR USE:</div>	<div>ACCEPTANCE FORM KNET No.:</div>	<div>DRAWING No.:</div>	<div>SHEET No.:</div>	<div>AMEND No.:</div>
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SECTION
ACCESS ROAD
DO NOT SCALE

A
068002



SECTION
ACCESS ROAD
DO NOT SCALE

B
068002

PROJECT DOCUMENT REFERENCE
NSC-MMD-DRG-0000-00-068003

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B A	100% FINAL DESIGN ISSUE	MM			15/05/2024
	ISSUED FOR 70% DESIGN	MM			8/04/2024
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DESIGNED
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REVIEWER
QUALIFICATION DATE:
INDEPENDENT DESIGN CERTIFIER (IF REQUIRED)
QUALIFICATION DATE:



Department for Infrastructure
and Transport

PROJECT No.:	FILE No.:
DESIGN No.:	SURVEY No.:
PROJECT START ROAD RUNNING DISTANCE:	
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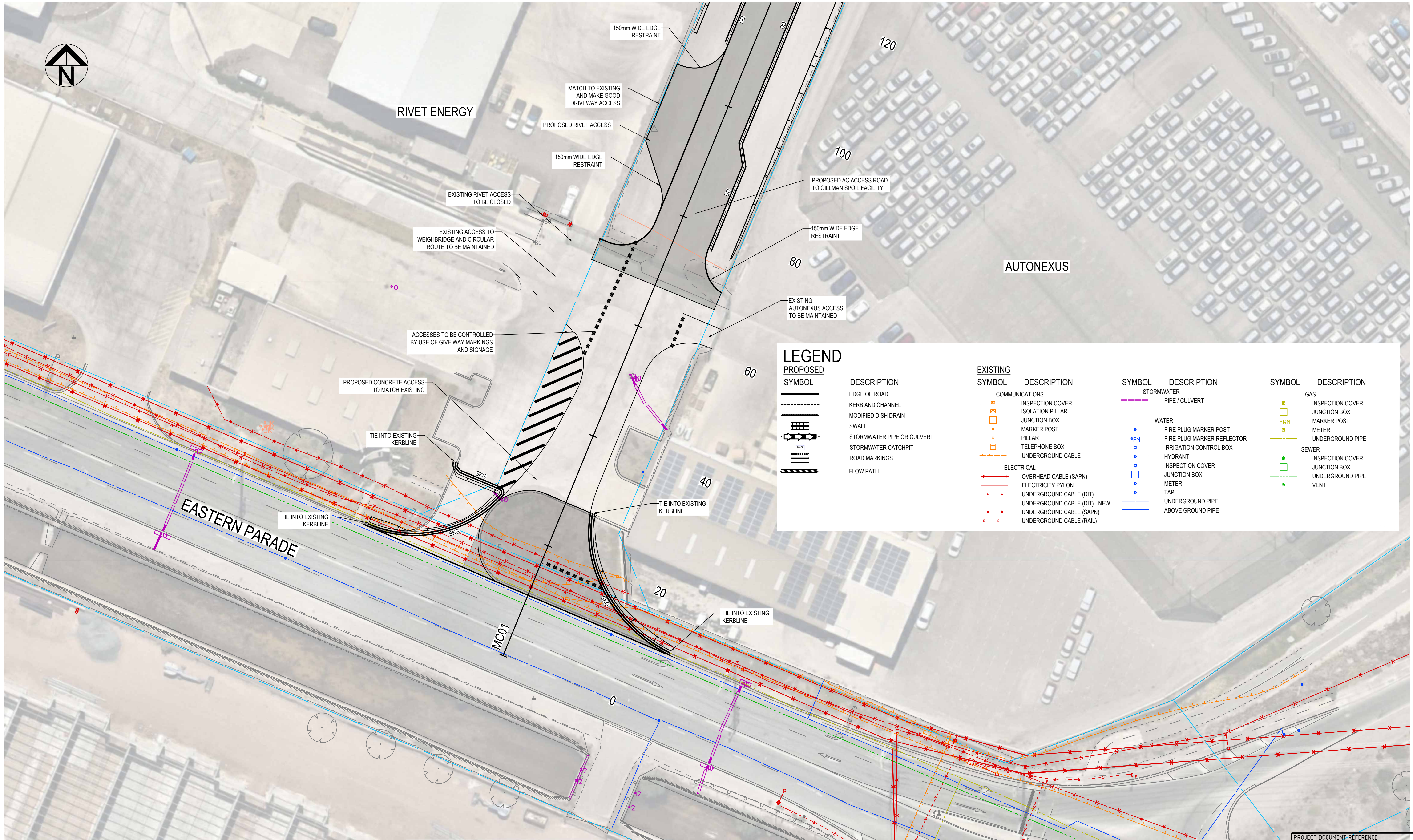
GILLMAN SPOIL RECEIVAL FACILITY
EASTERN PARADE ACCESS ROAD

TYPICAL CROSS SECTIONS

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FOR CONTINUATION SEE DRG-068022



LEGEND
PROPOSED

SYMBOL

DESCRIPTION

EDGE OF ROAD

KERB AND CHANNEL

MODIFIED DISH DRAIN

SWALE

STORMWATER PIPE OR CULVERT

STORMWATER CATCHPIT

ROAD MARKINGS

FLOW PATH

EXISTING

SYMBOL

DESCRIPTION

COMMUNICATIONS

INSPECTION COVER

ISOLATION PILLAR

JUNCTION BOX

MARKER POST

PILLAR

TELEPHONE BOX

UNDERGROUND CABLE

ELECTRICAL

OVERHEAD CABLE (SAPN)

ELECTRICITY PYLON

UNDERGROUND CABLE (DIT)

UNDERGROUND CABLE (DIT) - NEW

UNDERGROUND CABLE (SAPN)

UNDERGROUND CABLE (RAIL)

SYMBOL

DESCRIPTION

STORMWATER

PIPE / CULVERT

WATER

FIRE PLUG MARKER POST

FIRE PLUG MARKER REFLECTOR

IRRIGATION CONTROL BOX

HYDRANT

INSPECTION COVER

JUNCTION BOX

METER

TAP

UNDERGROUND PIPE

ABOVE GROUND PIPE

SYMBOL

DESCRIPTION

GAS

INSPECTION COVER

JUNCTION BOX

MARKER POST

METER

UNDERGROUND PIPE

SEWER

INSPECTION COVER

JUNCTION BOX

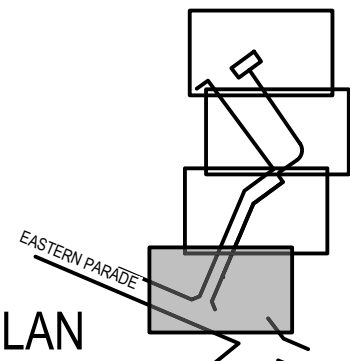
UNDERGROUND PIPE

VENT

PROJECT DOCUMENT REFERENCE
NSC-MMD-DRG-0000-00-068001

NOT FOR CONSTRUCTION

INDEX SHEET REFERENCE: SHEET



KEY PLAN

DESIGNED

QUALIFICATION
DATE:

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QUALIFICATION
DATE:

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Government
of South Australia
Department for Infrastructure
and Transport

PROJECT No.:

FILE No.:

DESIGN No.:

SURVEY No.:

PROJECT START ROAD RUNNING DISTANCE:

PROJECT END ROAD RUNNING DISTANCE:

SCALES:

6 0 3 6 9 12

GILLMAN SPOIL RECEIVAL FACILITY EASTERN PARADE ACCESS ROAD

INDEX SHEET

DESIGNED:

DRAFTED:

ACCEPTED FOR USE:

MM

MM

TITLE:

DATE:

ACCEPTANCE FORM KNET No.:

DRAWING No.:

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AMEND No.:

B

IN ACCORDANCE WITH DP013 SHEET LATITUDE

SHEET LONGITUDE

No.	AMENDMENT DESCRIPTION	BY	CHECK	ACCEPTANCE	DATE
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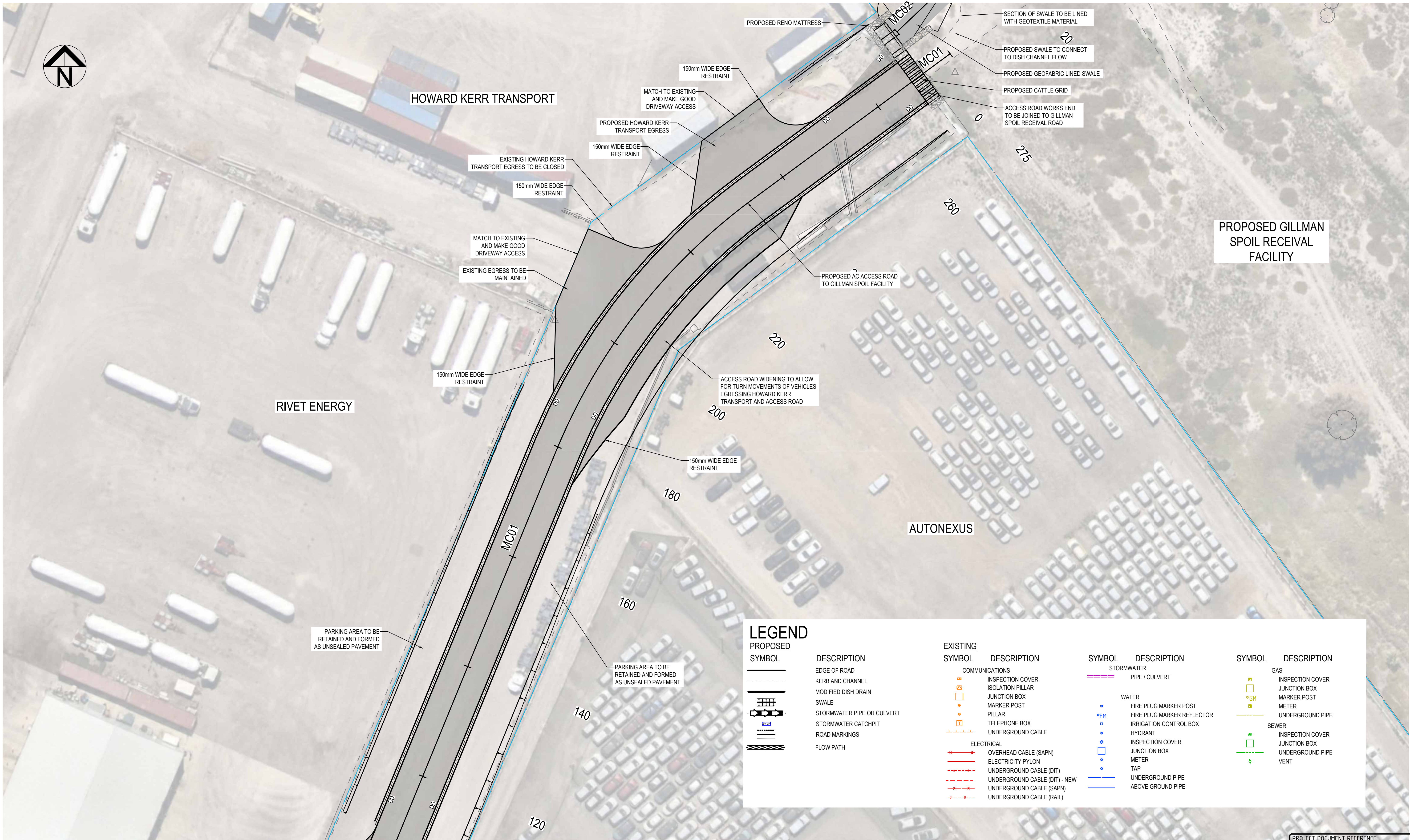
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ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE

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FOR CONTINUATION SEE DRG-06823

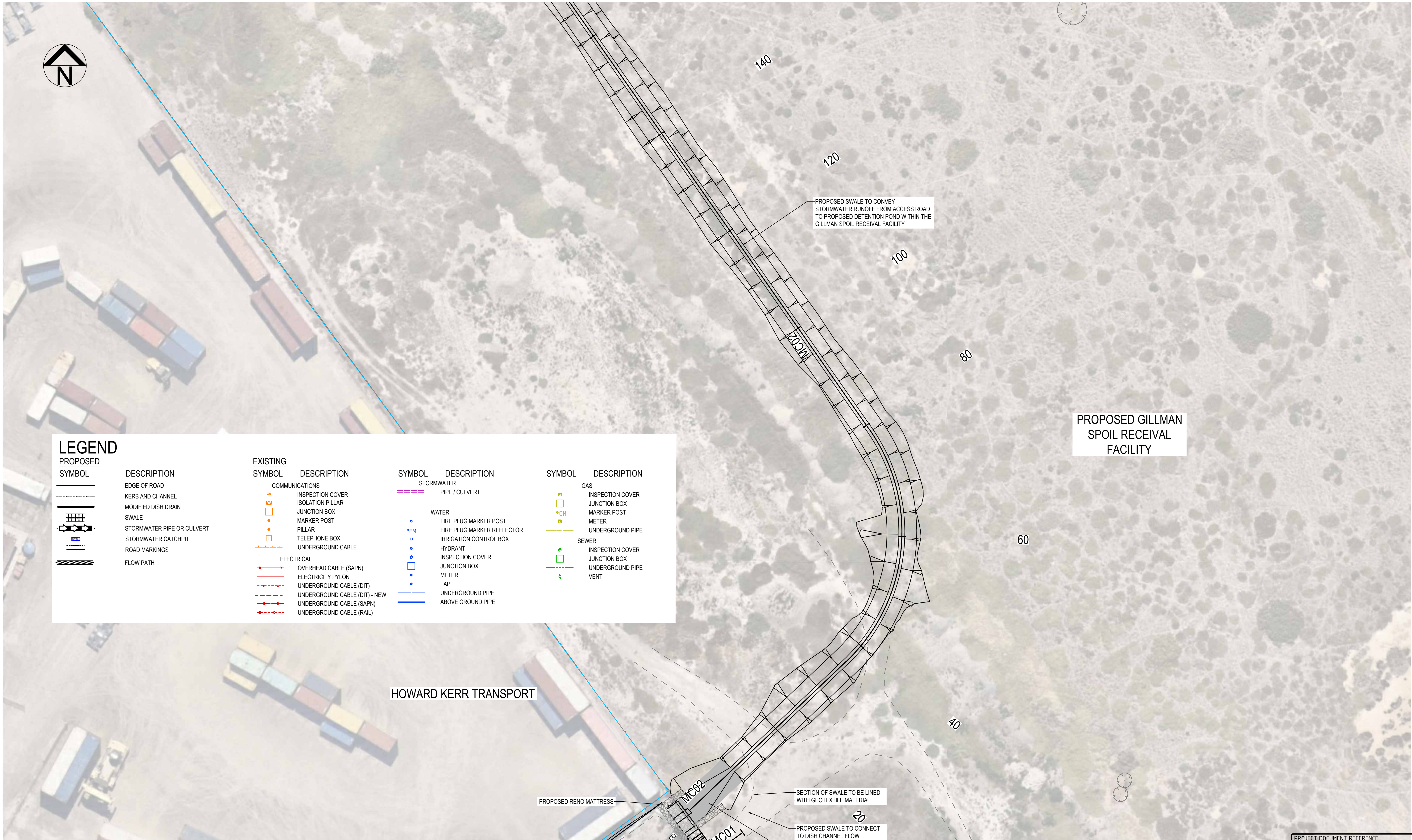


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CAD FILE NAME: NSC-MMD-DRG-0000-00-068022.DWG

FOR CONTINUATION SEE DRG-06824



PROPOSED GILLMAN
SPOIL REVEAL
FACILITY

HOWARD KERR TRANSPORT

PROPOSED RENO MATTRESS

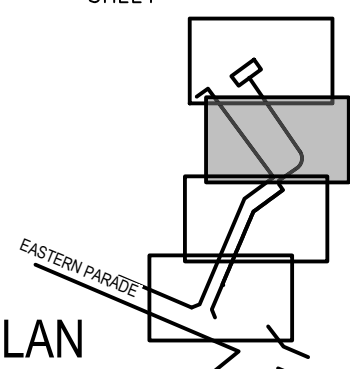
SECTION OF SWALE TO BE LINED
WITH GEOTEXTILE MATERIAL

PROPOSED SWALE TO CONNECT
TO DISH CHANNEL FLOW

FOR CONTINUATION SEE DRG-06822

PROJECT DOCUMENT REFERENCE
NSC-MMD-DRG-0000-00-068023

NOT FOR CONSTRUCTION



KEY PLAN

DESIGNED
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QUALIFICATION
DATE:
INDEPENDENT DESIGN CERTIFIER (IF REQUIRED)
QUALIFICATION
DATE:



Department for Infrastructure
and Transport

PROJECT No.:
DESIGN No.:
PROJECT START ROAD RUNNING DISTANCE:
PROJECT END ROAD RUNNING DISTANCE:

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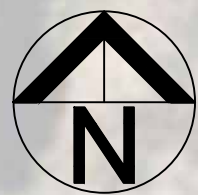
GILLMAN SPOIL REVEAL FACILITY
EASTERN PARADE ACCESS ROAD
MC02: CH 0 TO CH 160
GENERAL CONSTRUCTION

DESIGNED: DRAFTED: ACCEPTED FOR USE: ACCEPTANCE FORM KNET No.: DRAWING No.: SHEET No.: AMEND No.:
DATE: TITLE: IN ACCORDANCE WITH DP013 SHEET LATITUDE SHEET LONGITUDE

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No.	AMENDMENT DESCRIPTION	BY	CHECK	ACCEPTANCE	DATE	UNCONTROLLED COPY WHEN PRINTED	100 MILLIMETRES ON ORIGINAL DRAWING	ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
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CAD FILE NAME: NSC-MMD-DRG-0000-00-068023.DWG



LEGEND

PROPOSED

SYMBOL	DESCRIPTION
	EDGE OF ROAD
	KERB AND CHANNEL
	MODIFIED DISH DRAIN
	SWALE
	STORMWATER PIPE OR CULVERT
	STORMWATER CATCHPIT
	ROAD MARKINGS
	FLOW PATH

EXISTING

SYMBOL	DESCRIPTION
COMMUNICATIONS	
	INSPECTION COVER
	ISOLATION PILLAR
	JUNCTION BOX
	MARKER POST
	PILLAR
	TELEPHONE BOX
	UNDERGROUND CABLE
ELECTRICAL	
	OVERHEAD CABLE (SAPN)
	ELECTRICITY PYLON
	UNDERGROUND CABLE (DIT)
	UNDERGROUND CABLE (DIT) - NEW
	UNDERGROUND CABLE (SAPN)
	UNDERGROUND CABLE (RAIL)

SYMBOL DESCRIPTION

STORMWATER	
	PIPE / CULVERT
WATER	
	FIRE PLUG MARKER POST
	FIRE PLUG MARKER REFLECTOR
	IRRIGATION CONTROL BOX
	HYDRANT
	INSPECTION COVER
	JUNCTION BOX
	METER
	TAP
	UNDERGROUND PIPE
	ABOVE GROUND PIPE

SYMBOL DESCRIPTION

GAS	
	INSPECTION COVER
	JUNCTION BOX
	MARKER POST
	METER
	UNDERGROUND PIPE
SEWER	
	INSPECTION COVER
	JUNCTION BOX
	UNDERGROUND PIPE
	VENT

PROPOSED LOCATION OF
GILLMAN SPOIL RECEIVAL
FACILITY DETENTION POND

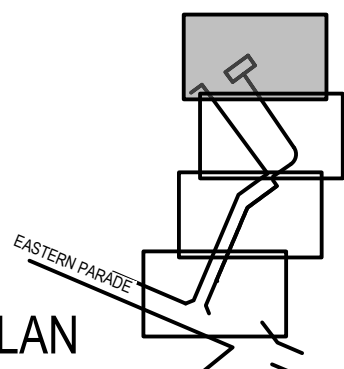
PROPOSED GILLMAN SPOIL
RECEIVAL FACILITY

PROPOSED SWALE TO CONVEY
STORMWATER RUNOFF FROM ACCESS ROAD
TO PROPOSED DETENTION POND WITHIN THE
GILLMAN SPOIL RECEIVAL FACILITY

PROJECT DOCUMENT REFERENCE
NSC-MMD-DRG-0000-00-068024

NOT FOR CONSTRUCTION

INDEX SHEET REFERENCE: SHEET



KEY PLAN

DESIGNED

QUALIFICATION

DATE:

REVIEWER

QUALIFICATION

DATE:

INDEPENDENT DESIGN CERTIFIER (IF REQUIRED)

QUALIFICATION

DATE:



Department for Infrastructure
and Transport

PROJECT No.:

FILE No.:

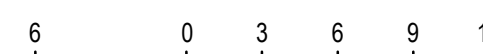
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SURVEY No.:

PROJECT START ROAD RUNNING DISTANCE:

PROJECT END ROAD RUNNING DISTANCE:

SCALES:



GILLMAN SPOIL RECEIVAL FACILITY
EASTERN PARADE ACCESS ROAD
MC02: CH 160 TO CH 234
GENERAL CONSTRUCTION

DESIGNED:

DRAFTED:

ACCEPTED FOR USE:

ACCEPTANCE FORM KNET No.:

DRAWING No.:

SHEET No.:

AMEND No.:

MM

MM

TITLE:

DATE:

IN ACCORDANCE WITH DP013

SHEET LATITUDE

SHEET LONGITUDE

B

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A	ISSUED FOR 70% DESIGN	MM			8/04/2024

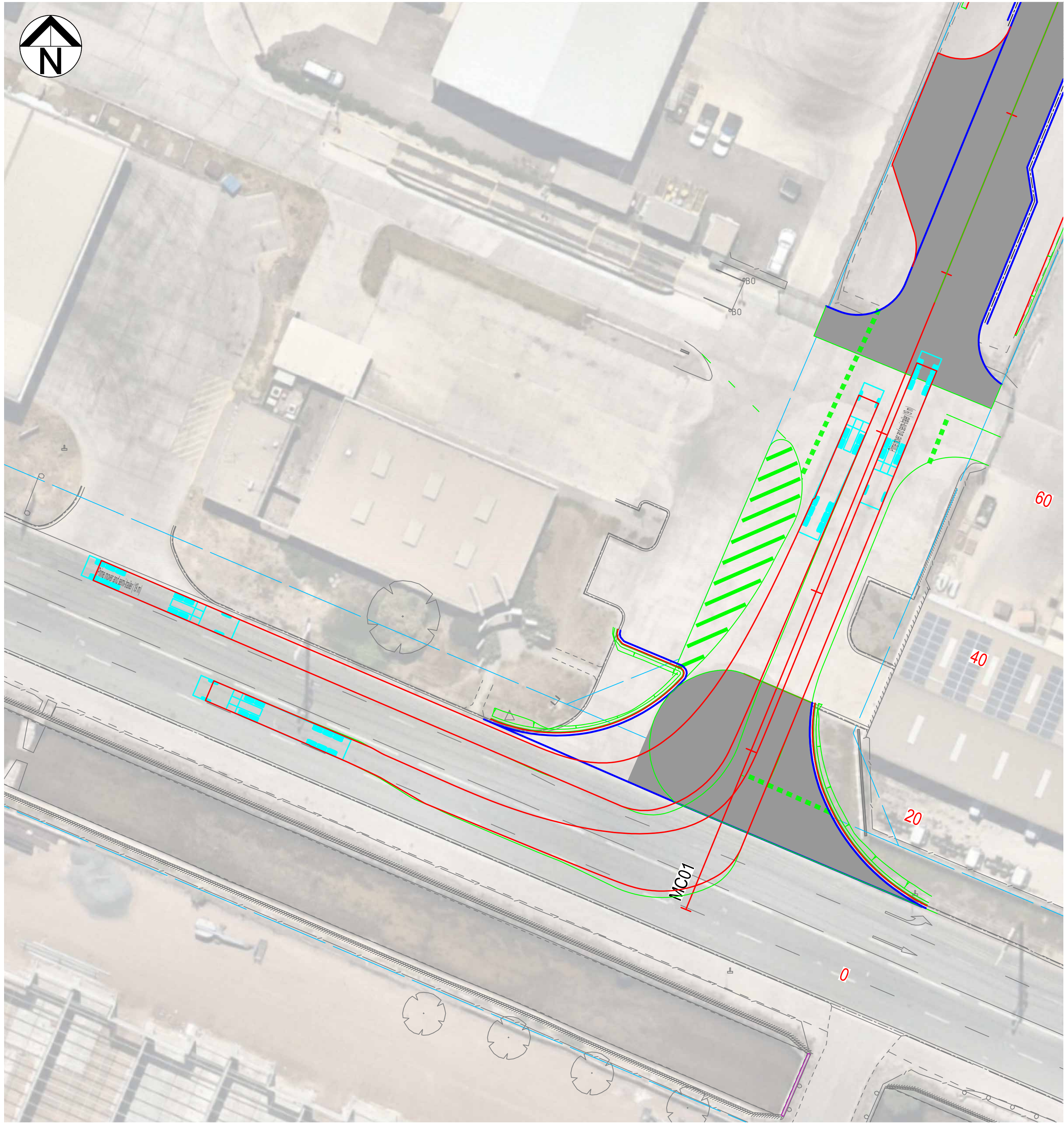
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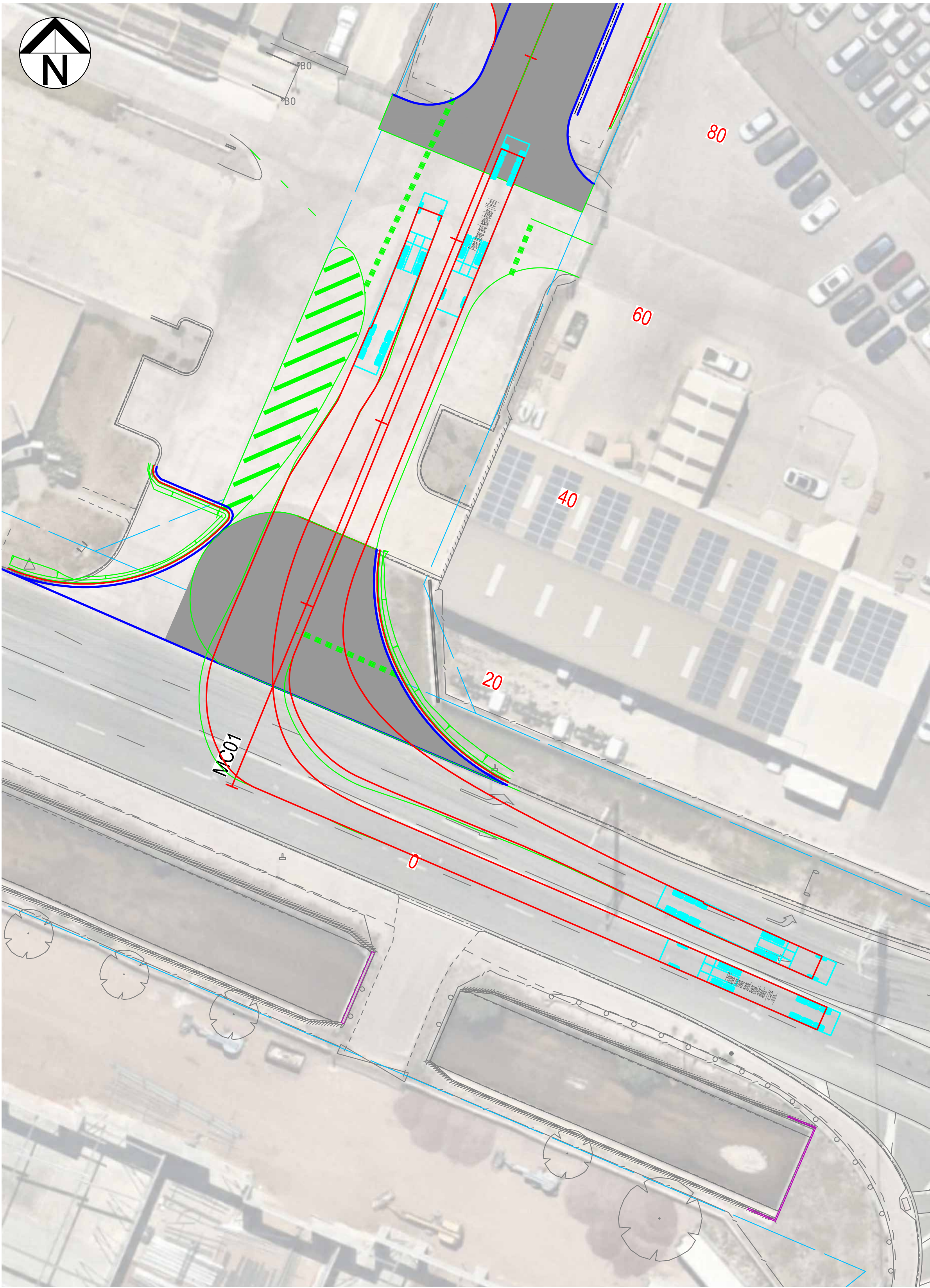
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APPENDIX B – TURN PATH ANALYSIS

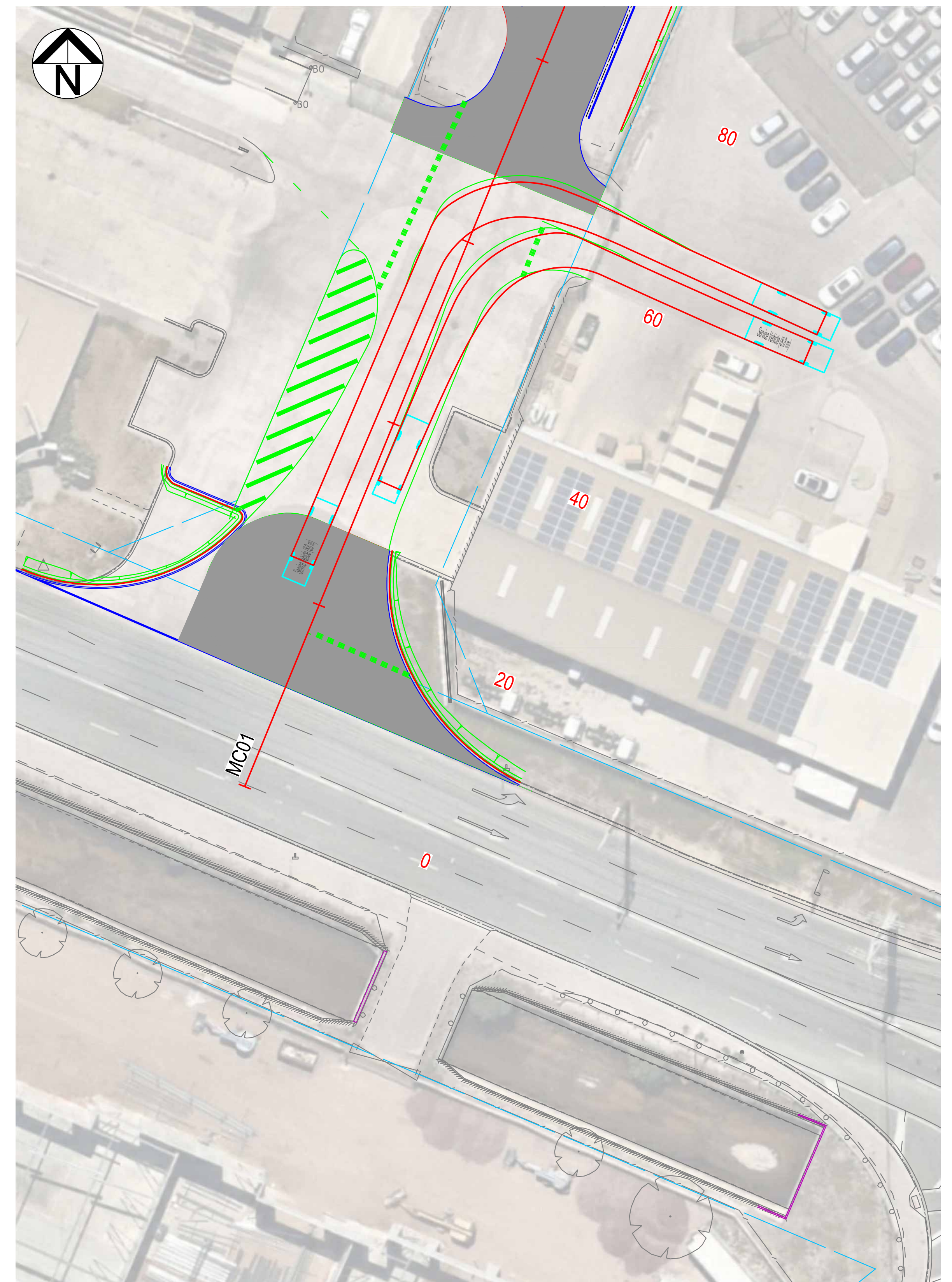
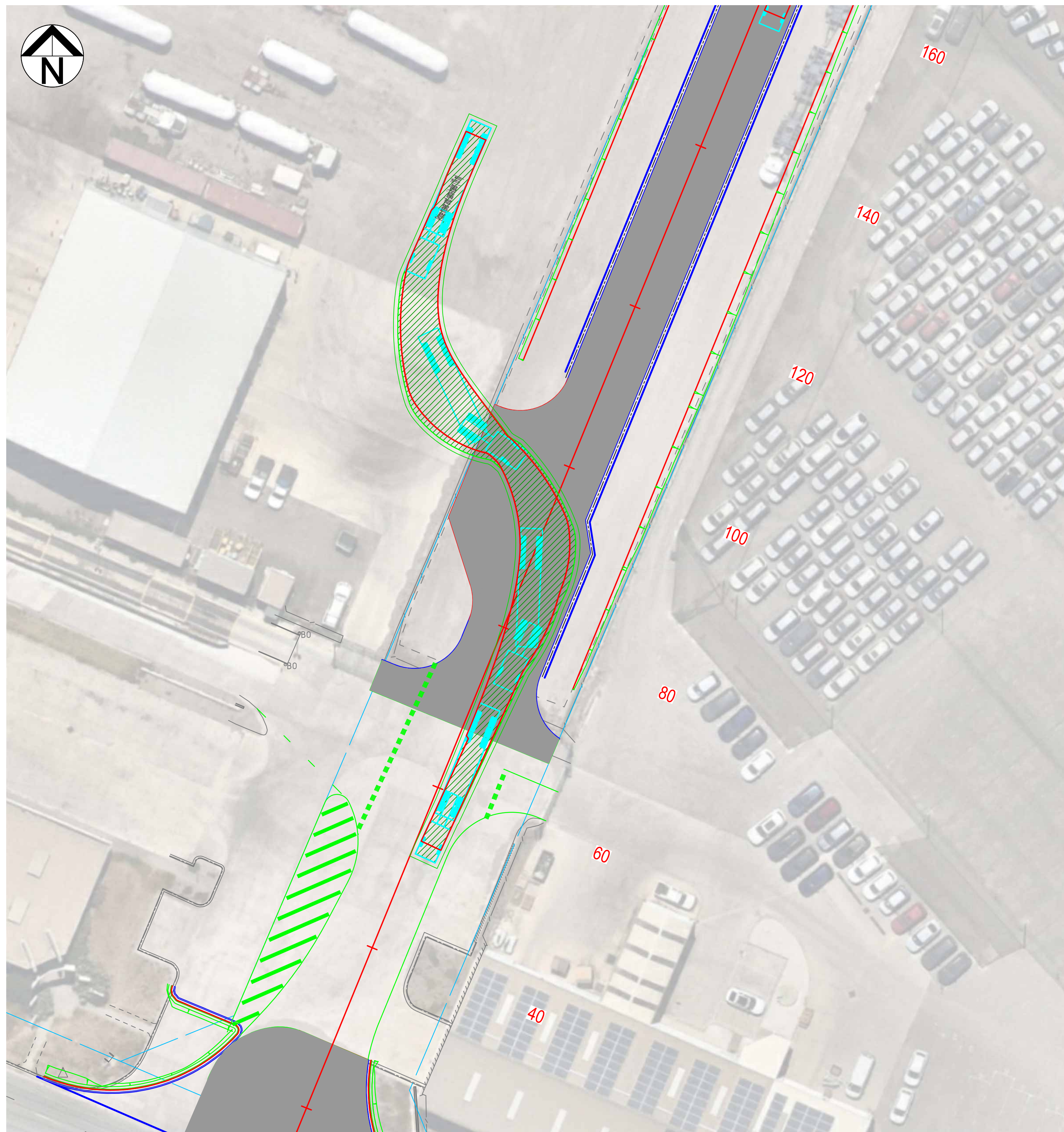


PRIME MOVER AND SEMI-TRAILER (19m) - DESIGN VEHICLE
LEFT TURN IN & RIGHT TURN OUT
SCALE 1:300



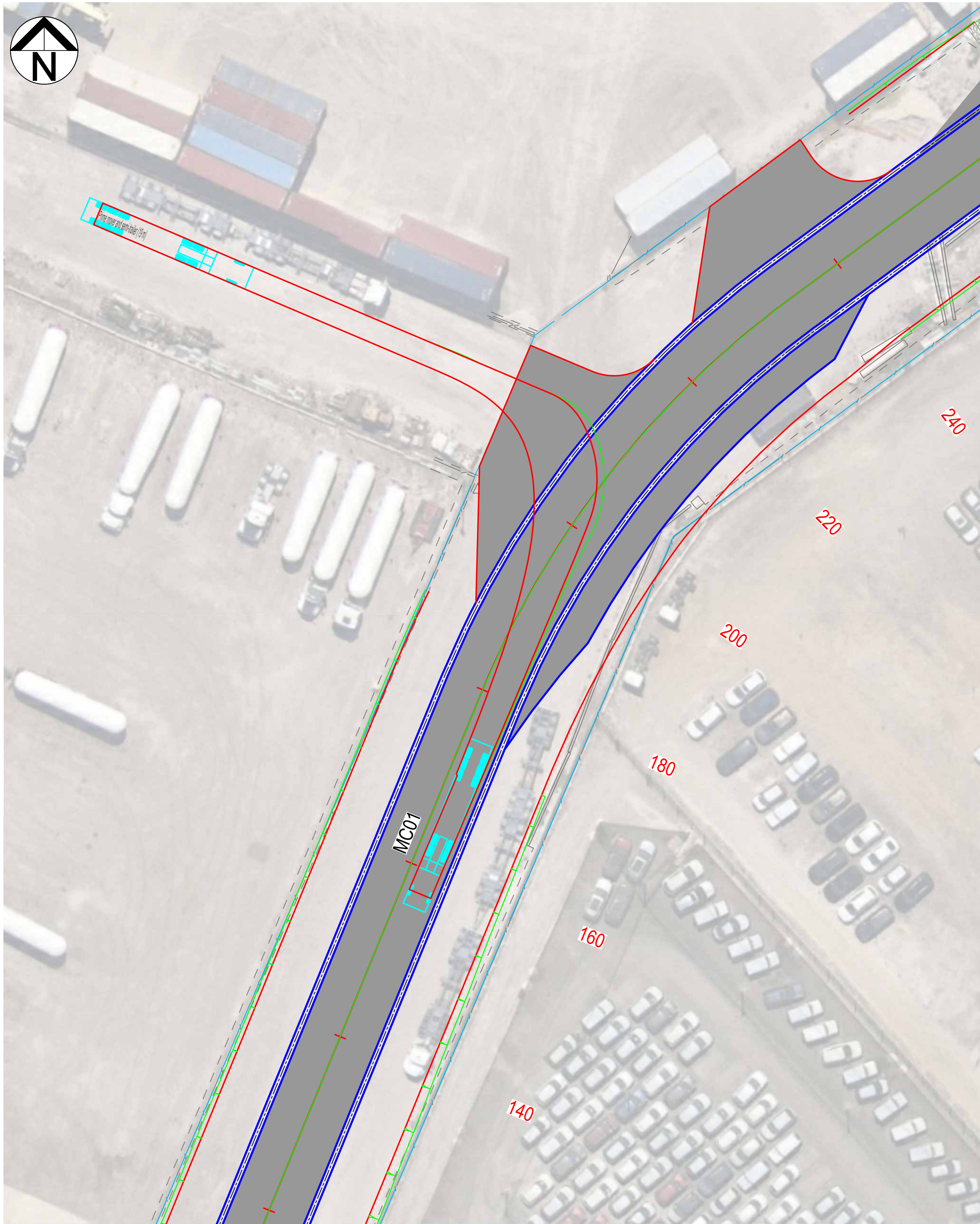
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RIGHT TURN IN & LEFT TURN OUT
SCALE 1:300

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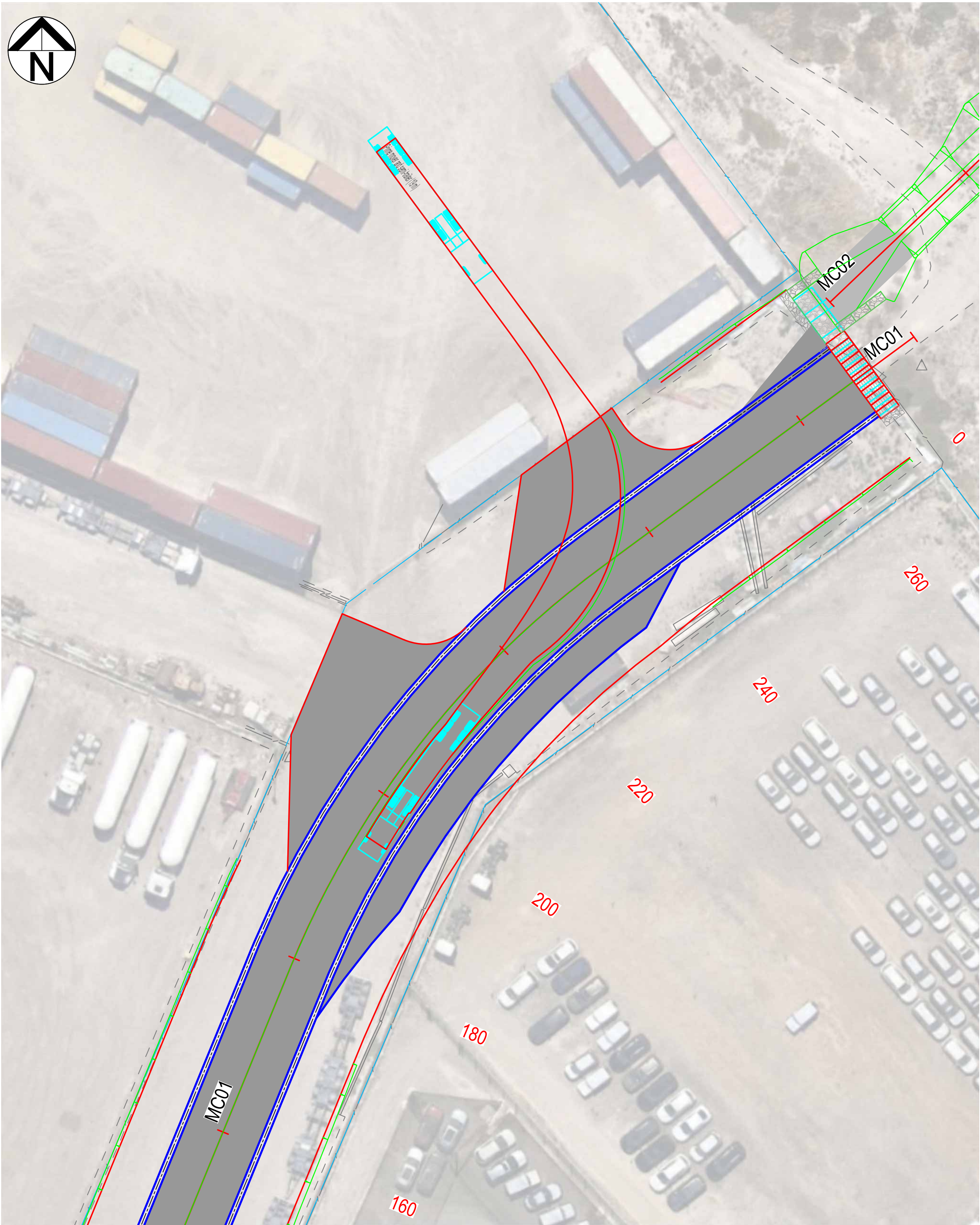


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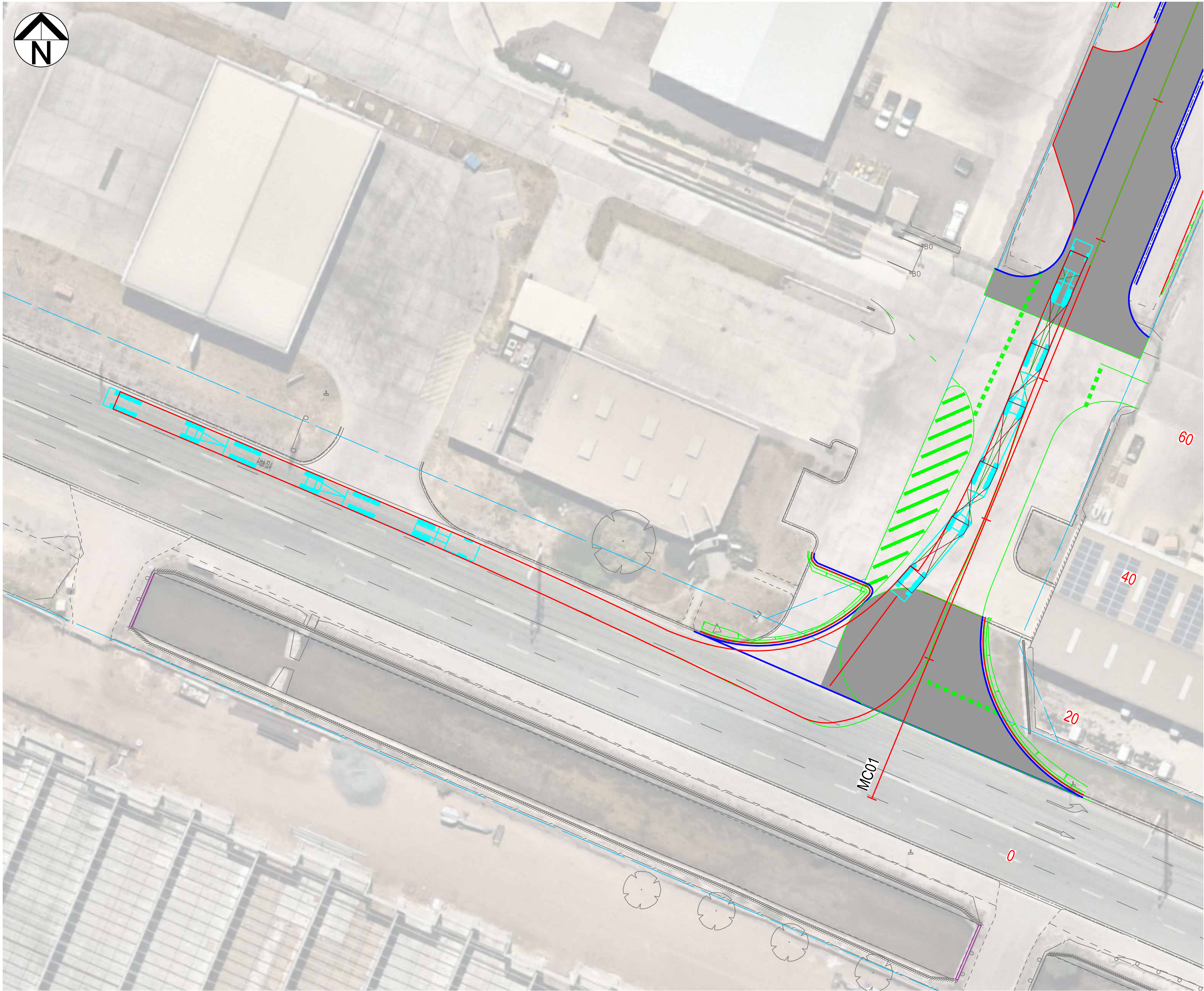
PRIME MOVER AND SEMI-TRAILER (19m) - DESIGN VEHICLE
RIGHT TURN OUT
SCALE 1:300



PRIME MOVER AND SEMI-TRAILER (19m) - DESIGN VEHICLE
RIGHT TURN OUT
SCALE 1:300

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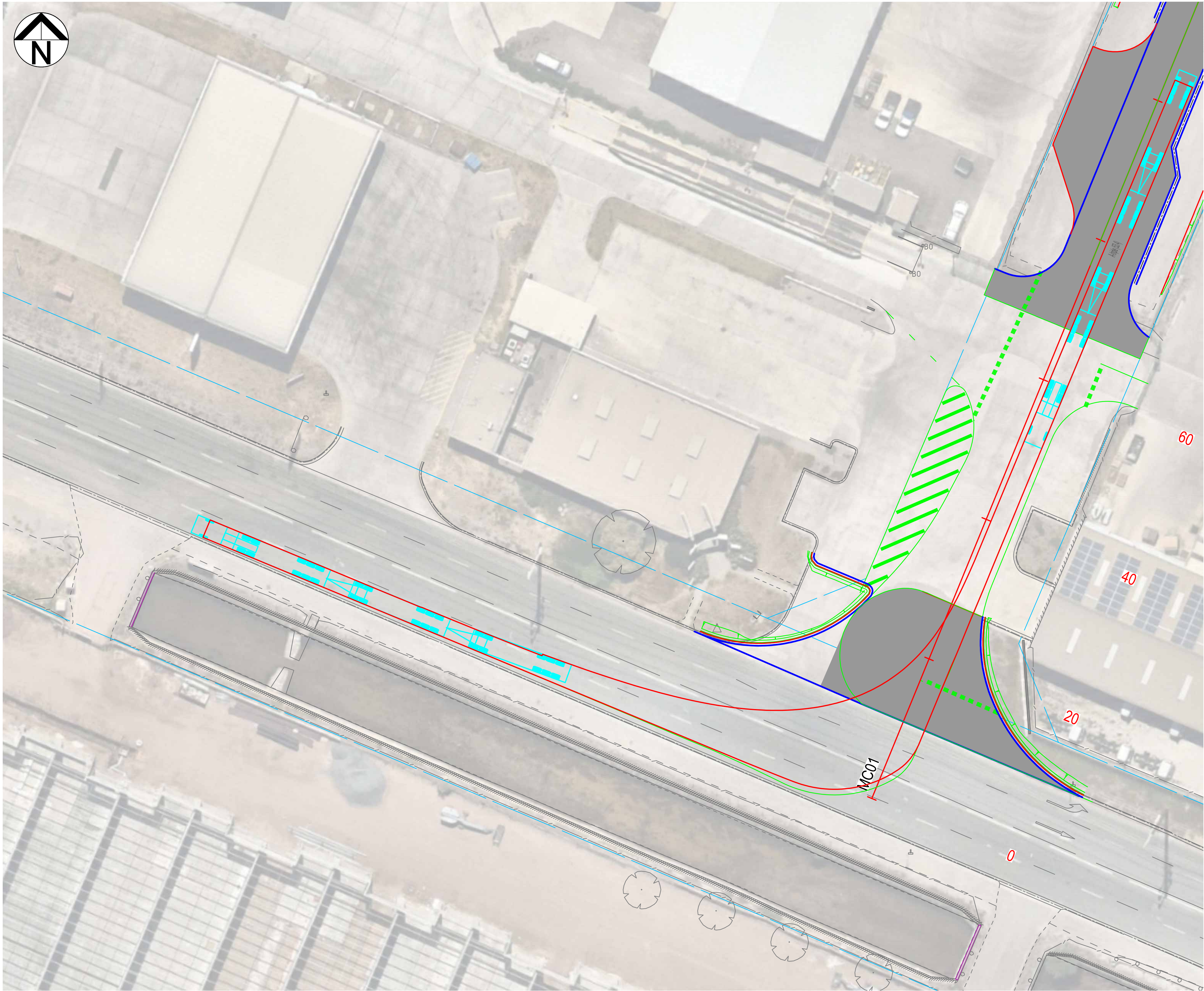
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A-TRIPLE (53.4m) - CHECK VEHICLE LEFT TURN IN
SCALE 1:300

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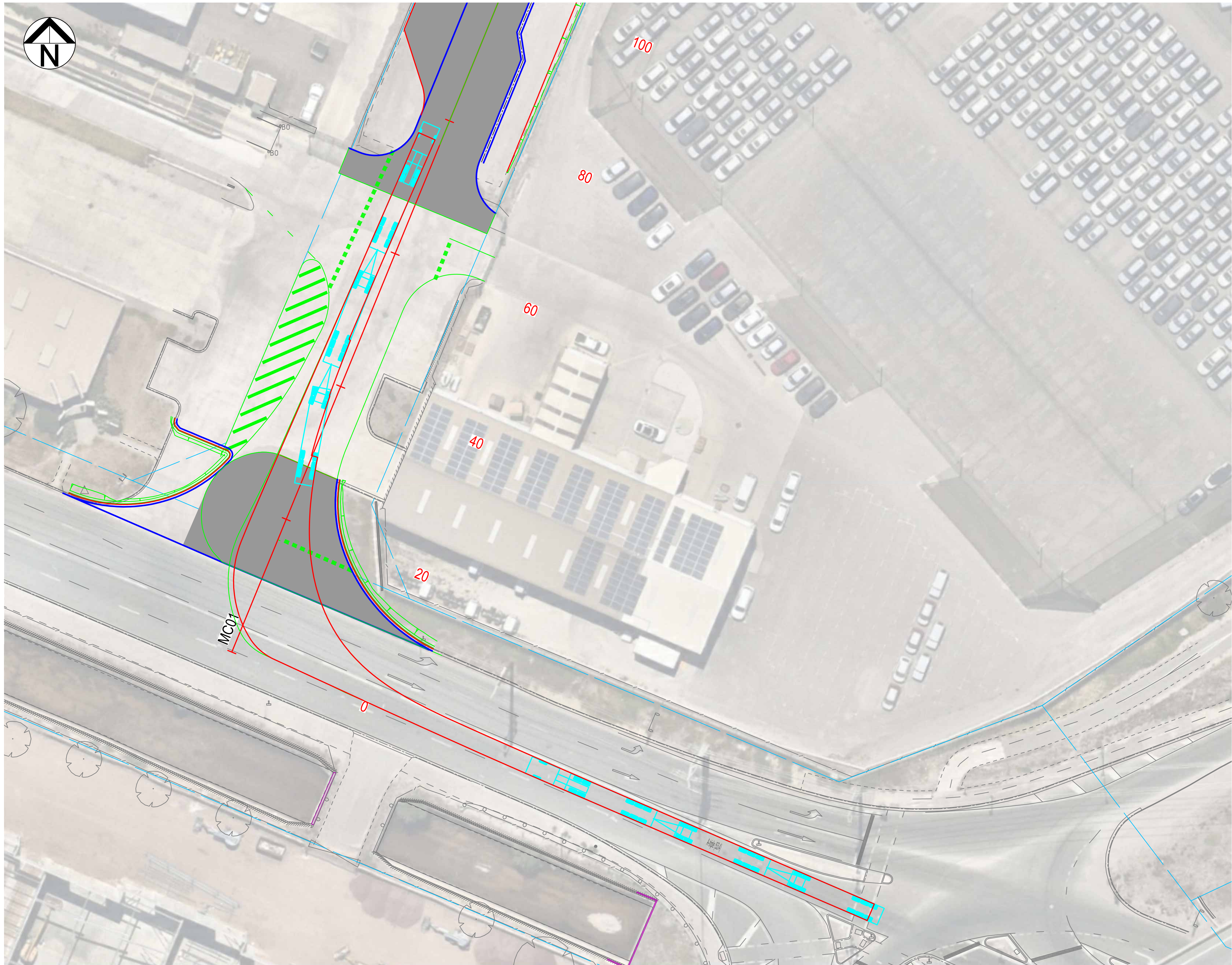
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A-TRIPLE (53.4m) - CHECK VEHICLE RIGHT TURN OUT
SCALE 1:300

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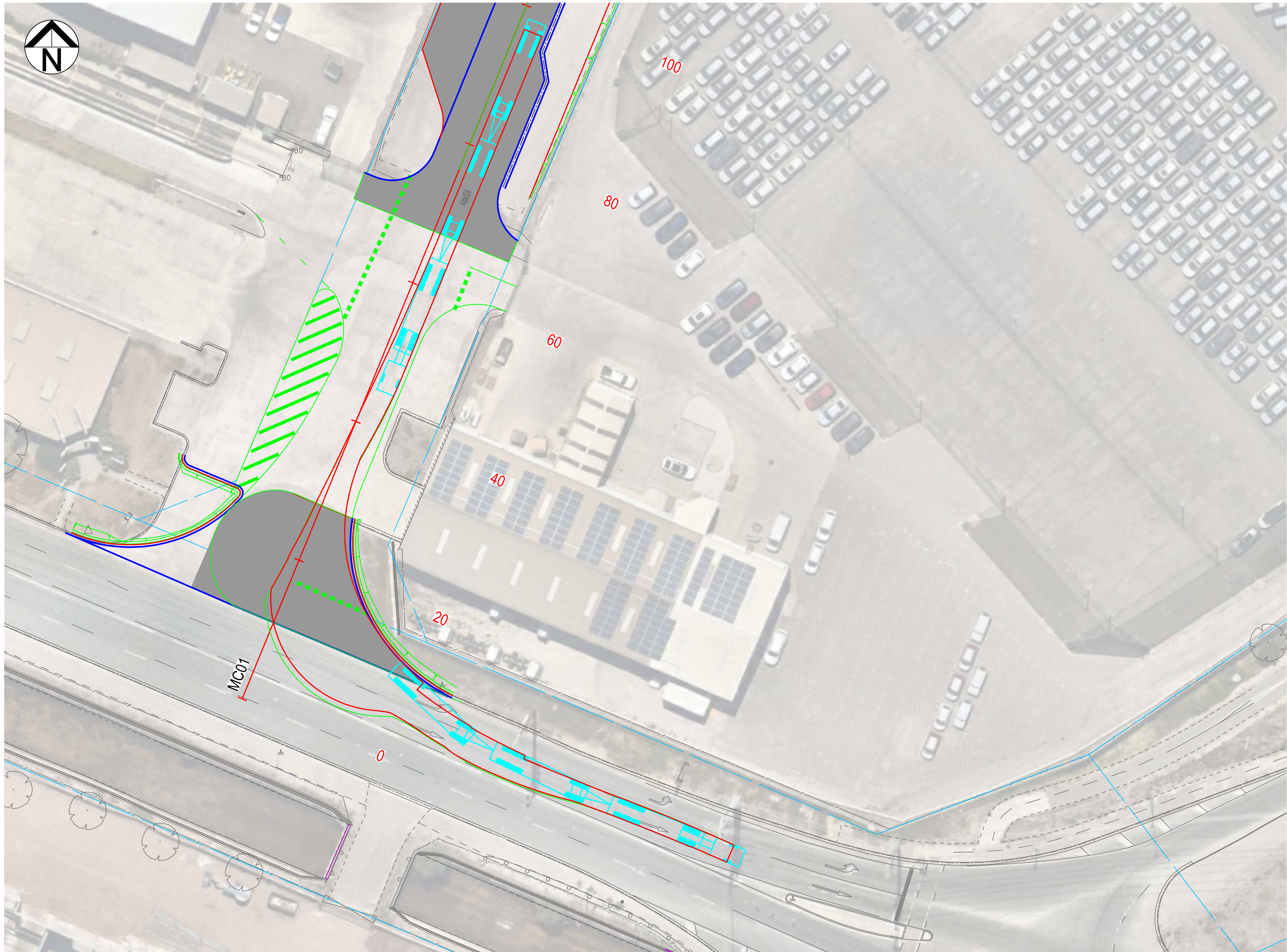
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A-TRIPLE (53.4m) - CHECK VEHICLE RIGHT TURN IN
SCALE 1:300

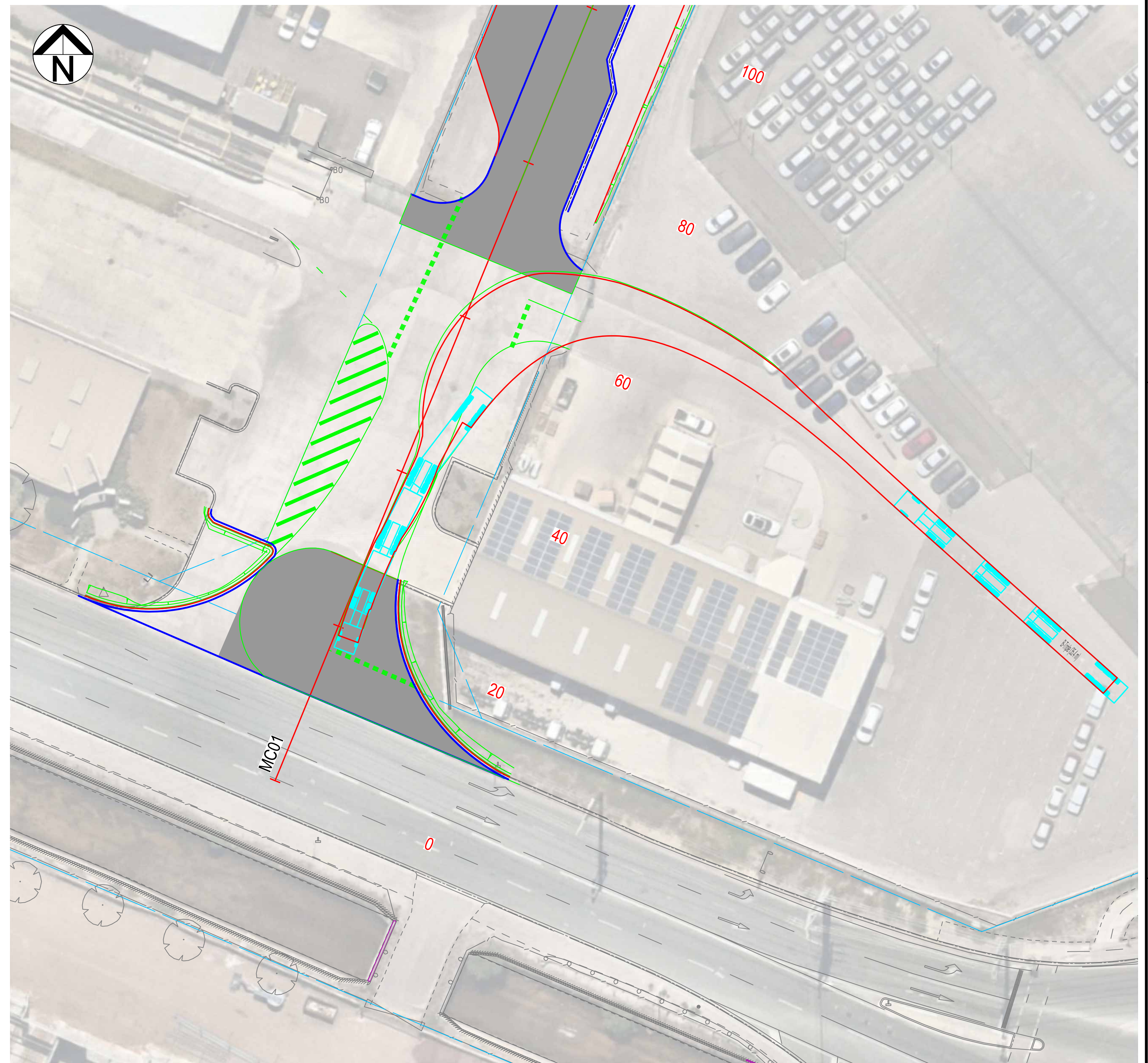
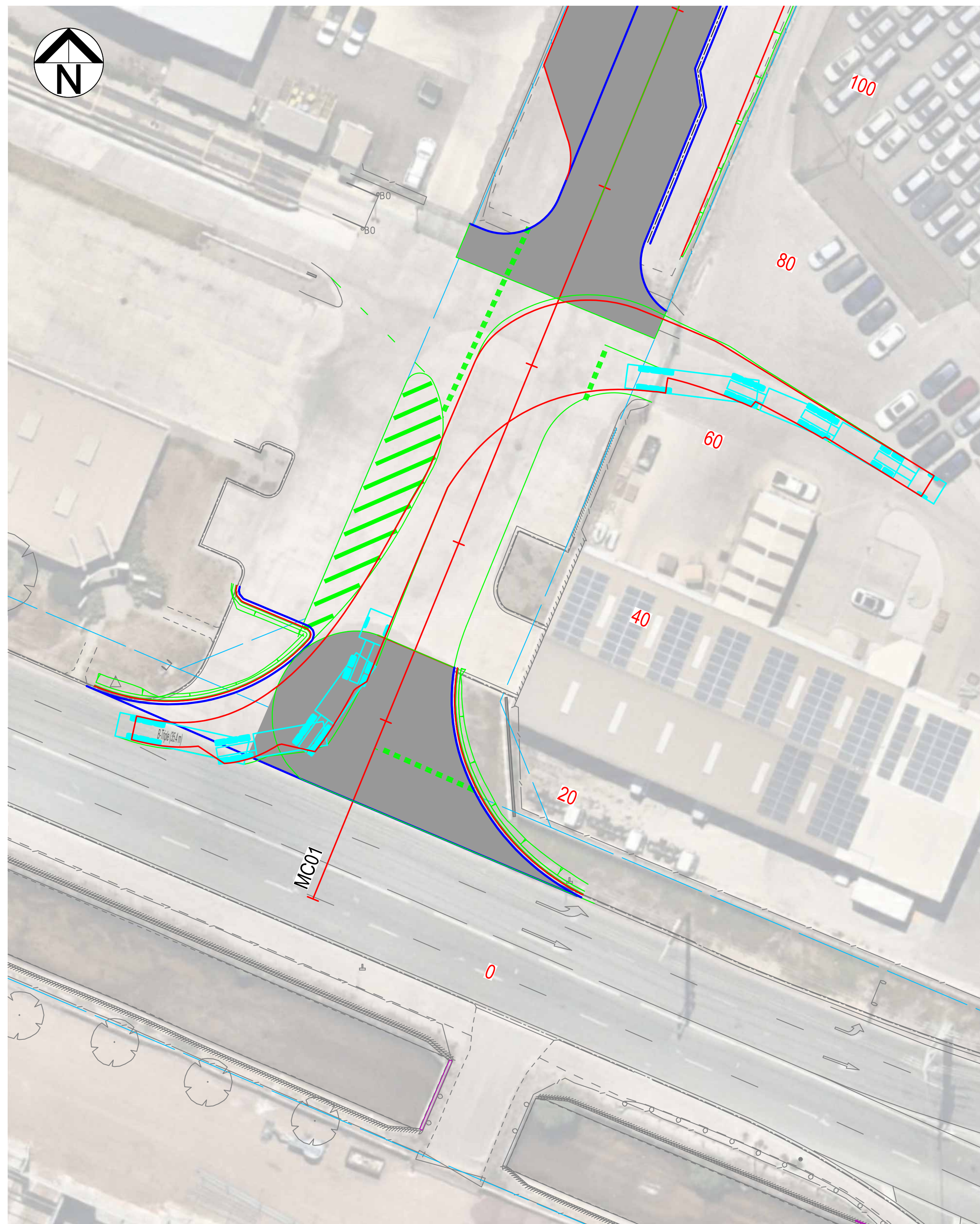
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										GILLMAN SPOIL FACILITY EASTERN PARADE ACCESS ROAD CHECK VEHICLE - A-TRIPLE (53.4m) - RIGHT TURN IN VEHICLE TRACKING									
FOR INFORMATION				05/2024						DESIGNED: DRAFTED: ACCEPTED FOR USE:		ACCEPTANCE FORM KNET No.:		DRAWING No.:		SHEET No.:		AMEND No.:	
AMENDMENT DESCRIPTION				BY		CHECK		ACCEPTANCE		DATE		UNCONTROLLED COPY WHEN PRINTED		100 MILLIMETRES ON ORIGINAL DRAWING		ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE			
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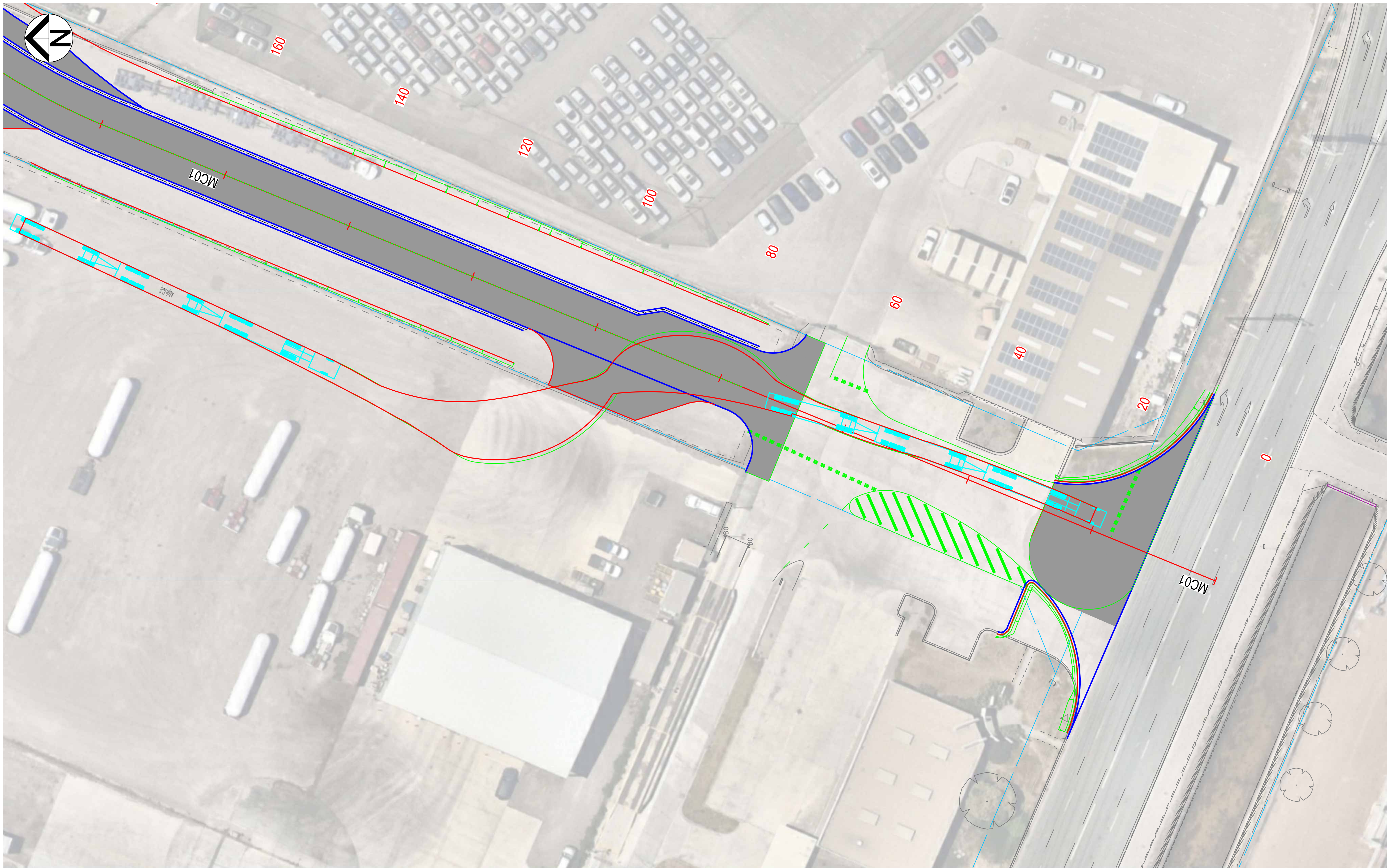
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A-TRIPLE (53.4m) - CHECK VEHICLE LEFT TURN OUT
SCALE 1:300

<div>A FOR INFORMATION</div>					<div>INDEX SHEET REFERENCE: SHEET</div>					<div>DESIGNED</div> <div>QUALIFICATION DATE:</div> <div>REVIEWER</div> <div>QUALIFICATION DATE:</div> <div>INDEPENDENT DESIGN CERTIFIER (IF REQUIRED)</div> <div>QUALIFICATION DATE:</div>					<div><div><div><div><div><div></div></div></div><div>SOUTH AUSTRALIA</div></div><div>Government of South Australia</div><div>Department for Infrastructure and Transport</div></div></div>					<div>PROJECT No.:</div> <div>FILE No.:</div>					<div>SIGNAL No.:</div>									
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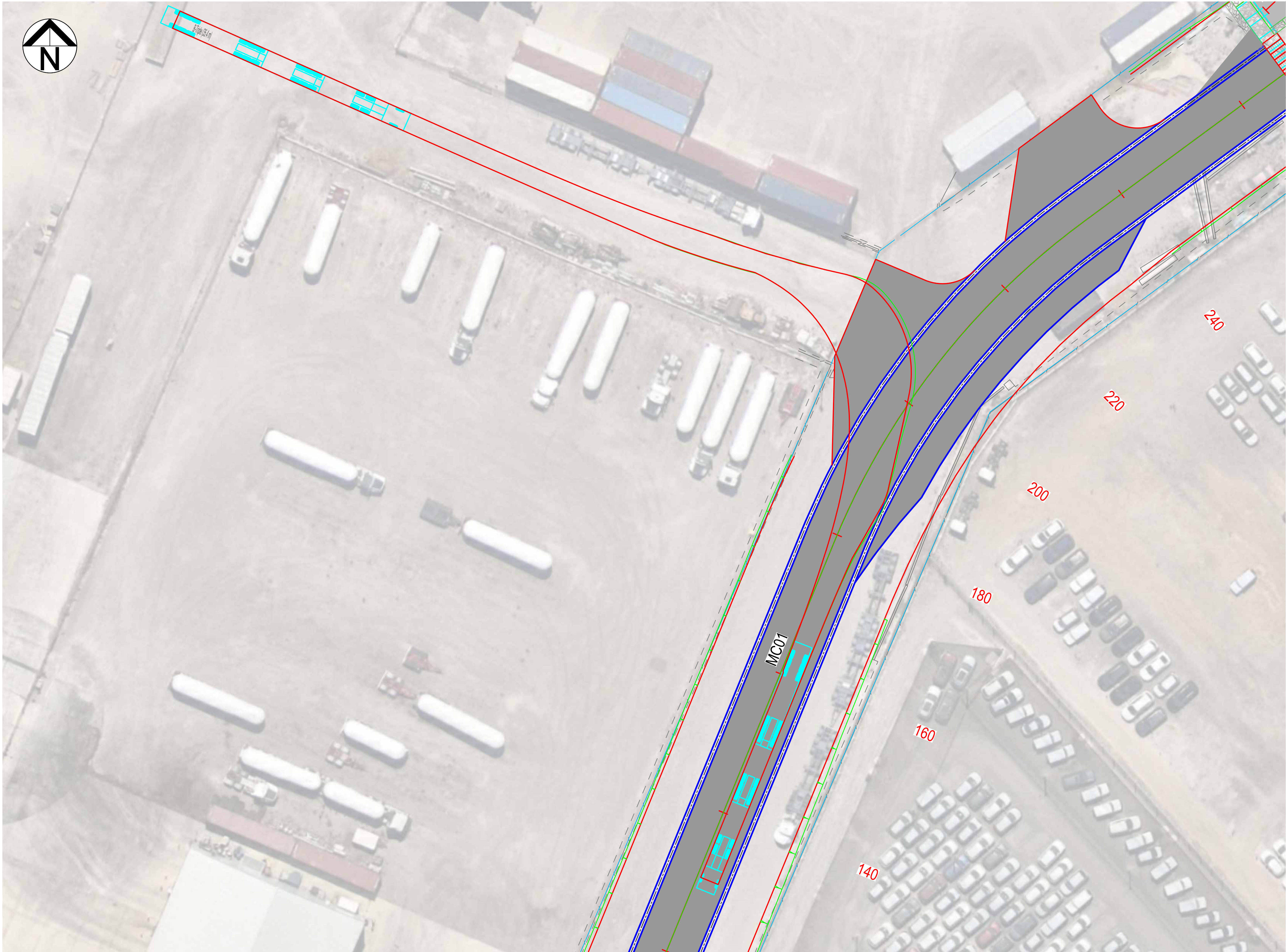
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A-TRIPLE (53.4m) - CHECK VEHICLE RIGHT TURN OUT
SCALE 1:300

				INDEX SHEET REFERENCE: SHEET		DESIGNED QUALIFICATION DATE: REVIEWER QUALIFICATION DATE: INDEPENDENT DESIGN CERTIFIER (IF REQUIRED) QUALIFICATION DATE:		 Government of South Australia Department for Infrastructure and Transport		PROJECT No.: DESIGN No.: PROJECT START ROAD RUNNING DISTANCE: PROJECT END ROAD RUNNING DISTANCE: Scales: 6 0 3 6 9 12		FILE No.: SURVEY No.: DRAWING No.: SHEET No.: AMEND No.: A		PROJECT DOCUMENT REFERENCE NSC-MMD-SKT-0000-01-068018 SIGNAL No.:			
FOR INFORMATION				05/2024						GILLMAN SPOIL FACILITY EASTERN PARADE ACCESS ROAD CHECK VEHICLE - A-TRIPLE (53.4m) - RIGHT TURN OUT VEHICLE TRACKING		DESIGNED: DRAFTED: ACCEPTED FOR USE: TITLE: DATE:		ACCEPTANCE FORM KNET No.: IN ACCORDANCE WITH DP013		SHEET LATITUDE SHEET LONGITUDE	
No. AMENDMENT DESCRIPTION				BY CHECK ACCEPTANCE DATE		UNCONTROLLED COPY WHEN PRINTED		100 MILLIMETRES ON ORIGINAL DRAWING		ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE							

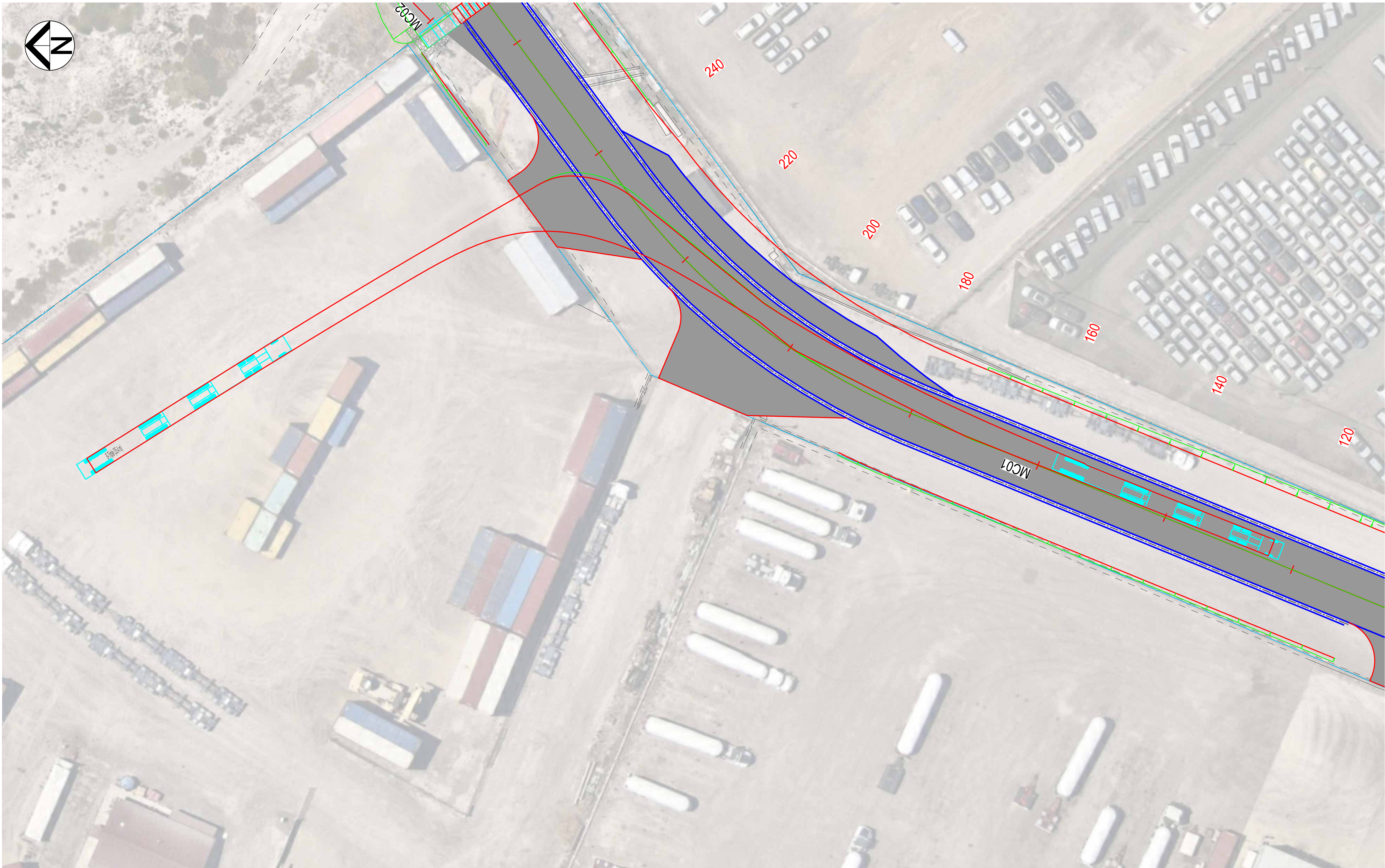
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A-TRIPLE (53.4m) - CHECK VEHICLE RIGHT TURN OUT
SCALE 1:300

A FOR INFORMATION		05/2024		INDEX SHEET REFERENCE: SHEET		DESIGNED QUALIFICATION DATE: REVIEWER QUALIFICATION DATE: INDEPENDENT DESIGN CERTIFIER (IF REQUIRED) QUALIFICATION DATE:		 Government of South Australia Department for Infrastructure and Transport		PROJECT No.: DESIGN No.: PROJECT START ROAD RUNNING DISTANCE: PROJECT END ROAD RUNNING DISTANCE:		FILE No.: SURVEY No.:		PROJECT DOCUMENT REFERENCE NSC-MMD-SKT-0000-01-068019		SIGNAL No.:									
BY		CHECK		ACCEPTANCE		DATE		UNCONTROLLED COPY WHEN PRINTED		100 MILLIMETRES ON ORIGINAL DRAWING		ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE		SCALES: 6 0 3 6 9 12		DESIGNED: DRAFTED: ACCEPTED FOR USE:		ACCEPTANCE FORM KNET No.:		DRAWING No.:		SHEET No.:		AMEND No.:	
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A-TRIPLE (53.4m) - CHECK VEHICLE RIGHT TURN OUT
SCALE 1:300

PROJECT DOCUMENT REFERENCE NSC-MMD-SKT-0000-01-068020		SIGNAL No.:	
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SHEET No.:		AMEND No.:	
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FOR INFORMATION		05/2024	
AMENDMENT DESCRIPTION		BY CHECK ACCEPTANCE DATE	