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|---------------|--|-----------------|-------------------------|
| Title | Southern Link Road, Cannington – Response to Environmental Protection Authority comments on proposed Stage 3 works | | |
| Client | City of Canning | Project | CW1109700 |
| Date | 4 February 2021 | Status | Rev B |
| Author | Dana Romic | Reviewer | Andreas Wang / Ray Cook |

1 Introduction

1.1 Background

Cardno was previously engaged by the City of Canning (“the City”) to undertake a traffic study of the needs of the Proposed Southern Link Road (SLR), with the findings from this traffic study documented in the *Southern Link Road - Road Benefit Investigation* (Cardno, Rev C, dated May 2020).

Following the Environmental Protection Authority (EPA) review of this report, Cardno has prepared this Technical Memorandum to provide further commentary on and justification for the proposed Stage 3 alignment in response to the comments received by EPA.

2 EPA Response

The EPA has provided the following commentary relating to the proposed Stage 3 of the SLR shown in **Figure 2-1**, requesting additional information to be provided.

Responses to the comments will be discussed in the following sections of this technical memorandum.

Figure 2-1 Extract from EPA Letter

A review of the referral information indicates that the proposal will directly impact the Shrublands and Woodlands on Muchea Limestone Threatened Ecological Community (TEC) and Carousel Swamp Conservation Category Wetland (CCW). A detailed understanding is required regarding why the 'improved access' potentially achieved by the proposal, cannot be achieved by modifying existing local roads bordering the Carousel Swamp.

EPA Services is providing the City the opportunity to further explore alternative proposals, or explore design amendments to the proposal to avoid, and minimise the potential impacts to the TEC and CCW.

Source: EPA Notice Requesting Further Information (15 January 2021)

3 Design Consideration Process

The SLR is part of a suite of local and regional road upgrades recommended by the City of Canning, in order to improve access to the City of Canning City Centre and the permeability and safety of the transport network.

The next phase of the SLR (Stage 3) proposes a road extension from Grey Street to Gerard Street to provide a strong north-south link between Albany Highway and the north side of the rail line. The proposed SLR Stage 3 alignment is shown in **Figure 3-1**.

Stage 3 of the proposed SLR is located within the City of Canning's 'Conservation Precinct' on land which is classified as Threatened Ecological Community (TEC) and Carousel Swamp Conservation Category Wetland (CCW). This land is currently being managed by the landowner and the City is proposing to manage the TEC and CCW once the road is built.

Given the sensitive nature of the land, a range of design options were considered by the City to avoid and minimise the potential impacts to the TEC and CCW. As a result, the alignment and width of the Stage 3 works have been modified from being a straight line to a curved design which now goes through mostly degraded vegetation. The cross-section of the SLR was also reduced through this area.

The proposed road layout will form a barrier to not only people, development, and stormwater run-off, but will also protect the existing and surrounding vegetation.

Figure 3-1 Proposed SLR Stage 3 Alignment



Source: City of Canning

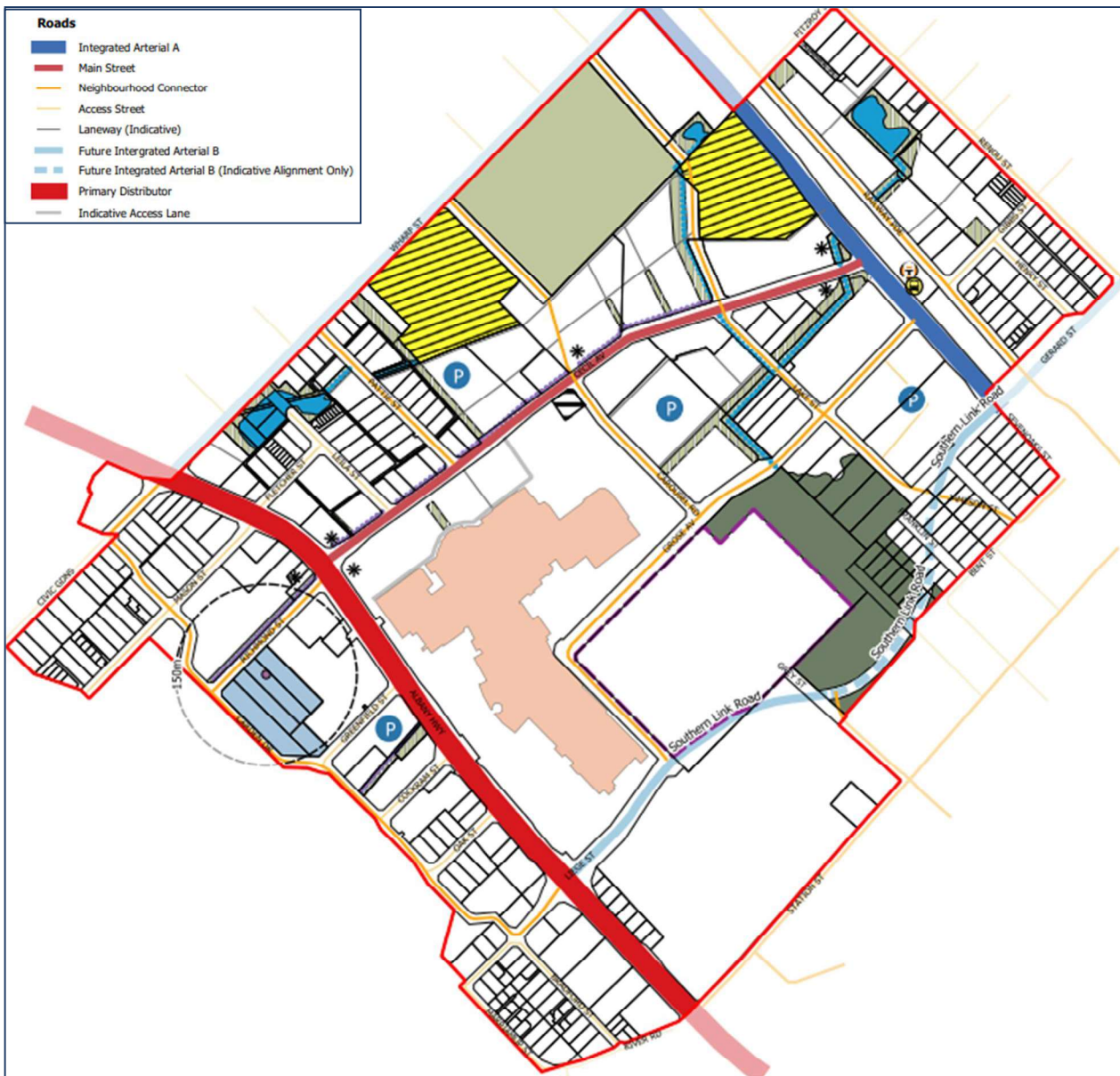
4 Canning City Centre Activity Centre Plan 2017

The City's Activity Centre Plan (2017) envisions the Canning City Centre being a 'major growth area by 2031', with the Cannington Train Station being a major transit oriented development location. With future plans to increase the amount on urban infill development around the Cannington Train Station, the City Centre is predicted to see a 25,000 resident increase.

In order to uphold these pressures on the future road network, a range of key infrastructure improvements/upgrades are proposed including SLR and nearby internal access roads.

Figure 4-1 shows the proposed SLR Stage 3 alignment as a 'Future Integrated Arterial B' road. Stage 3 works play a vital role in improving connectivity and reducing congestion within the area.

Figure 4-1 City of Canning Activity Centre Plan



Source: City of Canning Activity Centre Plan 2017

5 Pressures on the Surrounding Road Network

Figure 5-2 shows the existing road hierarchy as per the Main Roads WA Road Information Mapping System. The proposed SRL Stage 3 is proposed to provide an essential link between Grey Street and Gerard Street in order to improve connectivity and reduce pressures on the surrounding road network as a result of predicted population growth.

Road classifications for the nearby street network are defined in the Main Roads Functional Hierarchy as follows:

- > **Primary Distributors (light blue):** Form the regional and inter-regional grid of MRWA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes, and all are National or State Roads WA.
- > **Distributor B (dark blue):** perform a similar function to District Distributor A but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
- > **Local Distributors (orange):** Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. They are managed by Local Government.
- > **Access Roads (grey):** Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by Local Government.

The City has considered a range of possible road extensions for the SLR, however it is clear that the surrounding road network would be unable to uphold the pressures and high volumes of vehicles predicted by 2031. Stage 3 is a crucial part to improving the connectivity within the Canning City Centre and ensuring that vehicles can easily and safely access Albany Highway and Sevenoaks Street.

In addition to the above, the proposed Stage 3 road extension is considered as an Integrator Arterial under Liveable Neighbourhoods (2015), with geometry and function resembling an Integrator B type road. Integrator B roads carry a volume range of 15,000 vehicles per day.

Roads within the close proximity of Stage 3 include Bent Street and Grey Street, both of which are considered Access Streets type D, which are only intended to carry local and residential traffic, up to a maximum of 1,000 vehicles per day. Future traffic volumes anticipated within the immediate locality suggest that these streets would not be able to accommodate the excessive number of vehicles travelling throughout the area.

There are a number of plans in various documents that show Wilson Street (between Grey Street and Bent Street) located adjacent to the proposed SLR. This road reserve was privately owned and was amalgamated and developed with adjacent land holdings in 2014.

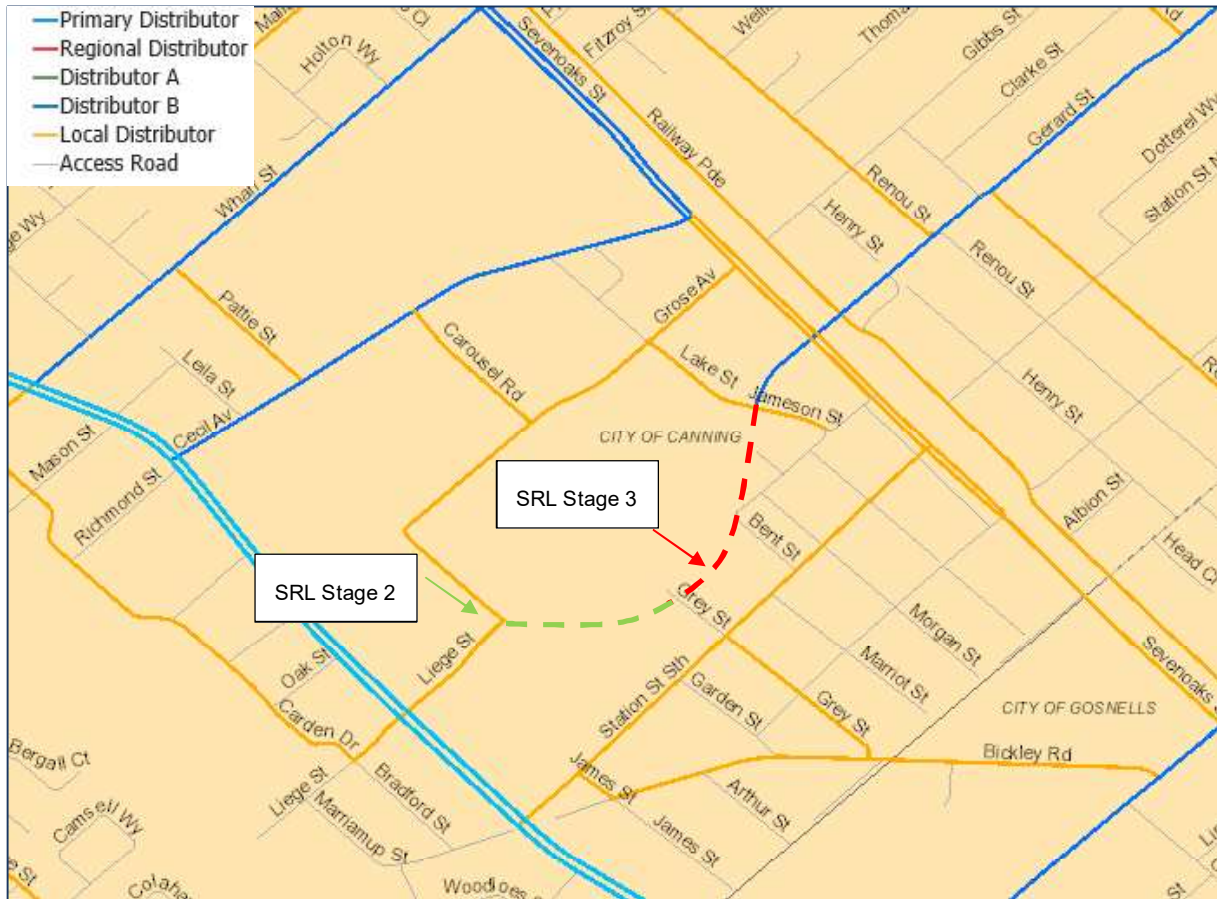
The location of the proposed Stage 3 road extension is surrounded by a range of road classifications further described in **Table 5-1**. Each of these roads have been considered for potential links forming Stage 3, however, for the following reasons discussed below have not been appropriate.

Table 5-1 Road Network Classification

| Street Names | Road Hierarchy | | Road Network | | | |
|------------------------|-------------------|------------------|--------------|------------------|------------------|---|
| | Road Hierarchy | Jurisdiction | No. of Lanes | No. of Footpaths | Width (m) | Additional Comment |
| Wharf Street | Distributor B | Local Government | 2 | 1 | 11 (1.5m median) | <ul style="list-style-type: none"> Wharf Street services Cannington Community College (Kindergarten to Year 10) Wharf Street is located too far west to serve as an efficient connection for the Carousel Centre/City Centre |
| Cecil Avenue | Distributor B | Local Government | 2 | 2 | 12 (1.5m median) | <ul style="list-style-type: none"> Cecil Avenue provides limited private street access Insufficient road reserve to upgrade further, considering it might form part of future light rail/trackless tram route |
| Grose Avenue | Local Distributor | Local Government | 2 | 2 | 7.0 | <ul style="list-style-type: none"> Grose Avenue provides main access to the Carousel Shopping Centre. Already carries high levels of traffic and would be unable to accommodate future traffic volumes predicted. |
| Station Street (South) | Local Distributor | Local Government | 2 | 2 | 7.0 | <ul style="list-style-type: none"> Main Roads WA is proposing to modify the intersection with Albany Highway to only allow left-in and left-out turn movements due to the high number of crashes recorded at this intersection. Given the proposed access limitations, this road is therefore is not be considered suitable to function as a higher-order road. Not a suitable option as motorists will be unable to turn right onto Albany Highway |

| | | | | | | |
|-------------|-------------|------------------|---|---|-----|---|
| Bent Street | Access Road | Local Government | 2 | 1 | 6.0 | <ul style="list-style-type: none"> Bent Street is classified as an Access Road D which are only intended to carry a maximum of 1,000 vehicles per day As an Access Road, Bent Street is intended to provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function On the above basis, Bent Street is not considered suitable to function as a higher-order road. |
| Grey Street | Access Road | Local Government | 2 | 1 | 6.0 | <ul style="list-style-type: none"> Grey Street is classified as an Access Road D which are only intended to carry a maximum of 1,000 vehicles per day As an Access Road, Grey Street is intended to provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function On the above basis, Grey Street is not considered suitable to function as a higher-order road. |

Figure 5-2 Road Hierarchy



Source: Main Roads Road Mapping Information 2021

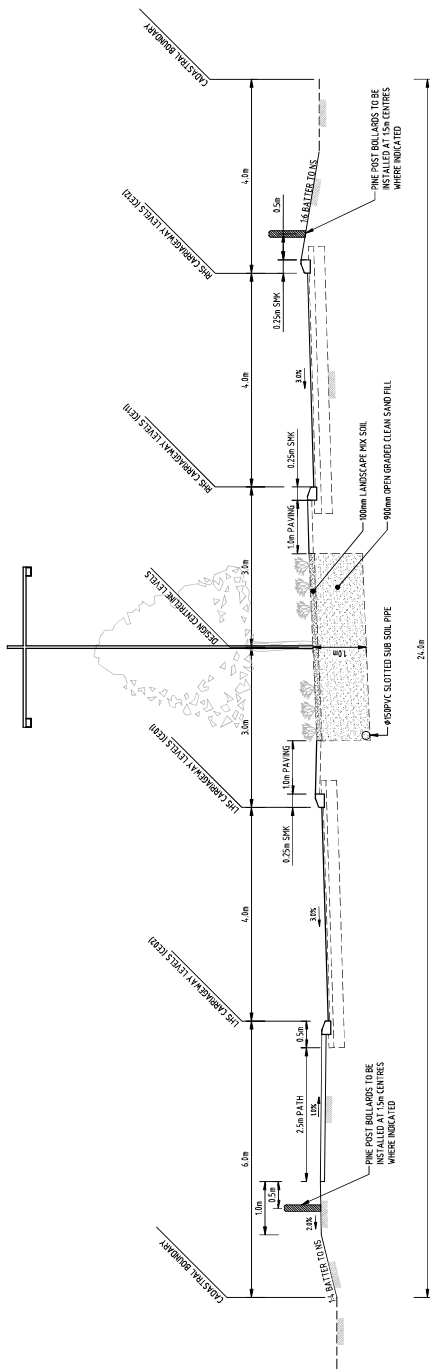
6 Summary and Conclusions

As requested by the EPA, this technical memorandum provides further information relating to the proposed alignment of the SLR Stage 3 road link and explains why the improved access cannot be achieved by modifying existing local roads bordering the Carousel Swap.

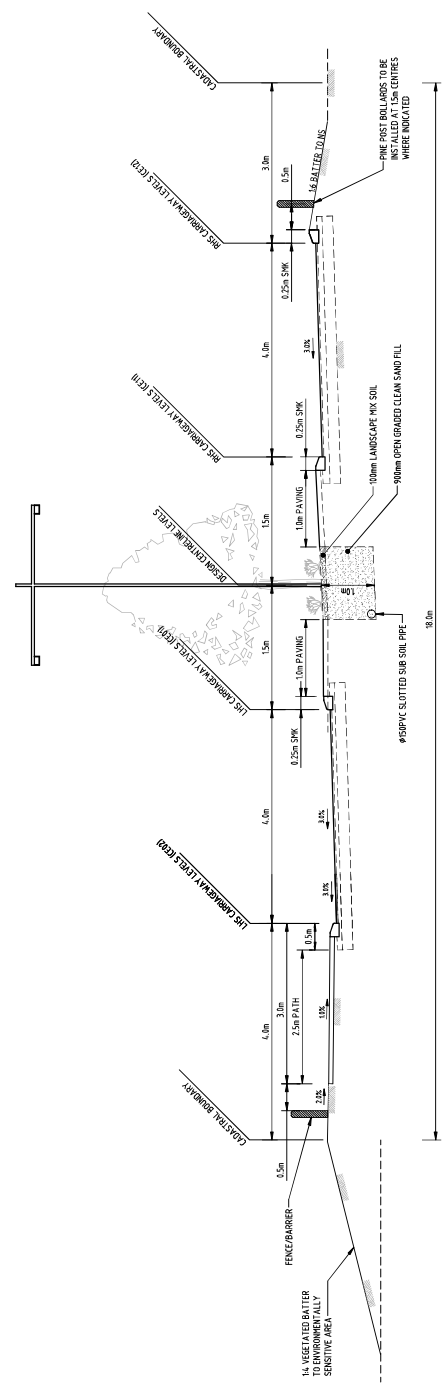
- > Given the sensitive nature of the land, a range of design options were considered by the City to avoid and minimise the potential impacts to the TEC and CCW. As a result, the alignment and width of the Stage 3 works have been modified from being a straight line to a curved design which now goes through mostly degraded vegetation. The cross section of SLR was also reduced through this area;
- > The CACP (2017) anticipates 25,000 residents within the City Centre area by 2031 and while the City has planned for these additional residents in an integrated transport and land use approach, the SLR is a key component of the road network components that forms part of the movement and access strategy for the area;
- > The City has considered a range of possible road extensions for the SLR, however it is clear that the surrounding road network would be unable to uphold the pressures and high volumes of vehicles predicted by 2031.
- > Adjacent roads are either considered to be too far from the City Centre to efficiently provide the level of accessibility and connectivity required for an arterial integrator road, are to a standard that isn't suitable to carry the regional traffic volumes, or don't have appropriate connectivity to Albany Highway.

APPENDIX 4

CROSS-SECTION OPTION 2
(Source: City of Canning 2020)



TYPICAL CROSS SECTION (A-A)
N/S



1:4 VEGETATED BATTER TYPICAL SECTION ENVIRONMENTALLY SENSITIVE AREA (B-B)
N/S

| | | | |
|---------------|--|--|--|
| PROJECT: | | SOUTHERN LINK ROAD CANNINGTON | |
| DRAWING: | | TYPICAL CROSS SECTIONS | |
| CLIENT: | | CITY OF CANNING | |
| DESIGNER: | | Porter Creating Engineers | |
| DATE: | | JUNE 2020 | |
| SCALE: | | NTS | |
| DRAWN: | | ELV | |
| CHECKED: | | P/J/V | |
| DATE: | | JUNE 2020 | |
| PROJECT NO.: | | 18-7-100/800 | |
| DRAWING NO.: | | F A1 | |
| PROJECT NAME: | | FOLLOW CANNING PROJECTS UNDER REVIEW #17-180-0000-0000 | |
| STATUS: | | FOR COMMENT | |
| DATE: | | DATE: | |

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REVISIONS

| NO. | DATE | DESCRIPTION | BY |
|-----|------------|---|-----|
| F | 14-06-2020 | ISSUE FOR SECTION B - REVISED TO 1:4 BATTER | ELV |
| E | 24-06-2020 | ISSUE FOR SECTION B - REVISED TO 1:4 BATTER | ELV |
| C | 24-06-2020 | ISSUE FOR SECTION B - REVISED TO 1:4 BATTER | ELV |
| B | 24-06-2020 | ISSUE FOR SECTION B - REVISED TO 1:4 BATTER | ELV |
| A | 24-06-2020 | ISSUE FOR SECTION B - REVISED TO 1:4 BATTER | ELV |