

Proposed Structure Plan

Lot 28 Barfield Road, Hammond Park

Transport Impact Statement

PREPARED FOR:
Condor Nominees

December 2022

Document history and status

Author	Revision	Approved by	Date approved	Revision type
M Rasouli	r01	B Bordbar	12/11/2021	Draft
M Rasouli	r01a	B Bordbar	19/11/2021	Final
K Dai	r01b	M Rasouli	5/12/2022	Revised Final

File name: t21.191.jd.01b

Author: Mohammad Rasouli

Project manager: Mohammad Rasouli

Client: Condor Nominees

Project: Lot 28 Barfield Road, Hammond Park

Document revision: r01b

Project number: t21.191

TABLE OF CONTENTS

1	INTRODUCTION.....	4
2	PROPOSED STRUCTURE PLAN.....	6
3	VEHICLE ACCESS.....	7
3.1	ACCESS.....	7
4	PROVISION FOR SERVICE VEHICLES	8
5	HOURS OF OPERATION.....	9
6	DAILY TRAFFIC VOLUMES AND VEHICLE TYPES	10
6.1	EXISTING TRIP GENERATION	10
6.2	THE PROPOSED DEVELOPMENT TRIP GENERATION	10
6.3	TRAFFIC FLOW	10
6.4	IMPACT ON SURROUNDING ROADS.....	11
7	TRAFFIC MANAGEMENT ON THE FRONTAGE STREETS.....	12
8	PUBLIC TRANSPORT ACCESS.....	14
9	PEDESTRIAN AND CYCLE ACCESS.....	15
10	SITE SPECIFIC ISSUES	16
11	SAFETY ISSUES.....	17
12	CONCLUSIONS.....	18

APPENDIX A: PROPOSED DEVELOPMENT PLAN

APPENDIX B: PROPOSED SOUTHERN SUBURB DISTRICT STRUCTURE PLAN

REPORT FIGURES

Figure 1: Location of subject site.....5

Figure 2: Location of the subject site in MRS 5

Figure 3: Location of the site within the City of Cockburn Southern Suburbs District Structure Plan 6

Figure 4: Proposed access arrangements.....7

Figure 5: Estimated traffic movements for AM/PM/Daily traffic.....11

Figure 6: Barfield Road looking north.....12

Figure 7: The recently developed areas to the north of the SP area 13

Figure 8:Existing bus routes.....14



1 Introduction

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Condor Nominees with regard to the proposed Structure Plan for Lot 28 Barfield Road, Hammond Park, in City of Cockburn.

The subject site is located within the City of Cockburn's Southern Suburb District Structure Plan (SSDSP). A copy of the SSDSP is provided in **Appendix A**. Clause 7.4 of the City of Cockburn's 2012 District Structure Plan for "Southern Suburbs Stage 3" states that:

"The SSDSP3 shows the broad allocation and location of land use activities and will form the basis of assessing detailed proposals for individual properties. The District Structure Plan is a "guiding document" adopted by the Council and is not a structure plan adopted pursuant to section 6.2.9 of the City's TPS No. 3. Therefore, land uses and zones are not given the full effect as though they are part of TPS No.3. To progress the subdivision and development of a land holding it will be necessary for landowners or groups of small landowners to prepare and submit a detailed LSP and supporting reports for their land. Each structure plan should be generally in accordance with the SSDSP3, and should show details including the proposed road and lot layout, detail areas of POS, R-Codes and other information set in the Development Area provisions of TPS No. 3. Any significant departures from the SSDSP3 would need to be identified and justified. All LSP's are to be adopted by Council and endorsed by the WAPC in accordance with the Development Area provisions of the Scheme".

The Transport Impact Assessment Guidelines (WAPC, Vol 4 – Individual Developments, August 2016) states: "A Transport Impact Statement is required for those developments that would be likely to generate moderate volumes of traffic¹ and therefore would have a moderate overall impact on the surrounding land uses and transport networks".

Section 6 of Transcore's report provides details of the estimated trip generation for the proposed development. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a TIS is deemed appropriate for this development.

This TIS is prepared in accordance with WAPC Guidelines with consideration given to the Clause 7.4 of the City of Cockburn's SSDSP. Key issues that will be addressed in this report include the traffic generation and distribution of the proposed Structure Plan and access and egress movement patterns.

The land subject to this Structure Plan (the subject site) is located to the eastern side of Barfield Road and has frontage to Barfield Road and the western boundary of the Kwinana Freeway as shown in **Figure 1**. The location of the subject site within the Metropolitan Region Scheme (MRS) context is illustrated in **Figure 2**.

¹ Between 10 and 100 vehicular trips per hour

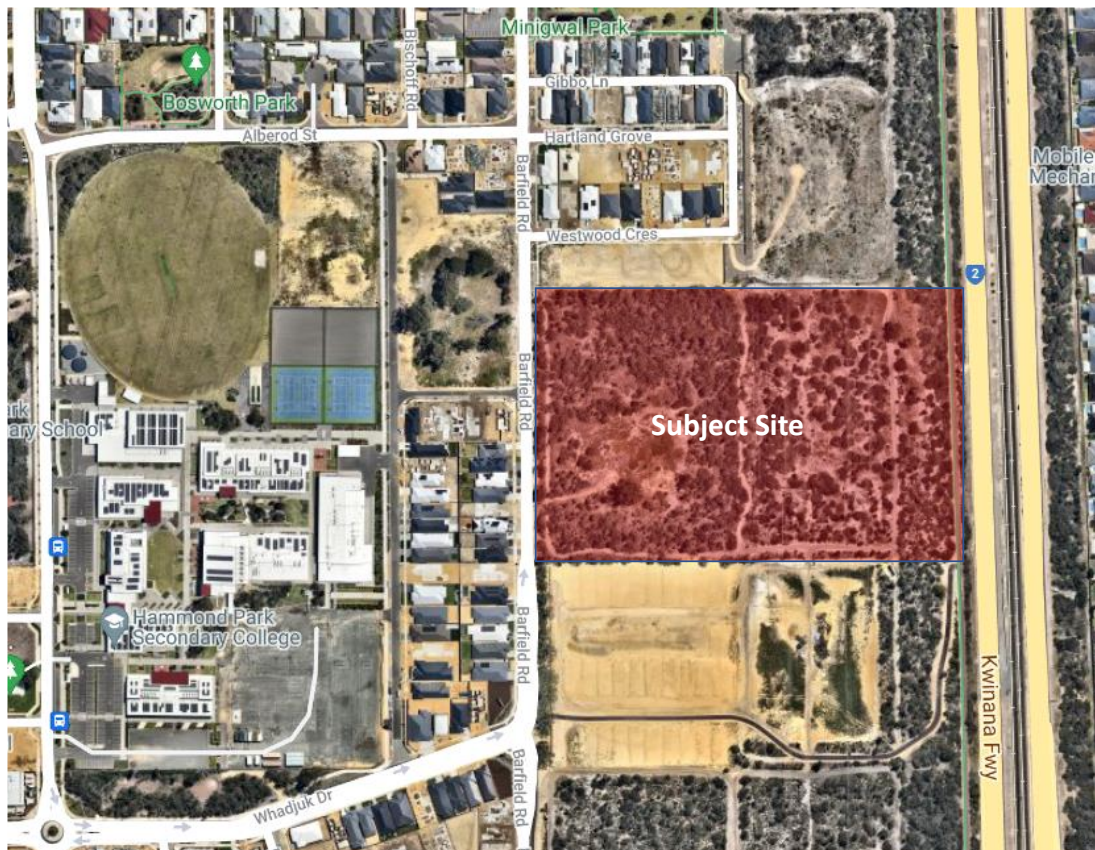


Figure 1: Location of subject site

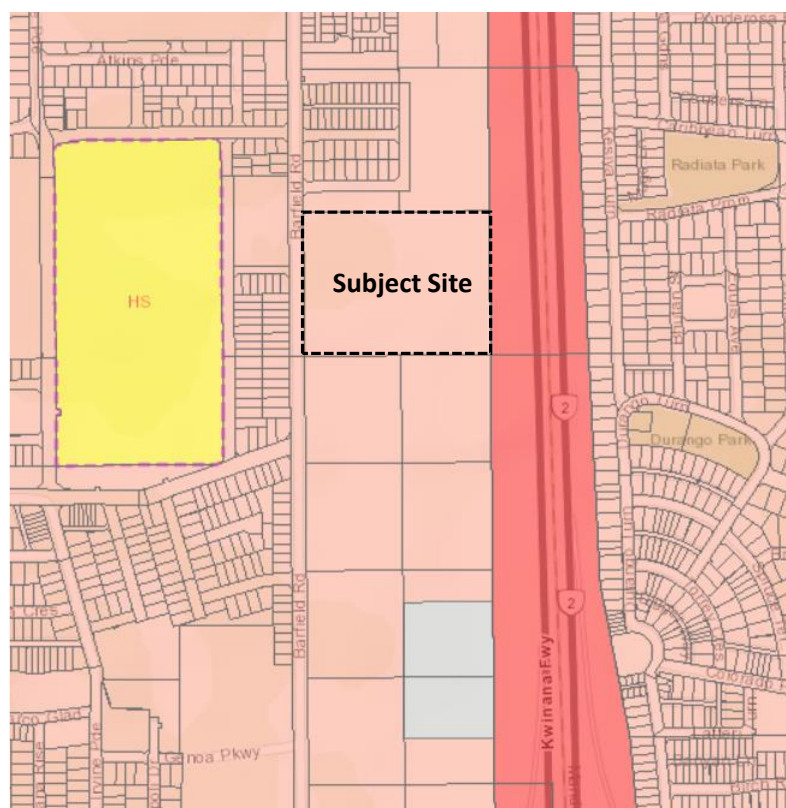


Figure 2: Location of the subject site in MRS

2 Proposed Structure Plan

The proposed Structure Plan (Appendix B) is based on an Indicative Subdivision Layout for 46 residential lots (Appendix C) within the western part of the subject site. The eastern half of the site is affected by an easement in favour of Western Power associated with 330KV power line infrastructure which traverses this portion of the site from north to south parallel to the Kwinana Freeway to the east.

The subject site is identified in the City of Cockburn Southern Suburbs District Structure Plan as Medium Density Residential. As indicated on the proposed Structure Plan, the location of the required public open space differs from its location on the SSDSP (refer **Figure 3**) has been agreed with the City of Cockburn for the advertising of the Structure Plan documents.

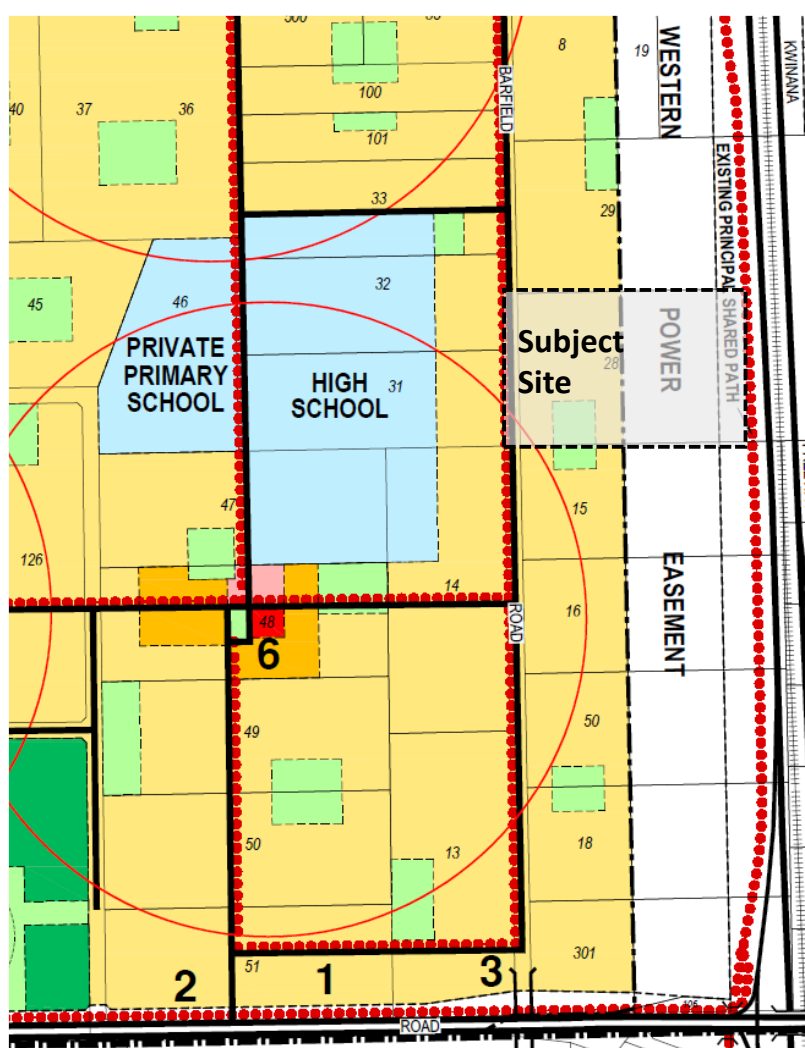


Figure 3: Location of the site within the City of Cockburn Southern Suburbs District Structure Plan

3 Vehicle Access

3.1 Access

The proposed SP has direct road frontage to Barfield Road with two full movement priority-controlled access intersections on Barfield Road on both sides of the existing Boota Way (opposite of the subject site) as illustrated in **Figure 4**.

The SP also provides a connection to the adjacent Lot 15 to the south via a 20m road reserve located within the Western Power easement as has been approved and constructed within the development of Lot 29 to the north and approved on the subdivision plan for Lot 15.

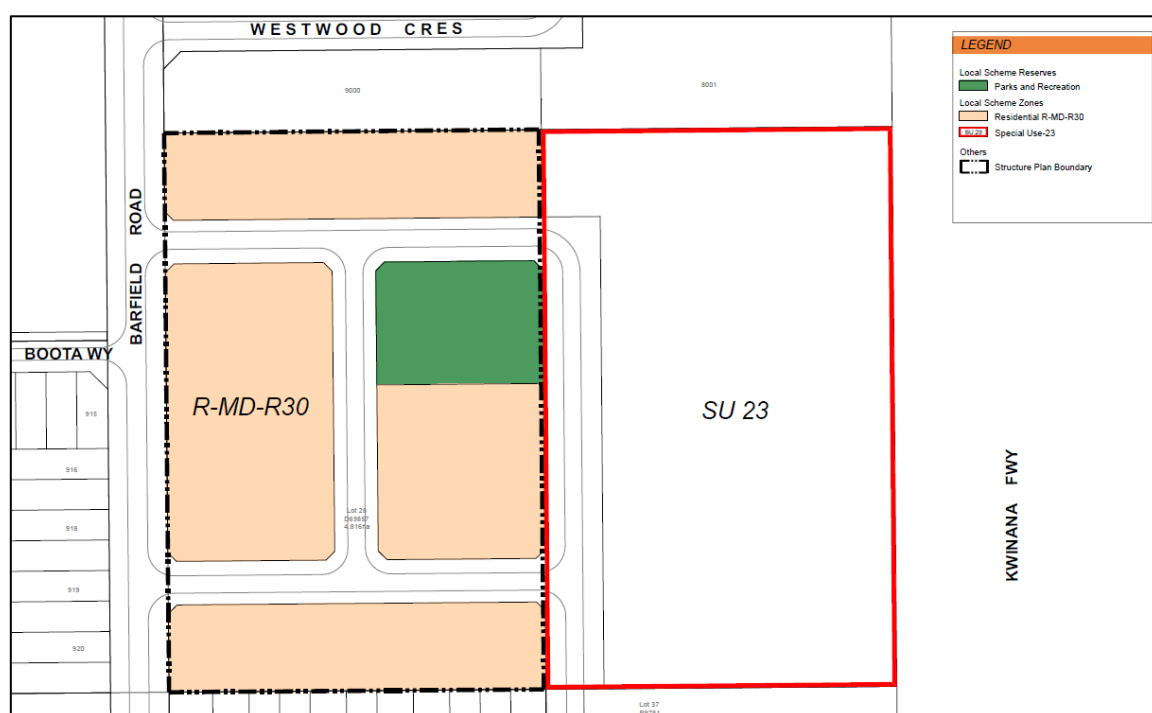


Figure 4: Proposed access arrangements

4 Provision for Service Vehicles

The internal SP road network will be designed to accommodate suitable service vehicles. Waste collection for the proposed SP will be as per the standard arrangement for residential developments throughout the City of Cockburn. This consists of rubbish bins wheeled out by the residents for verge collection on the designated collection day.

5 Hours of Operation

The proposed SP is for residential dwellings.

6 Daily Traffic Volumes and Vehicle Types

6.1 Existing Trip Generation

The subject site is currently vacant and does not generate any traffic.

6.2 The Proposed Development Trip Generation

The proposed SP is expected to yield 46 residential lots. The traffic generation rate used for the proposed subdivision is 8 vehicle trips per day (vpd) per dwelling, which corresponds to peak hour trip generation rates of 0.8vph per dwelling recommended in the Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines (2016).

Accordingly, it is calculated that the daily and peak hour traffic generation for the proposed SP is:

- Daily Vehicle Trips: 8×46 (dwellings) = 368 vpd; and,
- Weekday Peak Hour Trips: 0.8×46 (dwellings) = 37 vph.

Therefore, it is estimated that the proposed SP would generate about 368 vehicular trips per day with approximately 37 trips during the typical weekday peak hour. These figures include both inbound and outbound vehicle movements.

6.3 Traffic Flow

With respect to the location of the SP, permeability and layout of the surrounding road network, the assumed traffic distribution as a result of the proposed development is assumed as follows:

- 50% to/ from north on Barfield Road; and,
- 50% to/ from south on Barfield Road;

The trip distribution of the development-generated traffic is illustrated in **Figure 5**. As evident some vehicular interaction between Lot 15 and Lot 28 would be expected through the proposed southern connection.

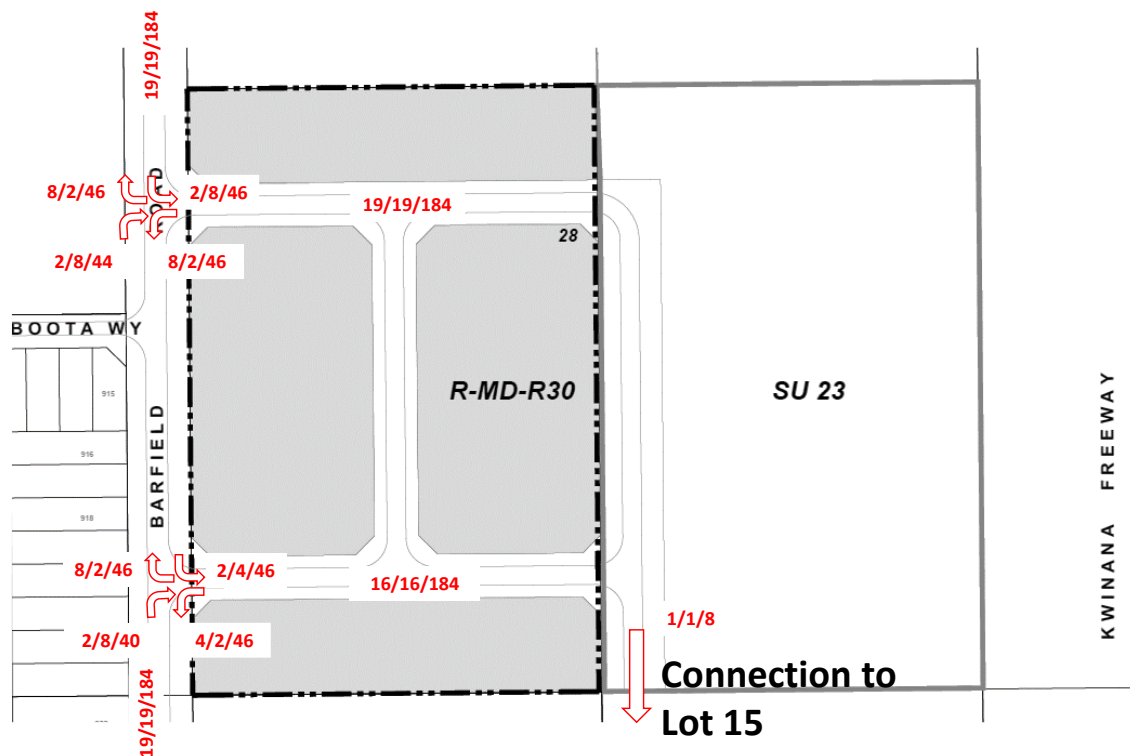


Figure 5: Estimated traffic movements for AM/PM/Daily traffic

6.4 Impact on Surrounding Roads

The WAPC Transport Impact Assessment Guidelines (2016) provides guidance on the assessment of traffic impacts:

“As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 per cent may. All sections of road with an increase greater than 10 per cent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 per cent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis.”

It is clear that the traffic increase from the proposed SP would be significantly less than the critical threshold (100vph per lane). As detailed in **Section 6.2**, the proposed SP will not increase traffic on any lanes on the surrounding road network by more than 100vph, therefore the impact of the development traffic on the surrounding road network will not be significant and does not require further detailed assessment.

7 Traffic Management on the Frontage Streets

Barfield Road is constructed as a 6.2m wide single carriageway two-way road with no pedestrian footpaths fronting the subject site (Refer to **Figure 6**). A shared path and a footpath are provided to the west and east side of Barfield Road respectively for the recently developed areas immediately to the north and south of the SP area (Refer **Figure 7**).

Barfield Road connects to Baler Crescent and Rowley Road to the north and south respectively. Currently the intersection of Barfield Road and Rowley Road is in the form of a priority-controlled T-intersection. It is Transcore's understanding that once Rowley Road is upgraded to 4-lanes this intersection will be terminated at Rowley Road.

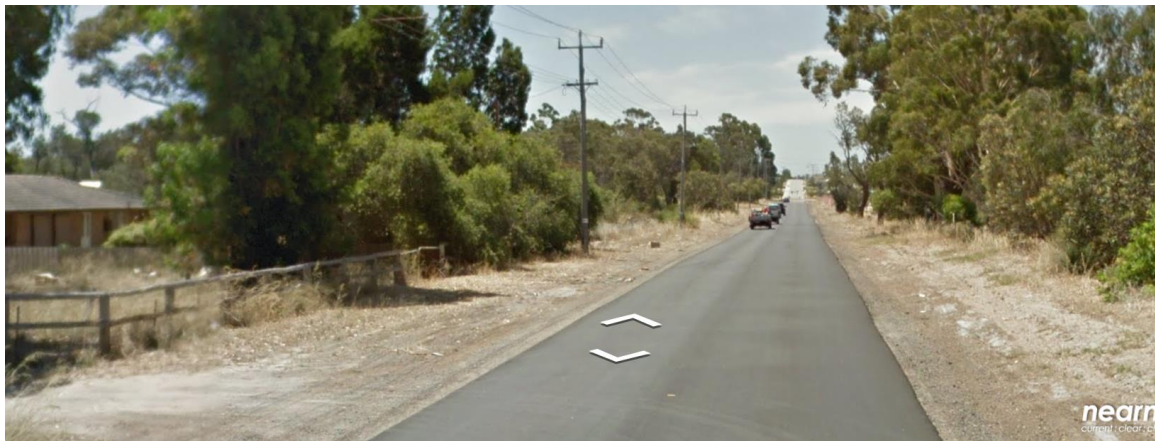


Figure 6: Barfield Road looking north



Figure 7: The recently developed areas to the north of the SP area

8 Public Transport Access

Figure 8 illustrates the existing bus routes in the vicinity of the subject site. Currently, there is no bus services along Barfield Road. The closest bus route is bus route 536 which provides connection between Aubin Grove Train Station and Hammond Park Secondary College.

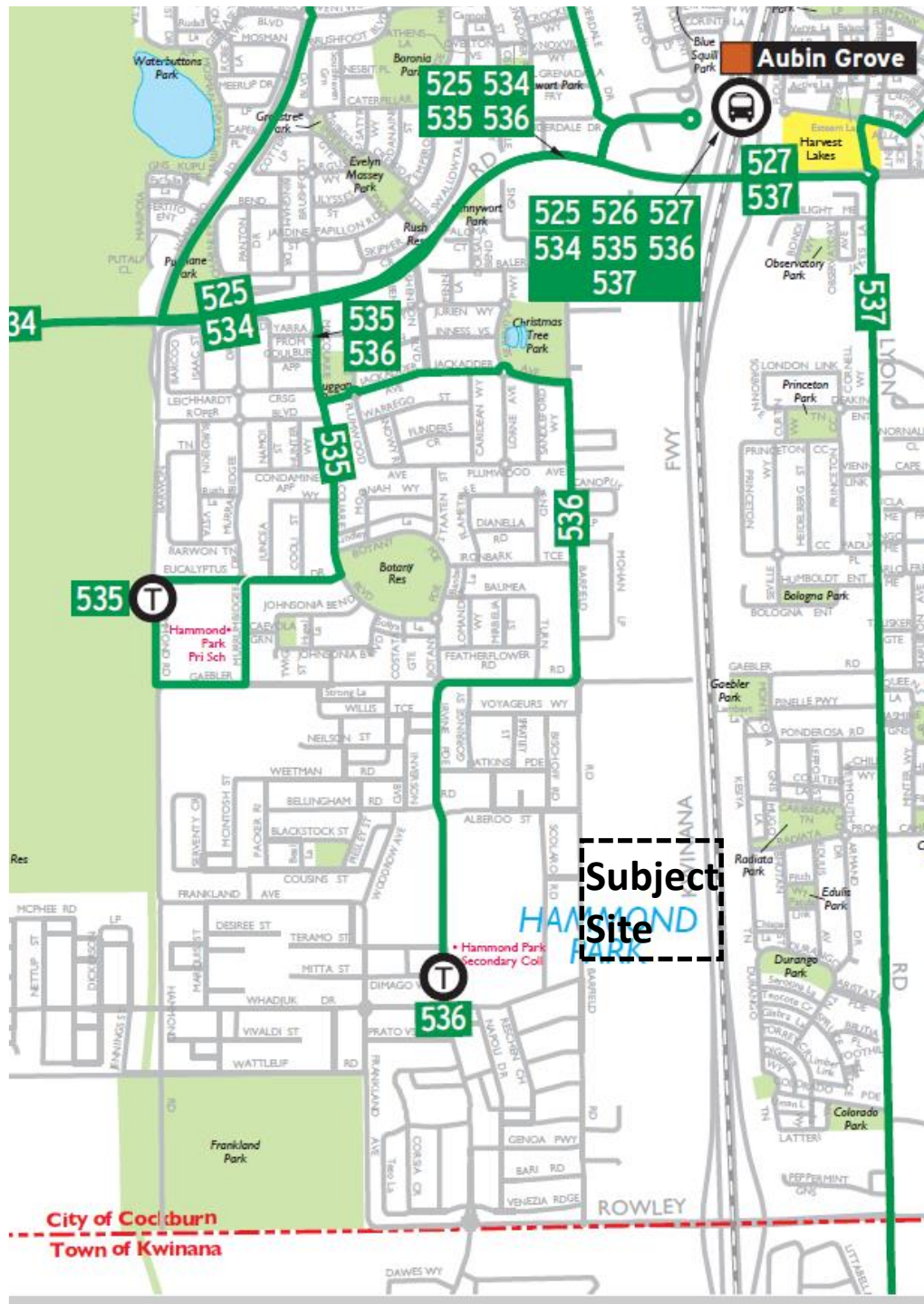


Figure 8: Existing bus routes

9 Pedestrian and Cycle Access

Pedestrian access would be provided via the existing and proposed paths along Barfield Road. Currently there is a shared path and a footpath to the west and east side of Barfield Road respectively immediately north of the subject site which has been constructed as part of the development of Lot 29 (the northern Lot). It is expected that similar paths would be provided along Barfield Road fronting the subject site (and the other vacant Lots in this vicinity) as they develop progressively.

In accordance with the requirements of Liveable Neighbourhoods, footpaths will be provided on at least one side of every street within the SP area.

10 Site Specific Issues

The proposed Structure Plan is located within the City of Cockburn's Southern Suburb District Structure Plan (SSDSP). A copy of the SSDSP is provided in Appendix A. The proposed Structure Plan is generally in accordance with the SSDSP, and shows various details including the proposed road and lot layouts.

The traffic modelling and analysis undertaken indicates that the projected traffic volumes on all SP internal Roads would be less than 1,000vpd and therefore the internal roads of the SP would be classified as Access Street D in line with Liveable Neighbourhood Guidelines. The basic standard of Access Street D roads is a 6m wide carriageway in a 15m road reserve in accordance with Liveable Neighbourhoods guidelines.

11 Safety Issues

No safety issues were identified within the scope of this assessment.

12 Conclusions

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Condor Nominees with regard to the proposed Structure Plan for Lot 28 Barfield Road, Hammond Park, in City of Cockburn.

The proposed Structure Plan is located within the City of Cockburn's Southern Suburb District Structure Plan (SSDSP). The proposed Structure Plan is generally in accordance with the SSDSP.

The proposed Structure Plan entails up to 46 residential dwellings within the western part of the subject site. The eastern half of the site is affected by an easement in favour of Western Power associated with 330KV power line infrastructure.

The proposed SP has direct road frontage on Barfield Road with two proposed full movement priority-controlled access intersections on Barfield Road and a connection to the adjacent Lot to the south (Lot 15).

The traffic analysis undertaken in this report shows that the traffic generation of the proposed SP is relatively low and would not have any significant impact on the surrounding road network.

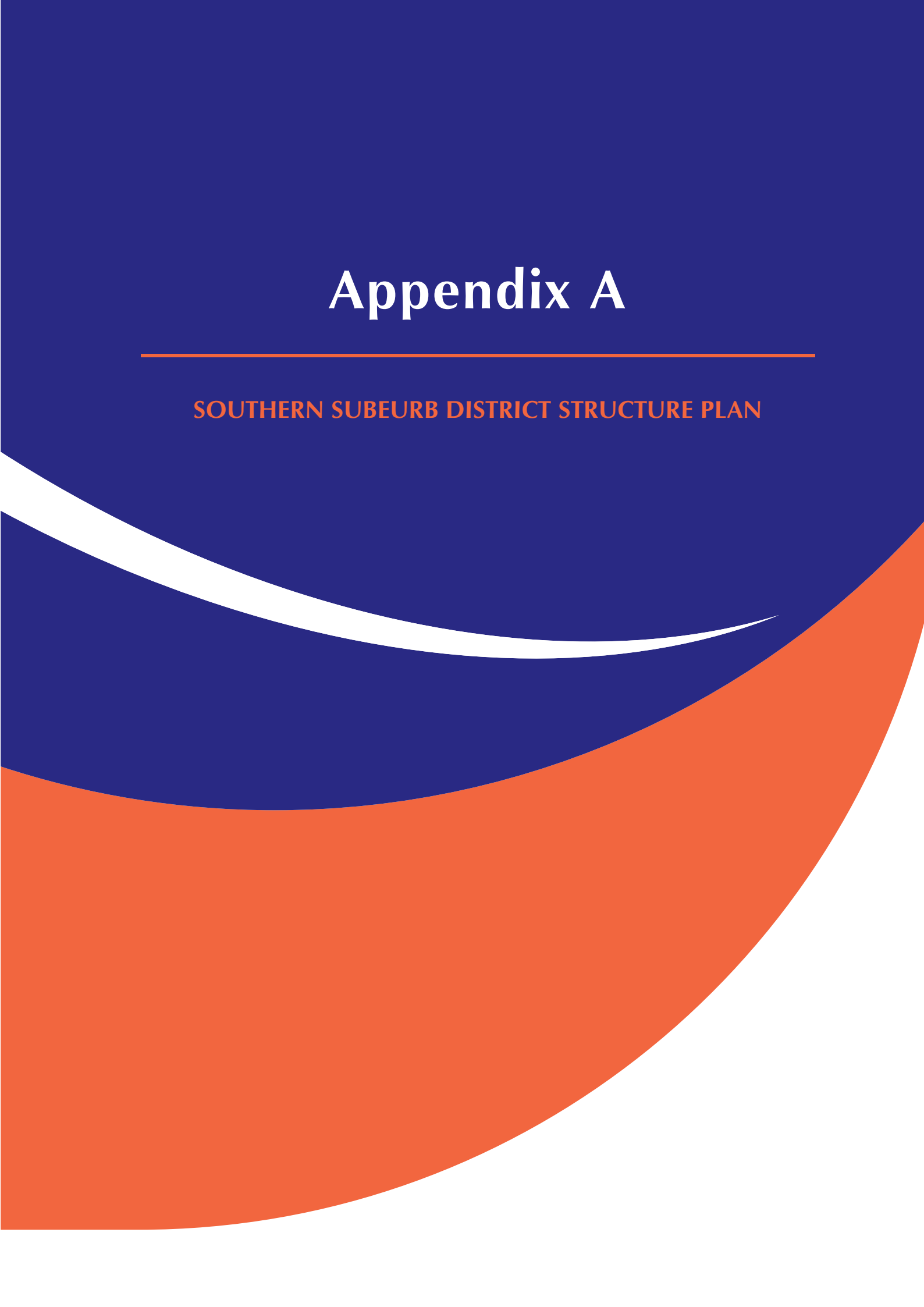
The traffic modelling and analysis undertaken indicates that the projected traffic volumes on all SP internal Roads would be less than 1,000vpd and therefore the internal roads of the SP would be classified as Access Street D in line with Liveable Neighbourhood Guidelines. The basic standard of Access Street D roads is a 6m wide carriageway in a 15m road reserve in accordance with Liveable Neighbourhoods guidelines.

Currently there is a shared path and a footpath to the west and east side of Barfield Road respectively immediately north of the subject site which has been constructed as part of the development of Lot 29 (the northern Lot). It is expected that similar paths would be provided along Barfield Road fronting the subject site (and the other vacant Lots in this vicinity) as they develop progressively. In accordance with the requirements of Liveable Neighbourhoods, footpaths will be provided on at least one side of every street within the SP area.

No particular safety issues have been identified for the proposed SP.

Accordingly, it is concluded that the traffic related issues should not form an impediment to the approval of the proposed SP.

Appendix A



SOUTHERN SUBURB DISTRICT STRUCTURE PLAN

- STAGE 3, HAMMOND PARK / WATTLEUP

1. FUTURE RESIDENTIAL DEVELOPMENT SHALL NOT DIRECTLY ADJUT ROWLEY ROAD. FUTURE LOCAL STRUCTURE PLANNING IS TO DEMONSTRATE A SUITABLE INTERFACE TREATMENT (E.G. ENLARGED SERVICE ROAD) DESIGN WITH FRONTING RESIDENTIAL DEVELOPMENT AS A MINIMUM) BEING PROVIDED TO THE FUTURE ROWLEY ROAD FREIGHT ACCESS ROUTE.

2. FUTURE ACCESS ROAD TO BE PROVIDED AS A FULL INTERSECTION UNTIL ROWLEY ROAD IS UPGRADED AND CONSTRUCTED TO A REGIONAL ROAD AT WHICH TIME THE INTERSECTION WILL BE CONVERTED TO A MAINTAINED AS LEFT INLET OFF ACCESS ONLY (SUBJECT TO MAIN ROADS PLAN APPROVAL).
3. AS PART OF THE UPGRADE OF ROWLEY ROAD, GRADE SEPARATED PEDESTRIAN AND VEHICULAR ACCESS IS TO BE PROVIDED AS A CONTINUATION OF BAYFIELD ROAD, IN ORDER TO MAINTAIN CONNECTIVITY BETWEEN FUTURE DEVELOPMENT TO THE SOUTH OF ROWLEY ROAD THIS MAY BE FURTHER RATIONALISED THROUGH
SUBSEQUENT LOCAL STRUTURE PLANNING TO DETERMINE HOW THIS SPECIFIC ACCESS IS CREATED.

4. FUTURE STRUCTURE PLANNING OF THE CELL SOUTH OF WATTLEBURY ROAD MUST PROVIDE AN APPROPRIATE INTERFACE WITH RESIDENTIAL DEVELOPMENT TO THE SOUTH OF THE CELL. THIS WILL INVOLVE PLANNING COMMISSIONS TO THE SOUTH OF THE SITE, AND THE SETTING OF A DEVELOPMENTAL BOUNDARY TO THE WEST OF ITS POSITION ON THE ACCEPTABILITY OF RESIDENTIAL DEVELOPMENT SOUTH OF WATTLEBURY ROAD, AND ALTERNATIVE NON-RESIDENTIAL LAND USES THAT MAY BE REQUIRED. ANY IMPACTS ASSOCIATED WITH THE FUTURE DEVELOPMENT OF NON-RESIDENTIAL LAND USES IN THE CELL SOUTH OF WATTLEBURY ROAD MUST BE FULLY CONTAINED WITHIN THE CELL BOUNDARIES.

5. NEIGHBOURHOOD CENTRE THE DESIGN AND FUNCTION OF THE PROPOSED NEIGHBOURHOOD CENTRE SHALL BE BASED ON MAIN STREET PRINCIPLES AND RELEVANT PROVISIONS OF LIVABLE NEIGHBOURHOODS. ANY ASSOCIATED LOCAL STRUCTURE PLAN MUST ADEQUATELY DEMONSTRATE THROUGH CONCEPT PLANS AND/OR DETAILED AREA PLANS THE MANNER IN WHICH THE CENTRE ADDRESSES THE REQUIREMENTS OF THE RELEVANT SECTIONS OF THE SOUTHERN SUBURBS DISTRICT STRUCTURE PLAN, STAGE 1 REPORT, AND PARTICULARLY NEIGHBOURHOOD CENTRE CONCEPT PLAN PROVIDED WITHIN THE REPORT DOCUMENT.

6. NEIGHBOURHOOD NODES - THE DESIGN AND FUNCTIONALITY OF THE NEIGHBOURHOOD NODES SHALL BE DISTINCTLY DIFFERENT TO THE PRINCIPALITY OF THE NEIGHBOURHOOD CENTRE. THESE LOCATIONS ARE TO PROVIDE FOR A RANGE OF MORE LOCALLY FOCUSED ACTIVITIES AND FUNCTIONS, WHERE RETAIL IS PROPOSED, THESE ARE TO NOT EXCEED A MAXIMUM RETAIL FUNCTION OF 300SQM, WITH SUCH FUNCTION BASED UPON A CONVENIENCE STORE TYPE USE.

7. CENTRAL PRECINCT - A COMPREHENSIVE LOCAL STRUCTURE PLAN WILL BE REQUIRED FOR THE CENTRAL NEIGHBOURHOOD CENTRE AND ADJACENT DEVELOPMENT. THE CITY WILL NOT CONSIDER INDIVIDUAL STRUCTURE PLANS IN THIS LOCATION DUE TO THE NEED TO ENSURE THE SUITABLE INTEGRATION OF NEIGHBOURHOOD DEVELOPMENT.

- A. ALL CULTEURAL PLANS MUST INCLUDE AND BE INFORMED BY:
 - i. DETAILED MAPS BASED UPON REGIONAL DRAINAGE STUDY.
 - ii. DETAILED MAPS BASED UPON LOCAL DRAINAGE STUDY.
 - iii. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - iv. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - v. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - vi. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - vii. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - viii. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - ix. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - x. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
- B. LOCAL CULTURAL PLANS MUST INCLUDE AND BE INFORMED BY:
 - i. DETAILED MAPS BASED UPON REGIONAL DRAINAGE STUDY.
 - ii. DETAILED MAPS BASED UPON LOCAL DRAINAGE STUDY.
 - iii. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - iv. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - v. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - vi. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - vii. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - viii. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - ix. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.
 - x. DETAILED MAPS OF WATERSHEDS WHERE UPLAND JOINS NEARBY WATERSHEDS.

C. PUBLIC OPEN SPACE AND DRAINAGE
DESIGN AND CONSTRUCTION OF THE LOCAL STREET AND OPEN SPACE. ALL LOCAL STREET AND OPEN SPACE PLANS MUST ALSO INCORPORATE LOCAL WATER MANAGEMENT STRATEGIES TO DEMONSTRATE THE MANNER IN WHICH DRAINAGE CAN BE SELF-CONTAINED WHILST TAKING INTO CONSIDERATION THE DISTRICT REGIONAL DRAINAGE OBJECTIVES AND ENSURING BEST PRACTICE WATER SENSITIVE URBAN DESIGN. THE FUNCTIONALITY OF OPEN SPACE FOR INFORMAL ACTIVE RECREATION MUST ALSO BE CONSIDERED AS PART OF FUTURE OPEN SPACE AND DRAINAGE CO-PLANNING.

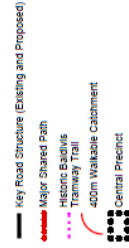
- D. RESIDENTIAL
- i) COOKS BURN TOWN PLANNING SCHEME NO. 3 USE CLASS TABLE
- ii) RESIDENTIAL DENSITIES ARE INDICATIVE ONLY AND SHALL BE REFINED AT THE LOCAL STRUCTURE PLAN STAGE IN ACCORDANCE WITH THE LOCALITY CRITERIA AS DEFINED WITHIN THE ASSOCIATED SOUTHERN SUBURBS DISTRICT STRUCTURE PLAN - STAGE 3 REPORT.

- iii) THE BASIC COOKING MINIMUM DENSITY APPLICABLE TO THE DISTRICT STRUCTURE PLAN AREA IS TO BE CONSISTENT WITH DIRECTIONS 23(1) IN REQUIREMENT GENERALLY IS DWELLINGS/HA AND 25 DWELLINGS/HA IN AREAS NEAR 'CENTRES' AND AREAS OF 'VALENTY'.

- CONTRIBUTIONS, SCHEDULE 12 OF TOWN PLANNING SCHEME NO.3 DETAILS DEVELOPMENT IN THIS AREA IS ALSO SUBJECT TO DEVELOPMENT CONTRIBUTION CONTRIBUTION AREA PROVISIONS, PERSONS OR COMPANIES PROPOSING TO UNDERTAKE SUBDIVISION IN THIS AREA SHOULD REVIEW SCHEDULE 12 AND ALSO CONTACT THE CITY'S STRATEGIC PLANNING TEAM TO ASCERTAIN THESE DEVELOPING MOVEMENTS TO THE SCHEME.

The City has prepared a 2.2m Whadluk Drive preferred cross section design which is to be reflected within all relevant Structure Plans.

SUBJECT TO FUTURE STRUCTURE PLANNING



Key Open Space Areas:

- Local Center (Pedestrian Based Retail)
- Mixed Business/Commercial/ Home Based Business
- Community Facilities/ Schools etc.
- Conservation Category Wetland*

*In accordance with DEC Geographic Wetlands Open Coastal Plain channel

Residential Density

High

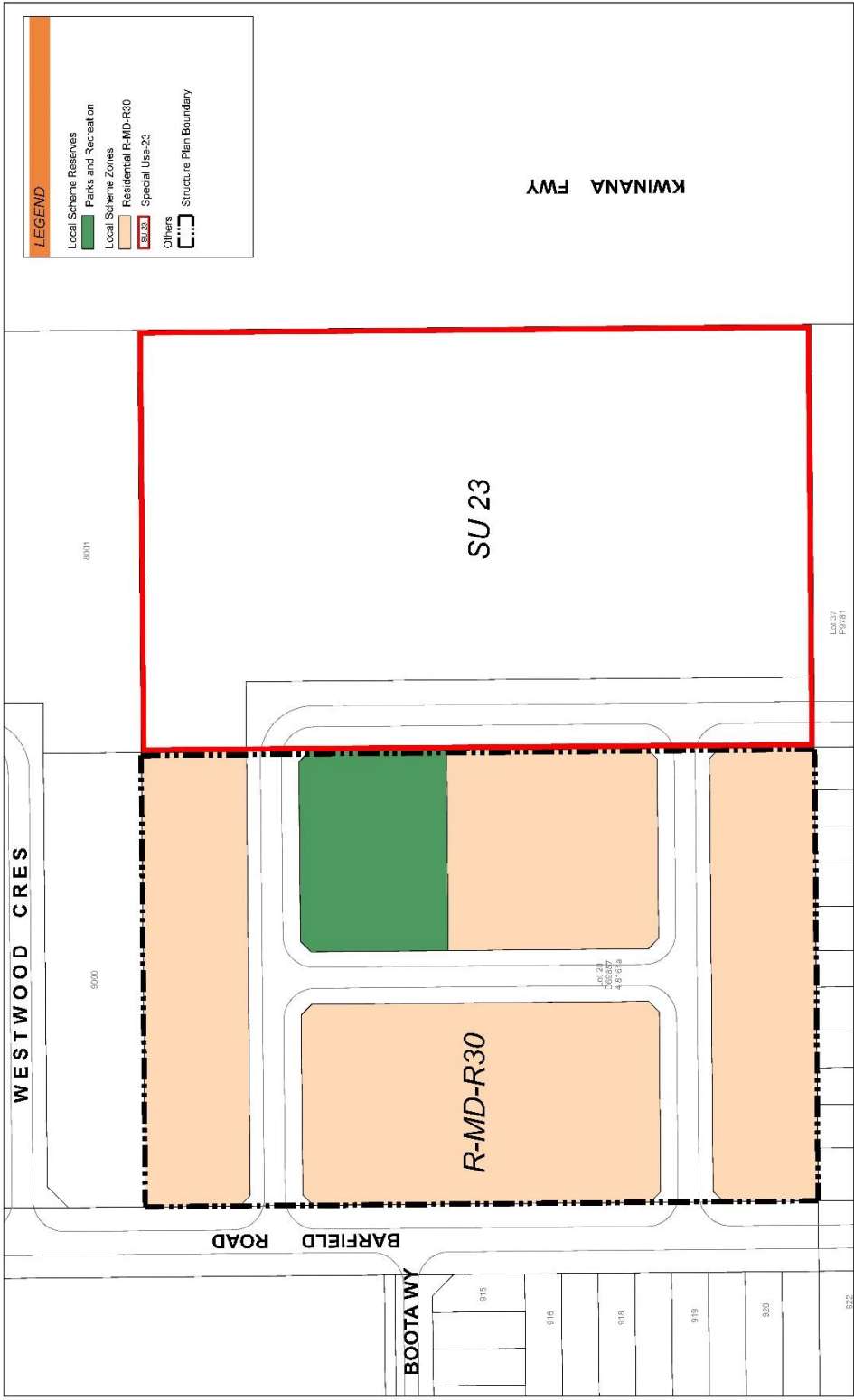
Medium



A vertical number line with a bracket indicating a distance of 200m from 0 to 200.

Appendix B

PROPOSED STRUCTURE PLAN



STRUCTURE PLAN
Lot 28 Barfield Road, Hammond Park



Source of Information
SPP issued by Landgate, WA
Proposed Scheme



Appendix C

INDICATIVE SUBDIVISION LAYOUT

