



DISTRICT PLANNING SCHEME No. 2

Amendment No. 154

*Planning and Development Act 2005***RESOLUTION TO ADOPT AMENDMENT TO
LOCAL PLANNING SCHEME****CITY OF WANNEROO****DISTRICT PLANNING SCHEME NO. 2 - AMENDMENT NO. 154**

RESOLVED that the local government pursuant to section 75 of the *Planning and Development Act 2005*, amend the above local planning scheme by modifying Schedule 2 – Section 1 (Clause 3.20) – Additional Uses by including the following entry and modifying the scheme map.

No.		Street/Locality	Particulars of Land	Additional Use and Conditions (where applicable)
A36	1-36	1 Niche Parade, Wangara	Lot 311	Drive-Through Food Outlet limited to a maximum net lettable area of 300m ²

The Amendment is complex under the provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015* for the following reason:

- No Local Planning Strategy has been endorsed by the Western Australian Planning Commission to support the amendment.

Date of Council Resolution...10 October 2017

.....
(Chief Executive Officer)

Dated this day of 20.....

CITY OF WANNEROO
DISTRICT PLANNING SCHEME NO 2 - AMENDMENT NO. 154
SCHEME AMENDMENT REPORT

CITY OF WANNEROO
DISCTRICT PLANNING SCHEME NO.2
AMENDMENT NO. 154

Prepared for:

SAMSARA DEVELOPMENTS PTY LTD

Prepared by:

STEVE PANDEVSKI
CONSULTING TOWN PLANNER

OCTOBER 2017

PROPOSAL TO AMEND A LOCAL PLANNING SCHEME

LOCAL AUTHORITY:	City of Wanneroo
DESCRIPTION OF TOWN PLANNING SCHEME:	City of Wanneroo District Planning Scheme No.2
TYPE OF SCHEME:	District Planning Scheme
SERIAL NUMBER OF AMENDMENT:	154

PROPOSAL:

1. Modify Schedule 2 – Section 1 (Clause 3.20) – Additional Uses of the Scheme Text by inserting the Additional Use ‘Drive Through Food Outlet’ with a condition restricting the net lettable area (nla) to a maximum of 300m² applicable to Lot 311 Niche Parade (cnr Ocean Reef Road), Wangara.
2. Modify the Scheme Map accordingly.

1. PURPOSE OF THE AMENDMENT

SAMSARA Developments Pty Ltd is seeking approval to a proposed amendment to the City of Wanneroo District Planning Scheme No.2 (DPS No.2) to facilitate the development of a drive through food outlet limited to a maximum of 300m² net lettable area (nla) on Lot 311 Niche Parade (corner Ocean Reef Road), Wangara.

The proposed amendment to DPS No.2 represents the culmination of extensive background research and investigation by consultants for, and agents of SAMSARA Developments Pty Ltd regarding the local need for fast, convenient, accessible and affordable ready to consume food options, including discussions with City of Wanneroo staff and one (1) particular drive through food outlet brand that is keen to occupy a portion of Lot 311.

The following report provides an explanation of the proposed amendment to DPS No.2 including the rationale and justification for change. Plans and maps in support of the proposal are also provided for illustration purposes.

2. OWNERSHIP AND LEGAL DESCRIPTION

Lot 311 (No. 1) Niche Parade, Wangara, is legally described as Lot 311 on Deposited Plan 400352, being Certificate of Title Volume 2828, Folio 311, and comprising a total area of approximately 7,162m² and is in the ownership of SAMSARA Developments Pty Ltd (see Appendix 1 – Certificate of Title).

3. LOCATION

Regional Context

Lot 311 is located in the locality of Wangara, within the municipality of the City of Wanneroo and is approximately 20 kilometres north of the Perth Central Business District.

As well as being provided with direct frontage to Ocean Reef Road and Niche Parade, Lot 311 is located within proximity of Mitchell Freeway and Wanneroo Road (to the west), which are classified 'Primary Regional Roads' reservations under the Metropolitan Region Scheme (MRS); as well as Sydney Road, Gnangara Road, Mirrabooka Avenue and Alexander Drive (to the east), which are classified 'Other Regional Roads' reservations under the MRS.

Lot 311 is also located approximately ten (10) kilometres south-east of the Joondalup Regional centre, approximately ten (10) kilometres west of Ellenbrook and approximately eleven (11) kilometres east-north-east of Hillarys Boat Harbour (see Appendix 2 - Figure 1 - Location Plan, Regional Context).

Local Context

Lot 311 is located within the industrial area commonly known as the 'Wangara industrial area' or the 'Northlink Industrial Park'. It is a significant industrial area located within the neighbouring localities of Wangara and Gnangara forming part of Perth's rapidly growing north-western corridor. This industrial area accommodates a range of lot sizes and strong internal road networks, resulting in the area being a premium business location that will (at capacity) cover over 700 hectares in area, create approximately 2,800,000m² of industrial floor space and employ approximately 22,500 people.

Lot 311 Niche Parade (i.e. the subject land) is located on the south-eastern corner of the intersection of Ocean Reef Road and Niche Parade. It is a traffic light controlled, four (4) way intersection (see Appendix 2 - Figure 2 – Location Plan, Local Context).

Beyond the immediate surroundings, the land is bounded by a variety of industrial, rural, residential and private recreation land uses, including currently vacant land ready for individual development.

4. PHYSICAL FEATURES AND CURRENT LAND USE

As previously mentioned Lot 311 comprises a total area of 7,162m², and has direct frontage to Ocean Reef Road and Niche Parade. Its vehicle access crossovers are via Niche Parade and the land currently contains a 24 hour (Coles Express) “petrol station” on its western half (see Appendix 2 - Figure 3 – Aerial Site Plan).

As well as the drive through food outlet proposed by this amendment, it is the intention of the current owner to also develop an auto service centre on Lot 311 to reaffirm the predominant industrial use of the site.

5. PLANNING BACKGROUND

In 2008, following assessment by LandCorp that concluded the Wangara industrial area required a retail/commercial offer, Scheme Amendment No. 73 was gazetted to rezone Lot 478 Prestige Parade and Lot 479 Vision Street, Wangara from ‘General Industrial’ to ‘Centre’ under the DPS2. The site area was approximately 1.5 hectares, but failed to provide for affordable, convenient and 24 hour food outlet options to primarily cater for the growing industrial employment precinct catchment.

At the time, the location of Amendment 73 (i.e. Lot 478 Prestige Parade and Lot 479 Vision Street) provided for a centrally located centre which benefited from high vehicle exposure. The realignment of Gngangara Road and the construction of the Ocean Reef Road extension through Wangara was redistributing vehicle traffic in the precinct and required a rethink of where best to locate a commercial centre in the locality as it became evident the ‘retail energy’ in relation to service delivery for the precinct shifted towards Ocean Reef Road. As a result, Amendment No. 134 was initiated to rezone Lot 478 and 479 back to ‘General Industry’ (see Appendix 3, Figure 4 – Location of Amendment 154 area in relation to Amendments 73 & 134 area).

At present, and despite the ‘retail energy’ in relation to service delivery for the precinct being clearly evident around the intersection of Ocean Reef Road and Niche Parade, no lots within the Wangara industrial area have the appropriate zoning to accommodate retail and commercial development. Although this amendment does not in its entirety address the demand and need for a centre in this locality, it will facilitate the development of a drive through food outlet limited to a maximum of 300m² nla to provide for affordable, convenient and 24 hour food outlet options to service the growing, surrounding industrial employment catchment.

SAMSARA Developments Pty Ltd, which owns other land in proximity to the Ocean Reef Road / Niche Parade intersection through staff and consultants of its affiliated entities, has been discussing and negotiating terms with City staff for a possible local centre proposal on its Wangara landholding. SAMSARA Developments Pty Ltd will continue to work with the City and other bodies on this matter with the aim of preparing a sufficiently detailed proposal which is strategically positioned and is of a scale appropriate to service the immediate locality, and effectively replaces the

original Prestige Parade site (i.e. Amendments 173 & 174), whilst maximising Ocean Reef Road frontage exposure opportunities.

6. SCHEME AMENDMENT PROPOSAL

Under the terms of the proposed amendment to DPS No.2 the land's current 'General Industrial' zoning classification will remain unchanged. As such all future development on the land will be required to meet the standards and requirements of DPS No.2 as it applies to all land classified 'General Industrial' zone unless otherwise approved by the City of Wanneroo in determining a development application consistent with the terms of the proposed 'Additional Use' amendment .

The proposed amendment to DPS No.2 seeks to allow for the establishment of an additional use on Lot 311 Niche Parade, Wangara (i.e. drive through food outlet) that is otherwise not permitted under the terms of the land's current 'General Industrial' zoning classification. The establishment of this additional use will be subject to a limited floor area of 300m² which seeks to ensure Lot 311 continues to be predominantly used for general industrial purposes (see Appendix 4 - Figure 5 - Proposed Additional Use on DPS No.2 Existing Zoning Map).

7. INDICATIVE SITE DEVELOPMENT PLAN

An indicative site development plan illustrating a possible development option and layout for a drive through food outlet on Lot 311 is appended (see Appendix 5 - Indicative Site Development Plan). Final detailed development plans will be submitted to Council for development approval following finalisation of the scheme amendment process.

Net Lettable Area (NLA)

As previously mentioned the proposed net lettable area (nla) of the proposed drive through food outlet is limited to 300m². Schedule 1 (Clause 1.9) - Interpretations, General Definitions, defines 'net lettable area' as:

"the area of all floors within the internal finished surfaces of permanent walls but excludes floor areas of:

(a) stairs not in a fire rated enclosure, escalators, toilets, cleaners' cupboards, plant rooms and other service areas, except where such floor areas are for the exclusive use of the occupiers of the floor or building;

(b) stairs in a fire rated enclosure, lift shafts and motor rooms, and lobbies between lifts facing other lifts serving the same floor;

(c) areas set aside as public space or thoroughfares and not for the exclusive use of occupiers of the floor or building;

(d) areas set aside for the provision of shared facilities or services for occupiers of the floor or building."

The indicative site development plan indicates a proposed drive through food outlet nla of 250m², notwithstanding the amendment requests a maximum nla of 300m² to provide flexibility in the design and development of the building to accommodate the proposed use.

Under the circumstances, and given that the proposed additional use (drive through food outlet) nla is only 300m² (i.e. approximately 2% of the total Lot 311 land area of 7,162m²), it is contended that the lot's predominant use for general industrial purposes (i.e. existing "petrol station" and future auto service centre) will not be compromised.

Vehicle Access

Vehicle access to and from the proposed drive through food outlet will be via the existing crossover arrangements servicing Lot 311 and Niche Parade (i.e. no modifications to the existing crossover access arrangements are intended).

On-site Car Parking

The comprehensive development of Lot 311 which intends to include the existing "petrol station", the proposed drive through food outlet and a future auto service centre will comply with the car parking standards and requirements contained in Table 2 (Clause 4.14) Car Parking Standards of DPS No.2.

8. TRAFFIC IMPACT STATEMENT

TARSC has prepared a Traffic Impact Statement to accompany the proposed Amendment (see Appendix 6 – Traffic Impact Statement).

Following analysis of the Indicative Site Development Plan contained at Appendix 5, the report arrives at the following conclusions:

- Overall, the proposed drive through food outlet use should generate in the order of 1,700 vehicular trips per day with approximately 105 occurring in the PM peak and half of which will be new trips and half being passing trade trips;
- Ocean Reef Road and the intersection of Fortitude Boulevard and Niche Parade will require future modification even if the development of a drive through food outlet on Lot 311 does not proceed;
- The impact of the traffic volumes associated with the proposed development on the road network (once modified) is considered acceptable; and,
- Delays and queues at the nearby once modified intersection and crossovers are expected to be minimal with very good levels of service now and into the future.

9. STATE PLANNING FRAMEWORK

Metropolitan Region Scheme (MRS)

The site is currently classified 'Industrial' zone under the Metropolitan Region Scheme (MRS). Land zoned 'Industrial' is intended to accommodate manufacturing, processing, warehousing and related activities (see Appendix 7 – Figure 6 - MRS Zoning Map Extract).

This amendment seeks to facilitate an opportunity for a portion of Lot 311 to be developed for a convenient and accessible drive through food outlet. It is contended the proposed use is a typical supporting activity found within industrial areas aimed at servicing the employment catchment, which is currently considerable and will continue to increase in this precinct of the Wangara industrial estate, and passing trade along Ocean Reef Road. The proposed amendment is not inconsistent with the MRS Industrial zoning and therefore a MRS amendment is not required to facilitate the proposed Local Planning Scheme (LPS) amendment process.

Perth and Peel @3.5 Million – North West Sub Regional Planning Framework

The draft Perth and Peel @ 3.5 million – Northwest Sub-regional Framework was released by the WAPC in May 2015 for public comment. It identifies the subject site as 'Industrial' land located within the existing Wangara industrial area. Whilst the proposed additional use does not directly align with a target of the draft Framework in terms of development on industrial land, the additional use amendment does represent an opportunity to implement the broader strategic direction of the draft Framework, particularly with respect to providing an adequate level of services to the growing employment catchment without detrimentally impacting on the surrounding Wangara industrial area.

State Planning Policy (SPP) No.4.2 – Activity Centres for Perth and Peel

SPP 4.2 identifies the activity centre hierarchy within the Perth metropolitan and Peel region, and sets out the guidelines and expectations for development within each centre.

The proposed amendment does not impact on the existing and established hierarchy of activity centres with the Perth Metropolitan Region. It merely seeks to provide an opportunity to develop a modest drive through food outlet with excellent accessibility where a substantial demand exists to conveniently service an existing and growing employment catchment within one of Perth significant industrial areas.

Model Provisions for Local Planning Schemes

The model provisions for local planning schemes contained in Schedule 1 of the Planning and Development (Local Planning Schemes) Regulations 2015 contains the following land use term/definition at 'Part 6 – Terms referred to in Scheme':

"fast food outlet/lunch bar means premises, including premises with a facility for drive-through service, used for the preparation, sale and serving of food to customers in a form ready to be eaten —

- (a) without further preparation; and*
- (b) primarily off the premises;"*

Significantly, the model provisions do not distinguish between a lunch bar and a fast food outlet (with or without a drive through facility).

DPS No.2 currently does distinguish between a lunch bar ('D' – discretionary use within the 'General Industrial' zone) and drive through food outlet ('X' – not permitted use within the 'General Industrial' zone). To that extent an anomaly exists between DPS No.2 and the model provisions for local planning schemes contained at Schedule 1 of the Planning and Development (Local Planning Schemes) Regulations 2015.

Under circumstances where the definition for 'lunch bar' under DPS No.2 was consistent with that contained in the 'model provisions' it is reasonable to assume that an LPS amendment would not be necessary to establish a drive through food outlet on Lot 311 Niche Parade, Wangara, and the matter would likely be dealt with as a development application. Therefore Amendment 154 to DPS No.2 is only required as a result of the aforementioned 'lunch bar' land use definition anomaly between DPS No.2 and the model provisions contained in Schedule 1 of the Planning and Development (Local Planning Schemes) Regulations 2015.

State Planning Policy (SPP) No.3.7 – Planning in Bushfire Prone Areas

SPP 3.7 provides direction and guidelines for the development of land uses located within a designated 'bushfire prone area'. A designated 'bushfire prone area' is an area that has been identified and designated by an order of the Fire and Emergency Services Commissioner under section 18P of the Fire and Emergency Services Act 1998 (as amended).

A portion of Lot 311 is located within a designated 'bushfire prone area' (see Appendix 8 – Figure 7 - Extent of Bushfire Prone Area).

SPP 3.7 is supported by the accompanying Guidelines for Planning in Bushfire Prone Areas. One of the key provisions of the Guidelines is the requirement for a Bushfire Hazard Level Assessment to be included as part of proposals to amend the region planning scheme or local planning scheme. As such, a Bushfire Hazard Level Assessment and Bushfire Management Plan have been submitted with this application (see Appendix 9 – Bushfire Management Plan).

The Bushfire Hazard Level Assessment and Management Plan were originally prepared in 2011 and subsequently updated in 2014 in support of a separate (now discontinued) scheme amendment which included Lot 311 Niche Parade and nearby Lot 339 Fortitude Boulevard (also owned by SAMSARA Developments Pty Ltd).

The assessment concludes that Lot 311 (amongst other lots) has a 'low' bushfire hazard level rating and on this basis it is contended the intended development of the subject portion of Lot 311 for the proposed additional use purposes is consistent with the objectives of SPP 3.7, which allows development to occur in areas with moderate or low hazard rating.

10. LOCAL PLANNING FRAMEWORK

City of Wanneroo District Planning Scheme (DPS) No.2

Under the City of Wanneroo's District Planning Scheme No. 2 (DPS No.2) the subject site is classified 'General Industrial' zone (see Appendix 10 – Figure 8, - DPS No.2 Zoning Map Extract).

Most forms of non-industrial uses within the 'General Industrial' zone are 'X' (prohibited uses) under the DPS No.2 zoning table. As such, a scheme amendment in the form of an "Additional Use" is required to facilitate the proposed partial development of Lot 311 of a drive through food outlet.

Regarding 'Additional Uses' clause 3.20 of DPS No.2 states:

"Notwithstanding anything contained in Table 1, the land specified in Section 1 of Schedule 2 may be used for the specific use or uses that are listed in addition to any uses permissible in the zone in which the land is situated subject to the conditions set out in Schedule 2 with respect to that land."

Section 1 of Schedule 2 of DPS No.2 is a list of 'Additional Uses' inserted into the scheme with corresponding conditions (where applicable).

East Wanneroo Cell 8 Agreed Structure Plan

Lot 311 is located within the East Wanneroo Cell 8 Agreed Structure Plan Area (Cell 8 Structure Plan), relating to the land south of Ocean Reef Road. The Cell 8 Structure Plan area covers approximately 260 hectares of land, originally included 95 private landholdings and provides guidance on development contributions and environmental requirements. The Cell 8 Structure Plan documentation does not include a 'zoning map'. As previously mentioned, the land is zoned under DPS No.2.

While most of the provisions of the Cell 8 Structure Plan relate specifically to industrial subdivision development, the following provisions are relevant to all development within the Structure Plan area:

- The development contributions to be made by an owner for the implementation of the Cell Works shall be determined in accordance with the scheme.
- Landowners shall undertake a Soil Contamination Assessment of the land prior to the undertaking of earthworks to determine the presence of soil contamination to the satisfaction of the Department of Environmental Protection (EPA).
- Should any soil contamination be identified, a Site Remediation and Validation Report shall be prepared and remediation works shall be undertaken for all identified contamination and should be validated as being free of contamination to the satisfaction of the EPA.
- The subdivider/developer to demonstrate to the City of Wanneroo at the subdivisional and/or development stage that the surface water drainage within the cell will be contained within the subdivision and/or development area.

It is apparent that the proposed amendment will have no implications on the provisions of the Cell Structure Plan as Lot 311 has been cleared, subdivided and substantially developed.

City of Wanneroo Local Planning Policy (LPP) 3.2 – Activity Centres

The purpose of this policy is to provide guidance on the planning and development of activity centres within the City of Wanneroo. Amendments to DSP No.2 are also subject to the provisions of this policy.

The aim of the policy is to:

- produce quality urban design and facilitate the long term evolution and sustainability of activity centres; and
- provide a framework for implementing the principles and objectives of State Planning Policy 4.2: Activity Centres for Perth and Peel (SPP 4.2) and the Department of Planning's Structure Plan Preparation Guidelines.

The introduction of a drive through food outlet additional use limited to a maximum of 300m² nla on Lot 311 Niche Parade will not compromise the integrity of current provisions and strategies contained in the policy, nor is the proposed additional use sufficiently sizeable to warrant consideration of a modification to the content of the policy. For that reason it is contended the proposed additional use amendment may be progressed without fear of adversely affecting the integrity if the local planning policy.

11. LOSS OF INDUSTRIAL LAND

A major concern for industrial land use policy is the potential loss of industrial lands to non-industrial land uses. This presumption against rezoning and subsequent loss of industrial land initially stemmed from the ongoing loss of industrial land to bulky goods activity along the main travel routes within industrial estates.

Although the protection of industrial land for industrial uses is the corner stone of industrial policy and strategies for delivering adequate industrial zoned land in Perth, the same strategies support the notion that the attractiveness of industrial zoned lands will benefit from the provision of incidental and complementary retail, commercial and other uses designed to satisfy the day to day needs of the industrial business catchment and employment community.

The introduction of the proposed drive through fast food outlet on Lot 311 will have no foreseeable negative impact on the industrial uses and employment in the precinct, whilst providing a supplementary convenience for the business and employment catchment, and its visitors.

Although the 2012 Western Australian Planning Commission (WAPC) Economic and Employment Lands Strategy (EELS) highlights a shortfall of 438 hectares of industrial zoned land in the Perth metropolitan northwest sub-region by 2031 it confirms that much of this shortfall will be generated by the increase in residential development north of Joondalup to Yanchep and not relevant to Wangara. In any event the strategy addresses the shortfall by delivering a range of appropriately located sites to the north of Wangara to satisfy that demand. A number of further sites are under investigation for the northwest sub-region, these sites include:

- Nowergup
- Nowergup(1)
- Nowergup(2)
- Pinjar North
- Jandabup

That being said, and as previously mentioned, the proposed 'additional use' is limited to a maximum of 300m² nla (i.e. approximately 2% of the total Lot 311 land area of 7,162m²). For this reason, it is concluded that the lot's predominant use for industrial purposes (i.e. existing "petrol station" and proposed auto service centre) will not be compromised.

Furthermore, 300m² nla for the proposed 'additional use' represents an insignificant percentage of the overall industrial land within Wangara. The entire Wangara industrial area, when complete, will be in excess of 700 hectares. The proposed additional use will represent approximately 0.0043% of the total Wangara industrial land area. Clearly the proposed 'additional use' assessed on its merits does not result in the significant loss of industrial land within the Wangara industrial area.

12. BUFFERS AND SEPARATION

Under *State Planning Policy 4.1 – State Industrial Buffer* (SPP 4.1), a 300-500m buffer is generally required between industrial land uses and sensitive land uses. Sensitive land uses are defined in the Policy as '*...includes residential dwellings, major recreational areas, hospitals, schools and other institutional uses involving accommodation*'. The uses proposed within this Amendment are not considered to be sensitive uses under the Policy.

The EPA's Guidance for the Assessment of Environmental Factors – Separation Distances between Industrial and Sensitive Land Uses defines 'sensitive uses' as:

'Land use sensitive to emissions from industry and infrastructure. Sensitive land uses include residential development, hospitals, hotels, motels, hostels, caravan parks, schools, nursing homes, child care facilities, shopping centres, playgrounds and some public buildings. Some commercial, institutional and industrial land uses which require high levels of amenity or are sensitive to particular emissions may also be considered 'sensitive land uses'. Examples include some retail outlets, offices and training centres, and some types of storage and manufacturing'. The Guidelines do not elaborate on what 'some types' refers to.

The proposed drive through food outlet use is considered to not fall under the term 'sensitive land use', in much the same way that a 'lunch bar' is not a sensitive land use. In any event, the management of any potential impacts by nearby industrial activities on the proposed additional use are considered to be ameliorated through appropriate and responsive design. In this regard, the indicative site development plan demonstrates the following design considerations to minimise or mitigate off-site impacts of noise, emission, dust or odour:

- appropriate interface treatments with adjoining sites – covered drive through facility (with canopies covering pay/pick up area) setback from the southern common boundary;
- orientation of the proposed building is central on Lot 311 and facing/addressing the adjoining Ocean Reef Drive road reserve (and not to the boundaries of the site);
- patronage of the site by customers is generally expected to be short term;
- eating areas will likely be limited to indoors, however should external eating areas be proposed in the future they will be covered, oriented central to the site or towards Ocean Reef Road thereby maximising separation with adjoining lots;
- all doors will be self closing;
- the building will be fitted with a reverse cycle air conditioning system enabling air intake to be filtered if necessary; and
- the building will be insulated (as required) to assist with mitigating potential penetrating noise impacts from uses on adjoining lots.

13. DEMONSTRATED NEED

As previously mentioned, the Wangara industrial area (at capacity) will include an employment base of approximately 22,500 workers. It will also see 4500 visitors each day, 1200 residents immediately north in Gnangara, and up to 22,600 visitors per day trade along Ocean Reef Road (of which 5600 might be considered non local).

Kingsway City Shopping Centre, Alexander Heights Shopping Centre and Greenwood Village (the nearest centres) are all located within a five (5) to ten (10) kilometre radius of Lot 311 and the precinct that it is within. Given the location of these centres, workers with the precinct containing Lot 311 are poorly serviced.

As previously mentioned, clearly there is demand for a retail/commercial offer within this precinct with the current "retail energy" focussing at the intersection of Ocean Reef Road, Niche Parade and Fortitude Boulevard. SAMSARA Developments Pty Ltd, which owns land in proximity to the Ocean Reef Road / Niche Parade intersection through staff and consultants of its affiliated entities, has been discussing and

negotiating terms with City staff for a possible commercial centre proposal on its Wangara landholding. SAMSARA Developments Pty Ltd will continue to work with City staff on this matter with the aim of preparing suitable documentation proposing a commercial centre which is strategically positioned and is of a scale appropriate to service the immediate locality and effectively replaces the original Prestige Parade site whilst maximising its exposure opportunities and having regard for this proposed additional use amendment.

The substantial employment base within the Wangara industrial area requires appropriate servicing, including opportunities to purchase quick and convenient food ready for consumption. There is no nearby centre containing food outlets and to that extent serious consideration must be given to providing food outlets on suitably and strategically located sites within the Wangara industrial area. Lot 311 is one such site which provides exposure and convenient access.

Significantly, the proposed drive through food outlet on Lot 311 is intended to operate after normal business hours, when all other lunch bars in the area are closed, therefore it will be able to service local businesses/industries which also operate extended hours, have shift work, are "on call" or have 24 hour operations. Currently these businesses and their employees are not serviced.

With that in mind it is anticipated the demand for the proposed additional use will be predominantly generated by local businesses and the local employment catchment, however clearly given its high exposure location the proposed business will also benefit from substantial passer-by traffic.

Drive through food outlets, as proposed by this amendment, are not uncommon in, or on the periphery of industrial areas serviced by higher order hierarchical roads. The nearby industrial areas of Malaga, Balcatta and Osborne Park, for example, all contain drive through food outlets that service their employment catchments and also benefit from passer-by traffic.

14. SUMMARY OF JUSTIFICATIONS

The proposed amendment to District Planning Scheme No.2 seeks to allow for the establishment of an additional use on Lot 311 Niche Parade, Wangara (i.e. drive through food outlet) that is otherwise not permitted under the terms of the land's current 'General Industrial' zoning classification. The establishment of this additional use will be subject to limited floor area of 300m². The amendment is justified on the following grounds:

- The proposal is not inconsistent with the land's 'industry' zoning classification under the Metropolitan Region Scheme.
- The proposal is not inconsistent with the direction, terms and definitions contained within Schedule 1 of the Planning and Development (Local Planning Schemes) Regulations 2015 (i.e. the model provisions for local planning schemes).
- The provision of drive through food outlets are not uncommon in, or on the periphery of industrial areas serviced by high exposure, high accessibility and high daytime populations (employment, visitor's and passer-by's).
- An indicative site development plan has been submitted with the proposal to provide an indication of the likely siting and area of the proposed additional use development on Lot 311 in relation to the remainder of the lot.
- The proposal is supported by the Traffic Impact Statement.

- A Bushfire Hazard Level Assessment and Bushfire Management Plan have been submitted and show the site having a 'low' bushfire hazard level rating.
- The use proposed is not considered to be sensitive as defined by SPP4.1 and the EPA's Guidance Statement and will not likely give rise to 'land use conflict', and is considered complimentary to the existing petrol station on Lot 311.
- The proposed use will predominantly service local businesses and local, industrial employment, however it will also benefit from passer-by traffic.
- This proposal is proportionately and comparatively inconsequential to the quantum of industrial land within the Wangara industrial area, however significantly it will facilitate the provision of a convenient and accessible "ready to eat" food option servicing the local industrial workforce and visitors to the area.
- Given the insignificant scale of the proposal it is contended it does not conflict with the existing and applicable state or local planning framework and will not result in a significant loss of industrial land.

APPENDIX 1 – CERTIFICATE OF TITLE

WESTERN



AUSTRALIA

REGISTER NUMBER 311/DP400352	
DUPLICATE EDITION 1	DATE DUPLICATE ISSUED 13/8/2014

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
2828

FOLIO
311

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 311 ON DEPOSITED PLAN 400352

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

SAMSARA DEVELOPMENTS PTY LTD OF 8/15 BONNER DRIVE MALAGA
(T M503115) REGISTERED 20 DECEMBER 2013

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. COVENANT BURDEN CREATED UNDER SECTION 150 P&D ACT TO CITY OF WANNEROO SEE DEPOSITED PLAN 400352
2. *N248896 MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA REGISTERED 11.2.2016.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

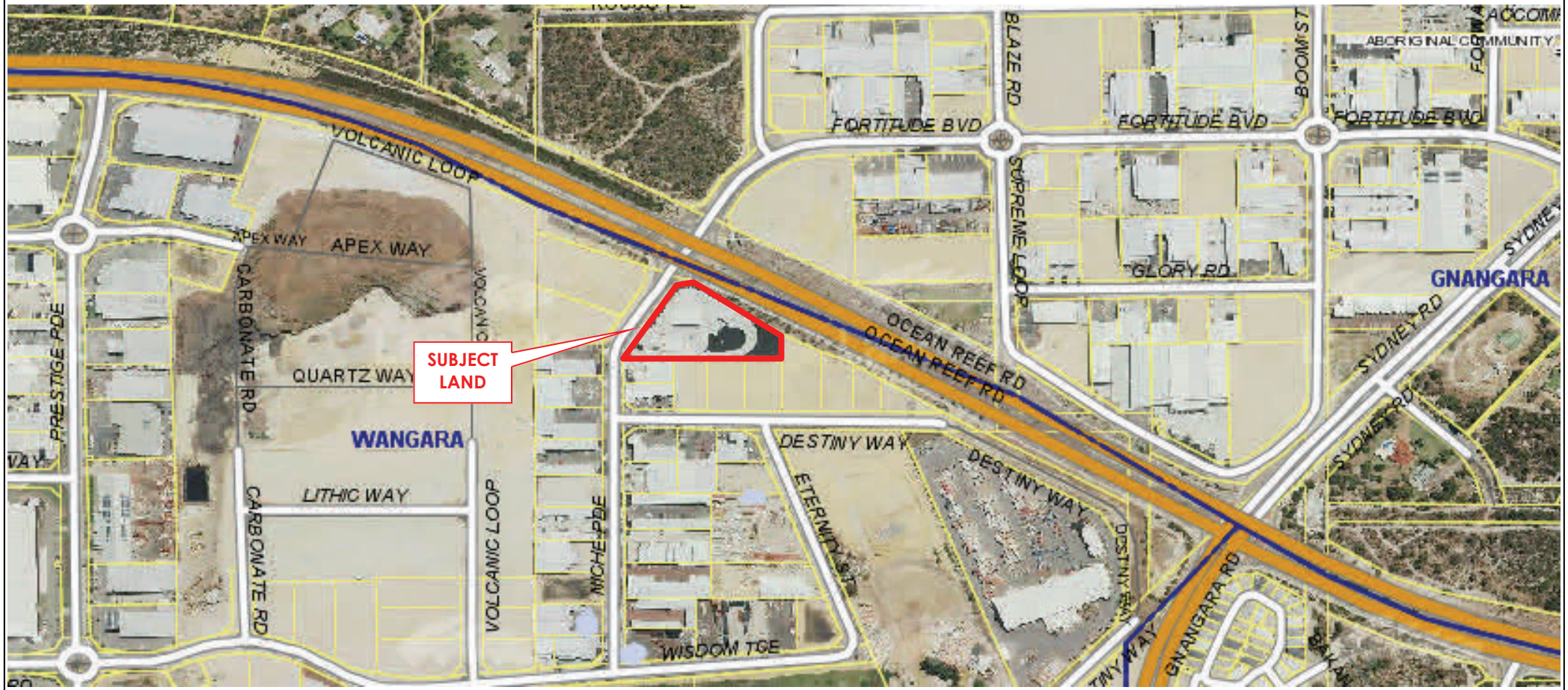
STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP400352.
PREVIOUS TITLE: 2773-281.
PROPERTY STREET ADDRESS: 1 NICHE PDE, WANGARA.
LOCAL GOVERNMENT AREA: CITY OF WANNEROO.

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING N248896

APPENDIX 2 – FIGURES 1 TO 3



Base Map Source: Landgate

Steve Pandevski
 Consulting Town Planner



NORTH

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SAMSARA DEVELOPMENTS PTY LTD

FIGURE 2

SCALE N.T.S

DATE: 16 / 10 / 2017

**LOT 311 NICHE PARADE,
 WANGARA**

**LOCATION PLAN
 LOCAL CONTEXT**



Base Map Source: Plan WA website

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 Consulting Town Planner

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SAMSARA DEVELOPMENTS PTY LTD

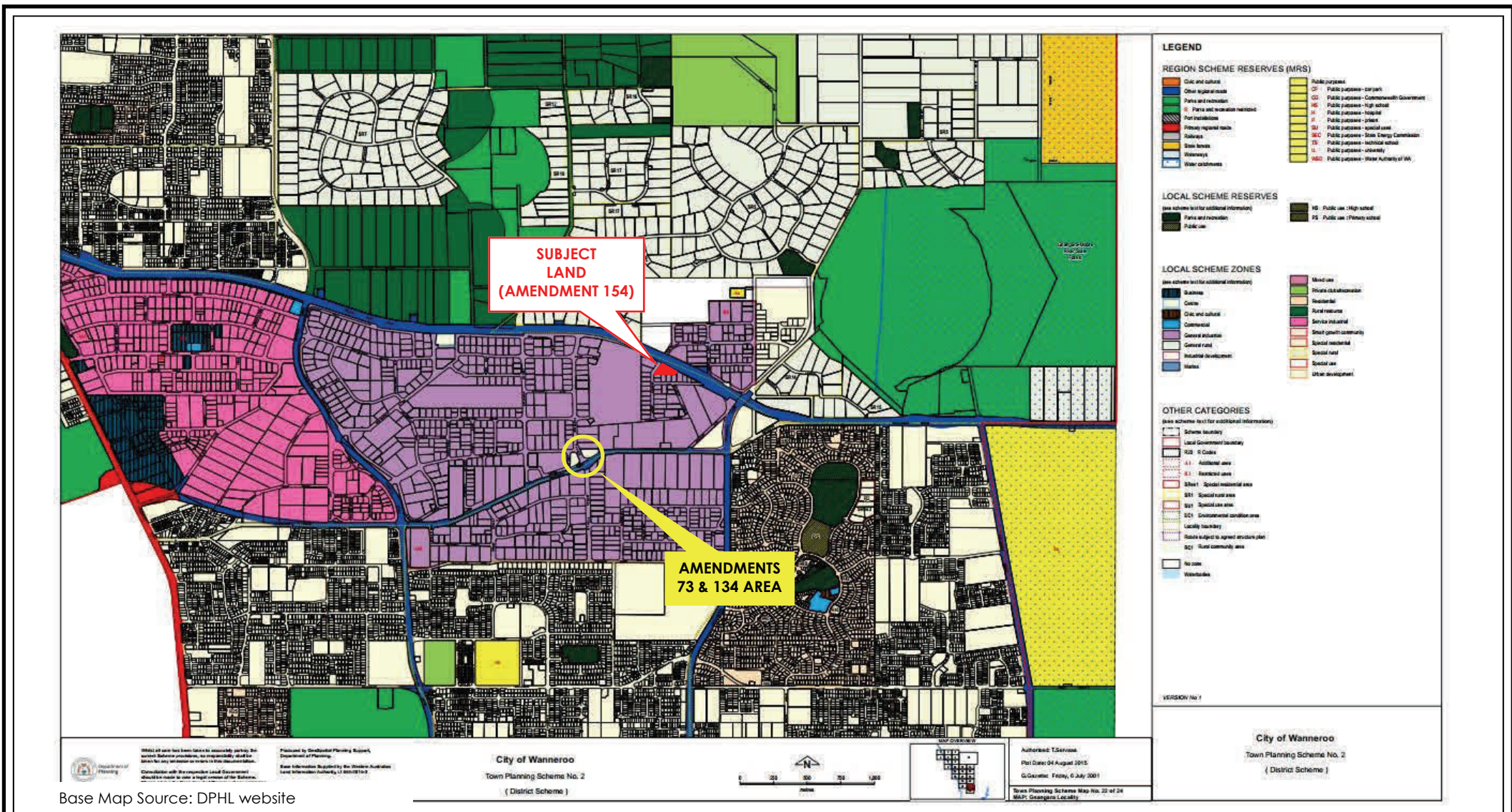
FIGURE 3

SCALE N.T.S.
 DATE: 16 / 10 / 2017

**LOT 311 NICHE PARADE,
 WANGARA**

AERIAL SITE PLAN

**APPENDIX 3 – FIGURE 4, LOCATION OF LOT 311 IN
RELATION TO AMENDMENTS 73 & 134**



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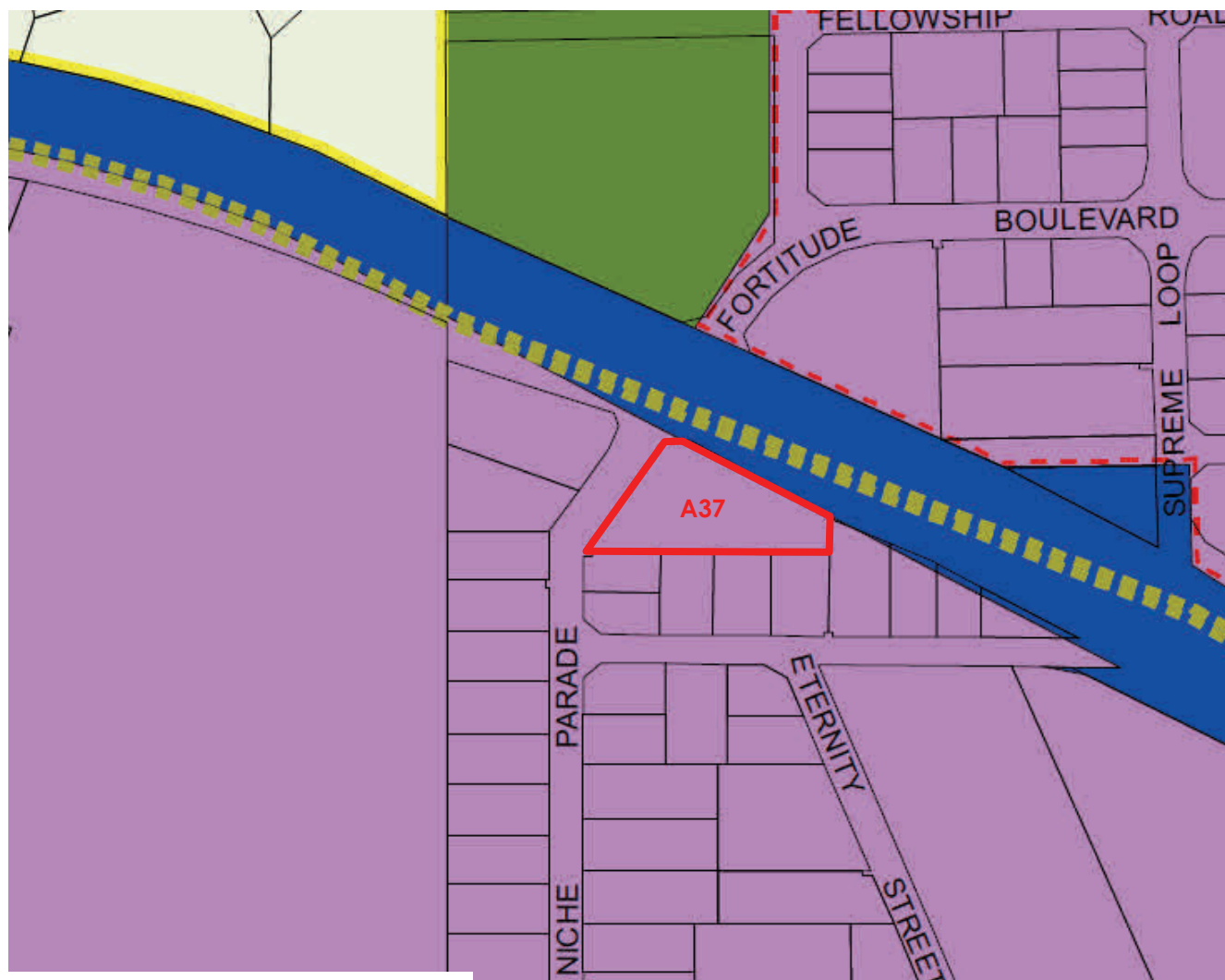
FIGURE 4

SCALE N.T.S
DATE: 16 / 10 / 2017

**LOT 311 NICHE PARADE,
WANGARA**

**LOCATION OF PROPOSED AMENDMENT 154 AREA
IN RELATION TO AMENDMENTS 73 & 134 AREA**

**APPENDIX 4 – FIGURE 5, PROPOSED ADDITIONAL USE
ON DPS NO.2 EXSTING ZONING MAP**



LOCAL SCHEME ZONES

(see scheme text for additional information)

- Business
- Centre
- Civic and cultural
- Commercial
- General industrial
- General rural
- Industrial development
- Landscape enhancement
- Marina

- Mixed use
- Private clubs/recreation
- Residential
- Rural community
- Rural resource
- Service industrial
- Smart growth community
- Special residential
- Special rural
- Special use
- Urban development

OTHER CATEGORIES

(see scheme text for additional information)

- Scheme boundary
- Local Government boundary
- R20 R Codes
- A1 Additional uses
- R1 Restricted uses
- SRes1 Special residential area
- SR1 Special rural area
- SU1 Special use area
- EC1 Environmental condition area
- Locality boundary
- Rcode subject to agreed structure plan
- RC1 Rural community area
- No zone
- Waterbodies

Base Map Source: DPHL website

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FIGURE 5

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**LOT 311 NICHE PARADE,
 WANGARA**

**PROPOSED ADDITIONAL USE ON DPS2
 EXISTING ZONING MAP**

APPENDIX 5 – INDICATIVE SITE DEVELOPMENT PLAN

NICHE PARADE

OCEAN REEF ROAD

LOT 311
7162sqm

EXISTING CAR
FUELING CANOPY

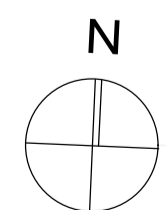
EXISTING TRUCK
FUELING CANOPY

EXISTING CONCRETE
PAVING

PROPOSED 250sqm
DRIVE THROUGH
RESTAURANT
ADDITIONAL USE

EXISTING SERVICE
STATION &
CONVENIENCE STORE
200sqm

AUTO SERVICE
CENTRE
250sqm



INDICATIVE CONCEPT PLAN - LOT 311 NORTH LINK

INTERSECTION OF NICHE PARADE AND OCEAN REEF ROAD GNAGARA/WANGARA

SCALE 1:200

REV. DATE IN. DESCRIPTION

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CONCEPT
SITE PLAN FOR
ADDITIONAL USE

LOT 311 NICHE PARADE
NORTHLINK

DRAWING TITLE:
SKETCH CONCEPT PLAN

DRAWING No. **SK01**

JOB No. **A14009**

drawn date 22.09.16 PAGE No. 1 OF X
checked scale 1:500@A1
gv REV No. A

ISSUED FOR DEVELOPMENT APPROVAL

APPENDIX 6 – TRAFFIC IMPACT STATEMENT



Lot 311 Niche Parade, Wangara
Vespoli Constructions


TRAFFIC IMPACT ASSESSMENT

- Revision 2
- 07/09/17

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Revision	Date issued	Approved by	Revision type
0	18/05/17	<i>R Ding</i>	Initial Release Issued for Client Review
1	01/06/17	<i>R Ding</i>	Updated floor area to 300m ²
2	07/09/17		Clarification of 7,000vpd capacity reference

Distribution of copies

Revision	Copy no	Quantity	Issued to
0	1 (e-mail Word version with no appendices)	1	Vespoli Constructions
1	1 (e-mail PDF version)	1	Vespoli Constructions
2	1 (e-mail PDF version)	1 (ea)	Vespoli Constructions, City of Wanneroo

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Author:	Rodney Ding
Name of client:	Vespoli Constructions
Client project manager:	Michael Stewart
Name of project:	Lot 311 Niche Parade, Wangara
Name of document:	Traffic Impact Assessment
Document version:	Revision 2
Project number:	J16.10

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1. Introduction

1.1 Purpose of This Report

This report was commissioned by Vespoli Constructions to document a Traffic Impact Assessment in support of a planning scheme amendment for proposed additional land use on Lot 311 Niche Parade in Wangara and Gnangara.

As part of the approval processes a Transport Statement format was considered the most appropriate to support the amendment approval by the City of Wanneroo.

1.2 Proposed Development

Lot 311 Niche Parade (totalling approximately 7,162m²) is proposed to be developed to include a fast food restaurant in addition to the previously approved service station.

The various components of the development are:

Lot 311 15 pumps service station with 200m² shop plus 300m² fast food restaurant with a drive through.

Access to the proposed development for vehicles is proposed via the current two-way crossover, two on Niche Parade. There is a one-way exit crossover from Lot 311 onto Niche Parade. Parking is proposed as per below:

Lot 311 15 existing bays (plus one loading bay) for the service station plus 13 new bays (plus one loading bay) for the fast food restaurant.

Lot 311 presently has an operational service station.

The development surrounding this proposed development, and proposed zoning, is predominately light industrial on both sides of Ocean Reef Road. The area is approximately 50% developed. Ultimately, Niche Parade extends to the south to connect to other industrial type development to the west via Distinction Road.

Refer to the locality plan in **Appendix B**.

2. Vehicle Access & Parking

2.1 Access to Car Park

As discussed in **Section 1.2**, access to the proposed development is proposed via various crossovers:

- Lot 311: 1 x two-way crossover and 1 x one-way exit crossover.

The general kerb arrangement of Niche Parade is proposed to remain in their present configuration.

The small-vehicle crossovers will allow two-way access to and from the site with all movements permitted. The one-way exit crossover of Lot 311 will typically allow large vehicles to exit the site, separate from smaller vehicles which will use the crossover closer to Ocean Reef Road. This arrangement will maximise the separation of small and large vehicle movements. Sight distances at the crossovers, exceed the minimums required of the Australian Standard, *AS 2890.2-2002 Parking facilities Part 2: Off-street commercial vehicle facilities*. In this instance, for an 50km/h speed limit on Niche Parade, a sight distance of 69m should be provided for a 5 second gap.

2.2 Parking Supply

A total of 13 car bays (one of these being a disabled bay) are proposed for the fast food restaurant. In addition to this a loading bay is proposed on the eastern side of the restaurant plus the queuing area for the drive-through window can cater for 10-12 queued cars. The service station will have available 14 bays (including one disabled bay) with refuelling positions for 12 cars and 3 trucks.

2.3 Service Vehicles

Delivery vehicles accessing the site are expected to park within a designated service bays within the site, being one west of the service station building and the other east of the fast food restaurant. The type of vehicles expected to access the parking bays would not exceed the size of a single unit sized vehicle for the service station and fast food restaurant (similar in size to a HRV as per *AS/NZS 2890.2-2002 Parking facilities Part 2: Off-street commercial vehicle facilities*).

General rubbish is expected to be removed from the sites in bulk bins, located in the service bays of each of the service station and fast food restaurant.

3. Daily traffic volumes and vehicle types

3.1 Current Traffic Flows

Traffic volumes on the adjacent road network of Ocean Reef Road, Fortitude Boulevard and Niche Parade were sourced through Main Roads traffic counts undertaken in July 2015 and derived from traffic counts obtained from SCATS in May 2017.

Ocean Reef Road:	33,263 vpd with 15% heavy vehicles
PM Peak:	1,388 eastbound, 1,520 westbound
Fortitude Boulevard:	1,500 vpd with 10% heavy vehicles
PM Peak:	30 northbound, 70 southbound
Niche Parade:	2,000 vpd with 10% heavy vehicles
PM Peak:	70 northbound, 65 southbound

3.2 Expected Traffic Flows

Based on an assessment of the current amount of development in the commercial area along Niche Parade and Fortitude Boulevard, it is expected that traffic volumes on Fortitude Boulevard and Niche Parade should increase by approximately 100% over the next 10 years. Traffic volumes on Ocean Reef Road have been assumed to increase by approximately 50%. It should be noted that traffic volumes on Ocean Reef Road have increased by about 12.4% since 2012/13 with an annualised increase of 3.0% per annum. Over the next 10 years, if traffic volumes continue to increase at a similar rate, traffic volumes on Ocean Reef Road should increase by approximately 35%. It is thus concluded that the expected 50% increase in traffic flows will lead to a robust assessment.

It is thus estimated that the expected traffic flows near the development on full development of the surrounding area (excluding the effects of this development) should be approximately:

- Ocean Reef Road: 50,000 vpd
- Fortitude Boulevard: 2,500 vpd; and,
- Niche Parade: 3,000 vpd.

3.3 Trip Generation of Proposed Development

The traffic generation expected from the entire proposed development of the site was based on the publication Land Trip Generation, Institute of Transportation Engineers and Land Use Traffic Generation Guidelines, Director-General of Transport, SA. The rates that best apply to the development are land uses:

- No. 945 Gasoline/Service Station with Convenience Market; and,
- No. 920 Fast-Food Restaurant with Drive-Through Window;

- 13.57 trips per vehicular fuelling position per PM peak hour and 162.78 trips per vehicular fuelling position per day (both figures split 50/50 in direction to and from the site);
- 1 trip per passing 25 passing cars per PM peak hour and per day (both figures split 50/50 in direction to and from the site);
- 550 trips per 100m² per day for the take-away; and,
- 35 trips per 100m² in the PM peak hour for the take-away.

In this instance, the generation rate applied to the fast food take-away yields approximately an extra 1,700 trips per day and 105 in the PM peak. Of these trips, 850 trips per day and 52 in the PM peak would be new trips with the other 850 and 52 being related to passing trade from vehicles already on the road network, deviating to the development and then continuing on their journey.

3.4 Trip Distribution

It would be reasonable to assume that traffic would be attracted to the site on the roads where there is access to the wider road network, in this case being from Ocean Reef Road, Niche Parade and Fortitude Boulevard. In this instance traffic entering and exiting the development has been assumed to do so split with 10-20% accessing the site from Niche Parade from the south with the remaining via Ocean Reef Road. Further, 50% is expected to be passing trade (vehicles already on the road, diverting to the service station and then continuing their journey) and the other 50% being new trips. The proportion of passing trade and new trip is summarized below:

- Niche Pde 10% passing and 20% new;
- Ocean Reef Rd West 45% passing and 20% new; and,
- Ocean Reef Rd East 45% passing and 60% new.

The passing trade was based on the proportions of traffic passing the site currently on the road network, whilst the new trade was based on the assumption that most new trade would come from the east in the direction of the nearby residential development.

3.5 Traffic Impact of Development

Both Fortitude Boulevard and Niche Parade are expected to have traffic volumes less than the maximum traffic flows for similar roads of their type. Even though not in a residential area, the capacity of these industrial roads would be similar to the capacity of Neighbourhood Connector A roads with wide lanes and passing opportunities of vehicles stopped to turn right from the roadway, providing a conservative capacity of approximately 7,000 vehicles per day and likely a higher capacity closer to 10,000 to 15,000 vehicles per day. The mid-block comparisons to maximum flows that these roads should carry are shown below in **Table 3.1**. Ocean Reef Road is planned long term as a six-lane dual carriageway. When upgraded to this standard Ocean Reef Road would have a capacity closer to 65,000 vehicles per day.

■ **Table 3.1 – Expected Mid-Block Daily Flows on Full Development**

Road	Indicative Maximum Daily Flow (two-way)	Expected Daily Flow (two-way)
Ocean Reef Road (4L)	40,000	52,000
Ocean Reef Road (6L)	65,000	52,000
Fortitude Boulevard	7,000	2,500
Niche Parade	7,000	4,300

Of this expected traffic, approximately 2% of the Ocean Reef Road traffic would likely be due to the proposed development (consisting of 1% of passing trade already on the road and 1% new trips) whilst approximately 20% of the Niche Parade traffic (up to the entry crossovers of the site) would be likewise due to the expected development traffic of the fast food restaurant.

With regards to intersections, Table 2.4 from the Austroads publication, *Guide to Traffic Management Part 6 – Intersections, Interchanges and Crossings* provides advice as to intersection and crossover performance in peak flow conditions about possible further analysis. This is summarised in **Table 3.2**.

■ **Table 3.2 – Austroads Guidelines**

Major Road Type	Major Road Flow (vph, two-way)	Minor Road Flow (vph, two-way)
Two-lane	400	250
	500	200
	650	100
Four-lane	1000	100
	1500	50
	2000	25

Examining the expected traffic flows at the crossovers and nearby intersection at Ocean Reef Road for the proposed development **Table 3.3** is derived.

■ **Table 3.3 – Comparison to Austroads Guidelines**

Intersection	Major Road Flow (vph, two-way)	Minor Road Flow (vph, two-way)
Niche Pde crossovers	500	150

From the above it can be seen that the crossovers and are not expected to exceed the above values given in **Table 3.2** but the intersection at Ocean Reef Road will. Thus, there is a need for the nearby intersection to be examined in further detail using such analysis software like Sidra Intersection. The crossovers will also be assessed as the traffic volumes are approaching the levels requiring assessment.

3.6 Assessment of Crossovers and Intersection

The nearby intersection of Ocean Reef Road/Fortitude Boulevard/Niche Parade and the vehicle crossovers on Niche Parade were examined in further detail utilising Sidra Intersection. The traffic volumes were based on the derived traffic flows and the geometries of the road based on the current road geometry. The PM peak was chosen as the assessment period as this period is typically has the highest flows for the adjoining road network with the development types having their maximum generation rates in the PM peak.

3.6.1 Intersection of Ocean Reef Road and Fortitude Boulevard/Niche Parade

This intersection is an existing intersection and so an assessment of its current performance was undertaken to allow a comparison with the expected performance under full development of the site and surrounding areas. Under the current traffic volumes recorded in September 2016, the intersection performance was found to be as summarised in **Table 3.4** on the following page in an excerpt from a Sidra Intersection output table.

■ **Table 3.4 – Ocean Reef Rd/Fortitude Blvd/Niche Pde – Current PM**

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Niche Pde													
Lane 1	48	10.0	545	0.088	100	4.0	LOS A	0.3	2.3	Short	28	0.0	NA
Lane 2	2	10.0	85	0.024	100	66.1	LOS E	0.1	1.0	Full	500	0.0	0.0
Lane 3	21	10.0	80	0.262	100	72.3	LOS E	1.4	10.5	Short	90	0.0	NA
Approach	71	10.0		0.262		26.0	LOS C	1.4	10.5				
East: Ocean Reef Rd													
Lane 1	40	10.0	1558	0.026	100	7.8	LOS A	0.1	1.1	Short	175	0.0	NA
Lane 2	789	10.0	1239	0.637	100	0.8	LOS A	2.6	19.8	Full	575	0.0	0.0
Lane 3	789	10.0	1239	0.637	100	0.8	LOS A	2.6	19.8	Full	575	0.0	0.0
Lane 4	6	10.0	80	0.075	100	74.5	LOS E	0.4	2.9	Short	155	0.0	NA
Approach	1624	10.0		0.637		1.2	LOS A	2.6	19.8				
North: Fortitude Blvd													
Lane 1	12	10.0	590	0.020	100	6.7	LOS A	0.2	1.3	Short	28	0.0	NA
Lane 2	6	10.0	85	0.071	100	67.0	LOS E	0.4	2.9	Full	500	0.0	0.0
Lane 3	54	10.0	80	0.675	100	75.5	LOS E	3.7	28.1	Short	115	0.0	NA
Approach	72	10.0		0.675		63.3	LOS E	3.7	28.1				
West: Ocean Reef Rd													
Lane 1	23	10.0	1572	0.015	100	7.8	LOS A	0.1	0.5	Short	180	0.0	NA
Lane 2	602	10.0	1239	0.485	100	10.6	LOS B	18.0	136.6	Full	500	0.0	0.0
Lane 3	602	10.0	1239	0.485	100	10.6	LOS B	18.0	136.6	Full	500	0.0	0.0
Lane 4	19	10.0	80	0.237	100	76.0	LOS E	1.2	9.4	Short	155	0.0	NA
Approach	1245	10.0		0.485		11.6	LOS B	18.0	136.6				
Intersection	3012	10.0		0.675		7.6	LOS A	18.0	136.6				

It was found that the intersection currently operates at a very good level of service. There were observed on-site and further reinforced in the above table, that there are minimal delays and queues particularly for the Ocean Reef Road approaches to the intersection. There are longer delays and small queues on Fortitude Boulevard and Niche Parade as Ocean Reef Road is favoured with extended green times to reduce congestion on Ocean Reef Road.

This intersection will be under the effects of two factors in the traffic growth. The average growth rate of traffic of Ocean Reef Road due to general traffic growth due to normal traffic growth due to development and the increase in traffic on Niche Parade and Fortitude Boulevard due to the further development of the industrial area and due to the proposed development this report is the subject of. If the surrounding industrial areas are fully developed (in accordance with current planning allowances) and traffic on Ocean Reef Road remains at its current levels, the expected operation of this intersection would be as shown in **Table 3.5**.

■ **Table 3.5 – Ocean Reef Rd/Fortitude Blvd/Niche Pde – Current PM with Full Development**

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Niche Pde													
Lane 1	133	10.0	459	0.290	100	13.0	LOS B	3.7	28.3	Short	28	0.0	NA
Lane 2	2	10.0	76	0.026	100	74.4	LOS E	0.1	1.1	Full	500	0.0	0.0
Lane 3	51	10.0	72	0.711	100	84.7	LOS F	3.9	29.7	Short	90	0.0	NA
Approach	186	10.0		0.711		33.3	LOS C	3.9	29.7				
East: Ocean Reef Rd													
Lane 1	100	10.0	1515	0.066	100	7.9	LOS A	0.5	3.6	Short	175	0.0	NA
Lane 2	789	10.0	1010	0.781	100	4.8	LOS A	15.6	118.8	Full	575	0.0	0.0
Lane 3	789	10.0	1010	0.781	100	4.8	LOS A	15.6	118.8	Full	575	0.0	0.0
Lane 4	26	10.0	72	0.362	100	85.4	LOS F	1.9	14.6	Short	155	0.0	NA
Approach	1704	10.0		0.781		6.3	LOS A	15.6	118.8				
North: Fortitude Blvd													
Lane 1	52	10.0	729	0.071	100	10.7	LOS B	1.2	9.0	Short	28	0.0	NA
Lane 2	6	10.0	366	0.016	100	49.3	LOS D	0.3	2.5	Full	500	0.0	0.0
Lane 3	274	10.0	347	0.790	100	66.8	LOS E	19.4	147.8	Short	115	0.0	NA
Approach	332	10.0		0.790		57.7	LOS E	19.4	147.8				
West: Ocean Reef Rd													
Lane 1	118	10.0	1571	0.075	100	7.9	LOS A	0.5	3.7	Short	180	0.0	NA
Lane 2	602	10.0	1010	0.595	100	22.9	LOS C	27.9	211.9	Full	500	0.0	0.0
Lane 3	602	10.0	1010	0.595	100	22.9	LOS C	27.9	211.9	Full	500	0.0	0.0
Lane 4	34	10.0	72	0.474	100	86.0	LOS F	2.5	19.2	Short	155	0.0	NA
Approach	1355	10.0		0.595		23.2	LOS C	27.9	211.9				
Intersection	3577	10.0		0.790		18.9	LOS B	27.9	211.9				

In comparison to the current operation of the intersection, there is expected to be longer queues in Fortitude Boulevard with additional traffic exiting this side of the intersection. These queues are expected to extend beyond Fellowship Road and in effect block this intersection. This suggests that the lane configuration should be changed once the area is fully developed. This lane configuration should be the adoption of a double right turn. This will be able to be accommodated within the current road geometry and can be installed with modification of the pavement markings. This arrangement could also be adopted for the Niche Parade side of the intersection will only the modification to the pavement markings required.

The effects of these lane changes are shown in **Table 3.6**.

■ **Table 3.6 – Ocean Reef Rd/Fortitude Blvd/Niche Pde – Current PM with Full Development with lane changes**

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Niche Pde													
Lane 1	133	10.0	544	0.244	100	5.9	LOS A	1.7	13.3	Short	28	0.0	NA
Lane 2	2	10.0	92	0.022	100	60.5	LOS E	0.1	0.9	Full	500	0.0	0.0
Lane 3	51	10.0	87	0.588	100	68.7	LOS E	3.2	24.2	Short	90	0.0	NA
Approach	186	10.0		0.588		23.7	LOS C	3.2	24.2				
East: Ocean Reef Rd													
Lane 1	100	10.0	1512	0.066	100	7.9	LOS A	0.4	3.2	Short	175	0.0	NA
Lane 2	789	10.0	1068	0.739	100	1.3	LOS A	4.5	33.9	Full	575	0.0	0.0
Lane 3	789	10.0	1068	0.739	100	1.3	LOS A	4.5	33.9	Full	575	0.0	0.0
Lane 4	26	10.0	87	0.300	100	70.7	LOS E	1.6	12.0	Short	155	0.0	NA
Approach	1704	10.0		0.739		2.7	LOS A	4.5	33.9				
North: Fortitude Blvd													
Lane 1	52	10.0	666	0.078	100	8.8	LOS A	0.9	7.1	Short	28	0.0	NA
Lane 2	128	10.0	169	0.754	100	62.6	LOS E	7.7	58.4	Full	500	0.0	0.0
Lane 3	152	10.0	202	0.754	100	63.3	LOS E	9.3	70.7	Short	115	0.0	NA
Approach	332	10.0		0.754		54.5	LOS D	9.3	70.7				
West: Ocean Reef Rd													
Lane 1	118	10.0	1542	0.077	100	7.9	LOS A	0.4	3.3	Short	180	0.0	NA
Lane 2	602	10.0	1068	0.563	100	16.4	LOS B	21.5	163.6	Full	500	0.0	0.0
Lane 3	602	10.0	1068	0.563	100	16.4	LOS B	21.5	163.6	Full	500	0.0	0.0
Lane 4	35	10.0	87	0.404	100	71.3	LOS E	2.1	16.3	Short	155	0.0	NA
Approach	1356	10.0		0.563		17.1	LOS B	21.5	163.6				
Intersection	3578	10.0		0.754		14.1	LOS B	21.5	163.6				

As can be seen, the queue lengths on Fortitude Boulevard should more than halve and not extend as far back as Fellowship Road.

So, without this proposed development, there is a requirement to modify the lane configuration of at least the Fortitude Boulevard approach once the surrounding areas are fully developed.

With the proposed fast food restaurant and the road modifications due to the other development north of Ocean Reef Road, the expected performance of the intersection is shown in **Table 3.7**.

■ **Table 3.7 – Ocean Reef Rd/Fortitude Blvd/Niche Pde – Current PM with Full Development with lane changes & new Fast Food Restaurant**

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Niche Pde													
Lane 1	148	10.0	574	0.258	100	8.1	LOS A	2.5	18.7	Short	28	0.0	NA
Lane 2	2	10.0	105	0.019	100	52.1	LOS D	0.1	0.8	Full	500	0.0	0.0
Lane 3	76	10.0	99	0.767	100	62.8	LOS E	4.3	32.7	Short	90	0.0	NA
Approach	226	10.0		0.767		26.9	LOS C	4.3	32.7				
East: Ocean Reef Rd													
Lane 1	124	10.0	1482	0.084	100	8.1	LOS A	0.6	4.6	Short	175	0.0	NA
Lane 2	784	10.0	1011	0.775	100	3.5	LOS A	11.0	83.8	Full	575	0.0	0.0
Lane 3	784	10.0	1011	0.775	100	3.5	LOS A	11.0	83.8	Full	575	0.0	0.0
Lane 4	26	10.0	99	0.262	100	62.0	LOS E	1.4	10.4	Short	155	0.0	NA
Approach	1718	10.0		0.775		4.7	LOS A	11.0	83.8				
North: Fortitude Blvd													
Lane 1	52	10.0	663	0.078	100	9.6	LOS A	0.9	7.1	Short	28	0.0	NA
Lane 2	136	10.0	171	0.794	100	58.7	LOS E	7.5	56.9	Full	500	0.0	0.0
Lane 3	144	10.0	182	0.794	100	59.1	LOS E	8.0	60.8	Short	115	0.0	NA
Approach	332	10.0		0.794		51.2	LOS D	8.0	60.8				
West: Ocean Reef Rd													
Lane 1	118	10.0	1518	0.078	100	7.9	LOS A	0.4	3.3	Short	180	0.0	NA
Lane 2	597	10.0	1011	0.590	100	16.6	LOS B	20.1	152.7	Full	500	0.0	0.0
Lane 3	597	10.0	1011	0.590	100	16.6	LOS B	20.1	152.7	Full	500	0.0	0.0
Lane 4	49	10.0	99	0.495	100	63.2	LOS E	2.6	20.0	Short	155	0.0	NA
Approach	1360	10.0		0.590		17.6	LOS B	20.1	152.7				
Intersection	3636	10.0		0.794		15.1	LOS B	20.1	152.7				

With the addition of the fast food restaurant, there is expected to be little impact on the intersection when comparing **Table 3.7** to **3.6**.

The other component in the assessment of this intersection is the increase in traffic volumes on Ocean Reef Road. If traffic on Ocean Reef Road was to increase by 50% over the next 10 years and the surrounding area was to be fully developed (assuming this proposed development does not proceed) the intersection is expected to operate as shown in **Table 3.8**.

■ **Table 3.8 – Ocean Reef Rd/Fortitude Blvd/Niche Pde – Expected PM with traffic growth**

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Niche Pde													
Lane 1	133	10.0	299	0.444	100	16.6	LOS B	5.4	41.4	Short	28	0.0	NA
Lane 2	1	10.0	61	0.016	100	93.2	LOS F	0.1	0.7	Full	500	0.0	0.0
Lane 3	51	10.0	58	0.883	100	111.5	LOS F	5.0	38.4	Short	90	0.0	NA
Approach	185	10.0		0.883		43.2	LOS D	5.4	41.4				
East: Ocean Reef Rd													
Lane 1	100	10.0	1566	0.064	100	7.9	LOS A	0.5	4.0	Short	175	0.0	NA
Lane 2	1184	10.0	1261	0.938	100	5.6	LOS A	29.2	222.0	Full	575	0.0	0.0
Lane 3	1184	10.0	1261	0.938	100	5.6	LOS A	29.2	222.0	Full	575	0.0	0.0
Lane 4	26	10.0	58	0.450	100	105.8	LOS F	2.4	18.3	Short	155	0.0	NA
Approach	2493	10.0		0.938		6.7	LOS A	29.2	222.0				
North: Fortitude Blvd													
Lane 1	52	10.0	448	0.116	100	19.0	LOS B	2.1	15.6	Short	28	0.0	NA
Lane 2	99	10.0	105	0.940	100	119.1	LOS F	10.3	78.1	Full	500	0.0	0.0
Lane 3	181	10.0	193	0.940	100	115.7	LOS F	19.0	144.7	Short	115	0.0	NA
Approach	332	10.0		0.940		101.6	LOS F	19.0	144.7				
West: Ocean Reef Rd													
Lane 1	118	10.0	1599	0.074	100	7.8	LOS A	0.5	3.7	Short	180	0.0	NA
Lane 2	904	10.0	1233	0.733	100	18.0	LOS B	47.4	360.4	Full	500	0.0	0.0
Lane 3	900	10.0	1229	0.733	100	17.9	LOS B	47.1	357.8	Full	500	0.0	0.0
Lane 4	34	10.0	58	0.588	100	107.0	LOS F	3.2	24.2	Short	155	0.0	NA
Approach	1956	10.0		0.733		18.9	LOS B	47.4	360.4				
Intersection	4966	10.0		0.940		19.2	LOS B	47.4	360.4				

As can be seen, the four-lane configuration of Ocean Reef Road should have enough capacity to cater for the expected traffic volumes. Queues of about 200 to 400m are expected to occur on both the Ocean Reef Road approaches to this intersection. These eastern queues may bank back to the intersection at Sydney Rd/Gnangara Rd but should be about 150m short of this intersection and interrupt the performance of that intersection.

So, in the future, without this proposed development proceeding the minimum road changes required will be:

- Modify the lane configuration of Fortitude Boulevard to a double right turn.

With the change in use on Lot 311 with the construction of a fast food restaurant there is expected to be passing trade traffic diverted from Ocean Reef Road and new trips attracted. The effect of these trips has been assessed and the results are summarised below in **Table 3.9**.

■ **Table 3.9 – Ocean Reef Rd/Fortitude Blvd/Niche Pde – Expected PM with new fast food development**

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Niche Pde													
Lane 1	151	10.0	325 1	0.464	100	21.3	LOS C	7.3	55.2	Short	28	0.0	NA
Lane 2	1	10.0	92	0.011	100	88.4	LOS F	0.1	0.6	Full	500	0.0	0.0
Lane 3	81	10.0	87	0.934	100	117.6	LOS F	8.3	63.3	Short	90	0.0	NA
Approach	233	10.0		0.934		55.1	LOS E	8.3	63.3				
East: Ocean Reef Rd													
Lane 1	129	10.0	1552	0.083	100	8.0	LOS A	0.8	5.8	Short	175	0.0	NA
Lane 2	1178	10.0	1231	0.957	100	12.1	LOS B	42.2	320.6	Full	575	0.0	0.0
Lane 3	1178	10.0	1231	0.957	100	12.1	LOS B	42.2	320.6	Full	575	0.0	0.0
Lane 4	26	10.0	58	0.450	100	105.8	LOS F	2.4	18.3	Short	155	0.0	NA
Approach	2510	10.0		0.957		12.9	LOS B	42.2	320.6				
North: Fortitude Blvd													
Lane 1	52	10.0	443	0.117	100	22.0	LOS C	2.2	16.9	Short	28	0.0	NA
Lane 2	100	10.0	106 1	0.937	100	117.5	LOS F	10.3	78.1	Full	500	0.0	0.0
Lane 3	180	10.0	193	0.937	100	114.3	LOS F	18.8	143.1	Short	115	0.0	NA
Approach	332	10.0		0.937		100.8	LOS F	18.8	143.1				
West: Ocean Reef Rd													
Lane 1	118	10.0	1594	0.074	100	7.8	LOS A	0.5	3.7	Short	180	0.0	NA
Lane 2	901	10.0	1196 1	0.753	100	19.9	LOS B	49.7	377.5	Full	500	0.0	0.0
Lane 3	891	10.0	1184 1	0.753	100	19.7	LOS B	48.7	369.7	Full	500	0.0	0.0
Lane 4	51	10.0	58	0.883	100	115.4	LOS F	5.0	38.4	Short	155	0.0	NA
Approach	1961	10.0		0.883		21.6	LOS C	49.7	377.5				
Intersection	5036	10.0		0.957		24.0	LOS C	49.7	377.5				

With the new development, the overall operation of this intersection is expected to be well within acceptance parameters. The worst level of service is expected to be E for the movements from Niche parade and Fortitude Boulevard and the right turns on Ocean Reef Road. However, the queues in the turn pockets should be contained within these turn pockets and queues on Niche parade and Fortitude Boulevard are expected to be contained between the intersection of Ocean Reef Road and the entry/exit crossovers of the proposed developments. This will allow these crossovers to function optimally without having upstream vehicle queues interference.

3.6.2 Niche Parade Crossovers

The arrangement of the crossovers on Niche Parade will roughly form a three-way junction. Based on this geometry, these crossovers were assessed, assuming the current traffic flows and development and then with the full development on each of the lots and the remainder on the industrial area fully developed. **Table 3.10** summarises the expected performance under these current traffic flow

conditions. **Table 3.11** summarises the current flow conditions with the new fast food restaurant and **Table 3.12** summarises the expected traffic flow conditions with full development of the surrounding area and the new fast food restaurant.

■ **Table 3.10 – Niche Parade Crossovers – Current PM**

	Demand Flows		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	Total veh/h	HV %						Veh	Dist m				
South: Niche Pde													
Lane 1	21	18.0	1746	0.012	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	22	13.8	1751	0.012	100	1.4	LOS A	0.0	0.3	Full	500	0.0	0.0
Approach	43	15.9		0.012		0.7	NA	0.0	0.3				
East: Servo/FF													
Lane 1	5	0.0	1599	0.003	100	5.6	LOS A	0.0	0.1	Full	500	0.0	0.0
Lane 2	50	14.0	1010	0.049	100	6.2	LOS A	0.2	1.6	Full	500	0.0	0.0
Approach	55	12.7		0.049		6.1	LOS A	0.2	1.6				
North: Niche Pde													
Lane 1	72	31.5	1560	0.046	100	3.1	LOS A	0.0	0.0	Full	70	0.0	0.0
Approach	72	31.5		0.046		3.1	NA	0.0	0.0				
Intersection	170	21.5		0.049		3.5	NA	0.2	1.6				

■ **Table 3.11 – Niche Parade Crossovers – Current PM with new fast food restaurant**

	Demand Flows		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	Total veh/h	HV %						Veh	Dist m				
South: Niche Pde													
Lane 1	25	18.0	1746	0.014	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	24	9.9	1722	0.014	100	2.8	LOS A	0.1	0.5	Full	500	0.0	0.0
Approach	49	14.0		0.014		1.4	NA	0.1	0.5				
East: Servo/FF													
Lane 1	9	0.0	1599	0.006	100	5.6	LOS A	0.0	0.2	Full	500	0.0	0.0
Lane 2	90	8.0	1017	0.088	100	6.2	LOS A	0.4	2.8	Full	500	0.0	0.0
Approach	99	7.3		0.088		6.2	LOS A	0.4	2.8				
North: Niche Pde													
Lane 1	110	20.2	1656	0.066	100	3.7	LOS A	0.0	0.0	Full	70	0.0	0.0
Approach	110	20.2		0.066		3.7	NA	0.0	0.0				
Intersection	258	14.1		0.088		4.2	NA	0.4	2.8				

■ **Table 3.12 – Niche Parade Crossovers – Expected PM with Full Development and new fast food restaurant**

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Niche Pde													
Lane 1	54	18.0	1746	0.031	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	54	14.3	1729	0.031	100	1.4	LOS A	0.1	0.7	Full	500	0.0	0.0
Approach	108	16.2		0.031		0.7	NA	0.1	0.7				
East: Servo/FF													
Lane 1	6	0.0	1556	0.004	100	5.7	LOS A	0.0	0.1	Full	500	0.0	0.0
Lane 2	90	10.0	903	0.100	100	6.9	LOS A	0.4	3.1	Full	500	0.0	0.0
Approach	96	9.4		0.100		6.8	LOS A	0.4	3.1				
North: Niche Pde													
Lane 1	139	27.5	1605	0.087	100	2.9	LOS A	0.0	0.0	Full	70	0.0	0.0
Approach	139	27.5		0.087		2.9	NA	0.0	0.0				
Intersection	343	18.9		0.100		3.3	NA	0.4	3.1				

With the current road geometry, these crossovers are expected to operate at a level of service A and there is no requirement to modify them.

Examining **Table 3.9** there is expected to be approximately 60m queues banking back from Ocean Reef Road along Niche Parade. These crossovers are proposed to be located approximately 65m from Ocean Reef Road, so the upstream queues from the traffic signals at Ocean Reef Road are not expected to interfere with the operation of the proposed crossover arrangement with approximately 5m separation between the end of the vehicle queues at Ocean Reef Road and these crossovers.

3.7 Level of Service Concepts

The level of service concept describes the quality of traffic service in terms of six levels, designated A to F, with level of service A (LOS A) representing the best operating condition (i.e. at or close to free flow), and level of service F (LOS F) the worst (i.e. forced flow). More specifically:

- **LOS A:** Primarily free flow operations at average travel speeds, usually about 90% of the FFS (free flow speed) for the given street class. Vehicles are completely unimpeded in their ability to manoeuvre within the traffic stream. Control delay at signalised intersections is less than 10 seconds. At non-signalised movements at intersections the average control delay is less than 10 seconds;
- **LOS B:** Reasonably unimpeded operations at average travel speeds, usually about 70% of the FFS for the street class. The ability to manoeuvre within the traffic stream is only slightly restricted, and control delays at signalised intersections are between 10 and 20 seconds. At non-signalised movements at intersections the average control delay is between 10 and 15 seconds;
- **LOS C:** Stable operations; however, ability to manoeuvre and change lanes in mid-block locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about

50% of the FFS for the street class. Signalised intersection delays are between 20 and 35 seconds. At non-signalised movements at intersections the average control delay is between 15 and 25 seconds;

- *LOS D*: A range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40% of FFS. Signalised intersection delays are between 35 and 55 seconds. At non-signalised movements at intersections the average control delay is between 25 and 35 seconds;
- *LOS E*: Characterised by significant delays and average travel speeds of 33% of the FFS or less. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections (between 55 and 80 seconds), and inappropriate signal timing. At non-signalised movements at intersections the average control delay is between 35 and 50 seconds; and,
- *LOS F*: Characterised by urban street flow at extremely low speeds, typically 25% to 33% of the FFS. Intersection congestion is likely at critical signalised locations, with high delays (in excess of 80 seconds), high volumes, and extensive queuing. At non-signalised movements at intersections the average control delay is greater than 50 seconds.

In addition to the above:

- Average Delay: is the average of all travel time delays for vehicles through the intersection; and,
- Queue: is the queue length below which 95% of all observed queue lengths fall.

3.8 Traffic Impact of Development on Local Area

Based on the above assessment it is concluded that the development will have an acceptable impact on the surrounding roads and intersections with no required changes to either the road network or geometry of intersections as a result solely of this proposed development. With the traffic growth on Ocean Reef Road and normal development of the industrial area along Fortitude Boulevard and Niche Parade, there will be a requirement to modify the lane configuration of the Fortitude Boulevard approach.

4. Traffic management on the frontage streets

4.1 Ocean Reef Road

Ocean Reef Road is a dual carriageway four-lane road (approximately 7.2m wide between road edges within a 75m wide road reserve). It is classified as a Blue Road under the Metropolitan Region Scheme and a District Distributor A road under the Functional Road Hierarchy and subject to a posted 80km/h speed limit. The general arrangement of the road cross-section is:

- 2.0m wide shared path on both sides of the road,
- Two carriageways consisting of a 1.5m wide bike lane and two 3.5m wide traffic lanes either side of a median; and,
- A 14m wide median.

Near the intersection of Fortitude Boulevard/Niche Parade, Ocean Reef Road widens to incorporate a right and left turn pockets.

Ignoring the intersections, Ocean Reef Road (between Gnangara Rd/Sydney Rd and Hartman Dr/Lenore Rd) has had recorded 30 crashes in the five-years up until 31/12/2015. This works out to be approximately 0.20 crashes per million vehicle-kilometres (MVkm) on this section of road. This is notably less than network average for similar roads of 0.53 crashes per MVkm and suggests the road is generally safe.

4.2 Fortitude Boulevard

Fortitude Boulevard is a single carriageway street (approximately 10m wide between kerbs within a 25m road reserve). Near the intersection of Ocean Reef Road the road widens to incorporate additional turn lanes for the intersection at Ocean Reef Road. It is classified as an Access Road under the Functional Road Hierarchy and subject to the 50km/h built-up area speed limit. There is a 2m wide footpath on the southern side of the street.

This road is one of the main access/egress points for the development bounded by Ocean Reef Road and Sydney Road. The other main access/egress point is at the intersection of Fortitude Boulevard and Sydney Road. Each intersection will roughly cater for 50% of the total traffic flows from the overall industrial area.

Ignoring the intersections, Fortitude Boulevard over its entire length has had recorded no recorded crashes in the five-years up until 31/12/2015.

4.3 Niche Parade

Niche Parade is a single carriageway street (approximately 10m wide between kerbs within a 20m road reserve). Near the intersection of Ocean Reef Road the road widens to incorporate additional turn lanes for the intersection at Ocean Reef Road. It is classified as an Access Road under the Functional Road Hierarchy and subject to the 50km/h built-up area speed limit. There is a 2m wide footpath on the eastern side of the street.

It is currently the only access/egress points for the development south of Ocean Reef Road but there is development to the south and this road will connect through to Prestige Parade via Distinction Road to allow vehicles to exit to the south without the use of Ocean Reef Road.

Ignoring the intersections, Niche Parade over its entire length has had recorded no recorded crashes in the five-years up until 31/12/2015.

4.4 Intersection of Ocean Reef Road/Fortitude Boulevard/Niche Parade

This intersection is a four-way signalised intersection with Ocean Reef Road the main road and Fortitude Boulevard and Niche Parade the minor intersection roads. This intersection is located approximately 600m west of the signalised intersection of Ocean Reef Rd/Gnangara Rd/Sydney Rd. On both approaches of Ocean Reef Road there are right turn and left turn pockets of approximately 150m length. Fortitude Boulevard and Niche Parade have three lanes on each of their approaches. One is typically 100m long for right turns, one is a through lane and one is a left turn slip lane through a splitter island of approximately 24m length. The signal phasing is a diamond-split, with the diamond turn on the Ocean Reef Road approaches and the split phase allocated to Fortitude Boulevard and Niche Parade.

There have been 2 recorded crashes at this intersection in the five-years up to 31/12/2015 with both of these being rear end crashes, typical for traffic signals. This number of crashes works out to be approximately 0.04 crashes per million-vehicles (MV) entering the intersection. This is notably less than network average for similar intersection of 0.59 crashes per MV and suggests the intersection is generally safe.

5. Conclusions

As a result of the traffic analysis undertaken for the proposed residential development at Lot 311 Niche Parade, the following findings were made:

- Overall, the proposed fast food development should generate in the order of 1,700 vehicular trips per day with approximately 105 occurring in the PM peak with half being new trips and half being passing trade trips;
- Ocean Reef Road and the intersection of Fortitude Boulevard and Niche parade will require modification without this development proceeding;
- The impacts of the traffic volumes associated with the proposed development on the road network as modified above are considered acceptable; and,
- Delays and queues at the nearby intersections (as modified) and crossovers are expected to be minimal with very good levels of service now and into the future.

Appendix A Proposed Development Plans

SERVICE LEGEND	
DRAINAGE	
GRATE	[Symbol]
SIDE ENTRY PIT	[Symbol]
STORM WATER MANHOLE	[Symbol]
ELECTRICITY	
CABLE DOME	[Symbol]
CABLE MANHOLE	[Symbol]
CABLE PIT	[Symbol]
CONSUMER POLE	[Symbol]
LIGHT POLE	[Symbol]
POWER POLE	[Symbol]
STAY POLE	[Symbol]
STAY WIRE ANCHOR	[Symbol]
OH POWER LINE	[Symbol]
GAS	
GAS MARKER	[Symbol]
GAS METER	[Symbol]
GAS VALVE	[Symbol]
SEWERAGE	
SEWER MANHOLE	[Symbol]
INSPECTION OPENING	[Symbol]
SEWER LINE	[Symbol]
TELECOMMUNICATIONS	
TEL / COMM MANHOLE	[Symbol]
TEL / COMM MARKER	[Symbol]
TEL / COMMS PIT	[Symbol]
WATER	
FLUSH POINT	[Symbol]
HYDRANT	[Symbol]
STOP VALVE	[Symbol]
TAP	[Symbol]
WATER MARKER	[Symbol]
WATER METER	[Symbol]
SURVEY	
DATUM	[Symbol]
PEG FOUND	[Symbol]
OTHER	
AWNING / EAVES	[Symbol]
MAIL BOX	[Symbol]
WINDOW / DOOR	[Symbol]
SERVICE RECORD	
STATUS	
LOCATED	CONFIRM
AVAILABLE	CONFIRM
WATER	✓
SEWERAGE	✓
GAS	✓
TEL / COMM	✓
POWER	✓
OH	✓
SERVICES MARKED CONFIRM REQUIRE BUILDER CLIENT TO CONFIRM AVAILABILITY AND / OR POSITION ON SITE	

ALL CARPARK & DRAINAGE DESIGN WORK CARRIED OUT & CERTIFIED BY:

Stace Rogers Assoc Dip Civ Eng (AMEI/Aust)

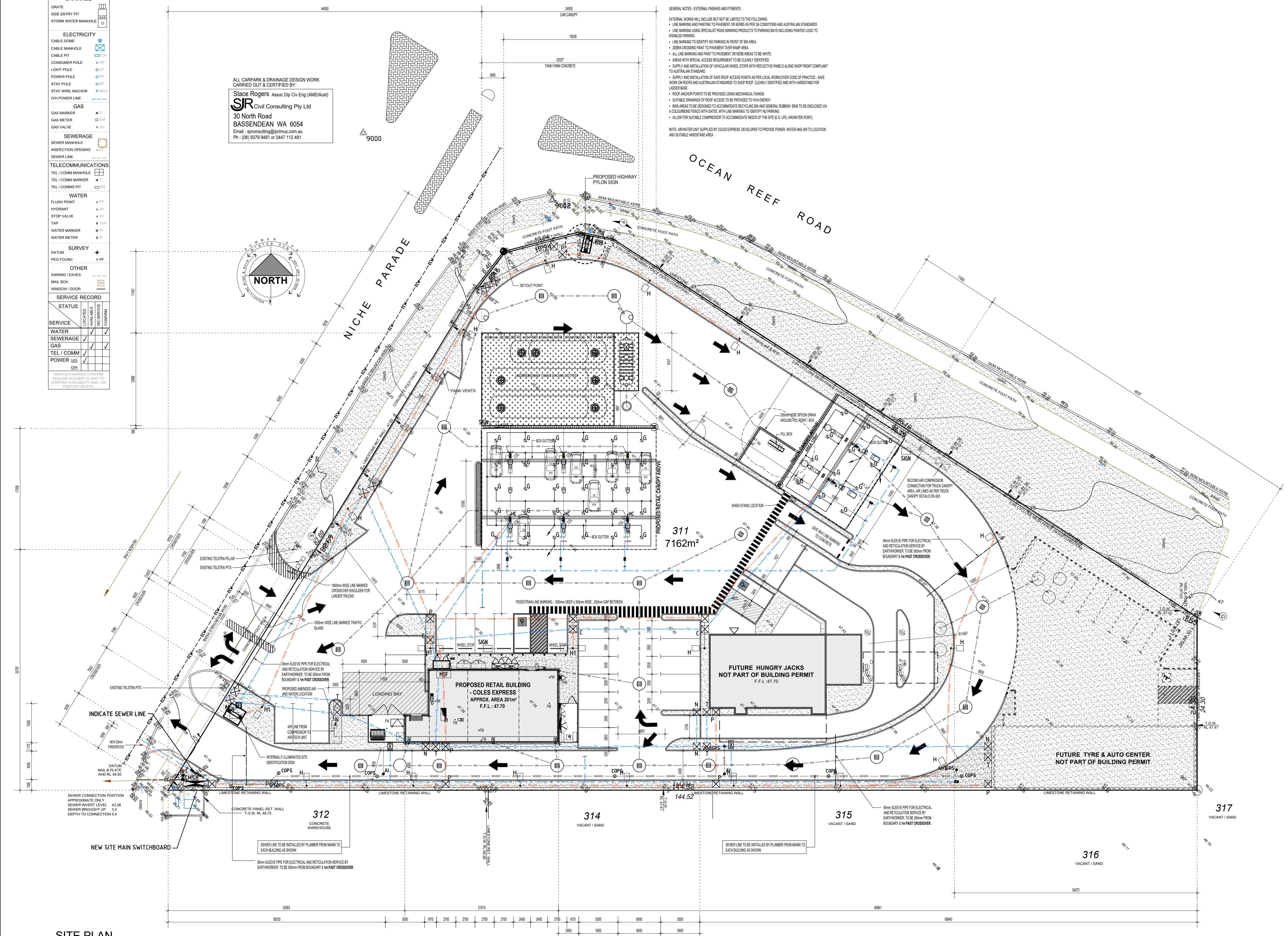
SIR Civil Consulting Pty Ltd
 30 North Road
 BASSENDEAN WA 6054
 Email: srconsulting@primus.com.au
 Ph: (08) 9379 9481 or 0447 112 481

GENERAL NOTES - EXTERNAL FINISHES AND FITMENTS

EXTERNAL WORKS WILL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

- LINE MARKING AND PAINTING TO PRESENT OR KERB AS PER CONDITIONS AND AUSTRALIAN STANDARDS
- LINE MARKING USING SPECIALIST ROAD MARKING PRODUCTS TO PARKING BAYS INCLUDING PAINTED LOGOS TO DISABLED PARKING
- LINE MARKING TO IDENTIFY NO PARKING IN FRONT OF BIN AREA
- ZEBRA CROSSING PAINT TO PAVEMENT OVER RAMP AREA
- ALL LINE MARKING AND PAINT TO PAVEMENT OR KERB AREAS TO BE WHITE
- AREAS WITH SPECIAL ACCESS REQUIREMENT TO BE CLEARLY IDENTIFIED
- SUPPLY AND INSTALLATION OF VEHICULAR WHEEL STOPS WITH REFLECTIVE PANELS ALONG SHOP FRONT COMPLIANT TO AUSTRALIAN STANDARDS
- SUPPLY AND INSTALLATION OF SAFE ROOF ACCESS POINTS AS PER LOCAL WORKCOVER CODE OF PRACTICE - SAFE WORK ON ROOFS AND AUSTRALIAN STANDARDS TO SHOP ROOF, CLEARLY IDENTIFIED AND WITH HARDESTAND FOR LADDER BASE
- ROOF ANCHOR POINTS TO BE PROVIDED USING MECHANICAL FRINGS
- SUITABLE DRAWINGS OF ROOF ACCESS TO BE PROVIDED TO VIVA ENERGY
- BIN AREAS TO BE DESIGNED TO ACCOMMODATE RECYCLING BIN AND GENERAL RUBBISH BINS TO BE ENCLOSED VIA A COLOR COORDINATE FRAME WITH GATES, WITH LINE MARKING TO IDENTIFY NO PARKING
- ALLOW FOR SUITABLE COMPRESSOR TO ACCOMMODATE NEEDS OF THE SITE (E.G. LPG, AIR WATER POINT)

NOTE: AIR WATER UNIT SUPPLIED BY COLES EXPRESS. DEVELOPER TO PROVIDE POWER, WATER AND AIR TO LOCATION AND SUITABLE HARDESTAND AREA



REV.	DATE	BY	DESCRIPTION
7	14/03/2017	JM	ISSUE FOR AS BUILT
6	30.09.16	JM	ADDITIONAL 25mm FIRE SERVICE
5	24.08.16	JM	ADDITIONAL DIMENSIONS TO PLAN, TANK FARM UPDATED & KERBING REDUCED AS PER CIVIL DRAWINGS
4	09.08.16	JM	REVISED ELECTRICAL TO SUIT NEW CROSSOVER DESIGN & ADDITIONAL 90mm CONDUITS
3	21.07.16	JM	REVISED CARPARK & CROSSOVER DESIGN
2	12.07.16	JM	REVISED CARPARK & CROSSOVER DESIGN
1	24.05.16	JM	WATER AND AIR RELOCATED, VENT LOCATION REVISED, BIN AREA REVISED FOR ADDITIONAL GATE
0	10/4/2016	JM	ISSUE FOR CONSTRUCTION



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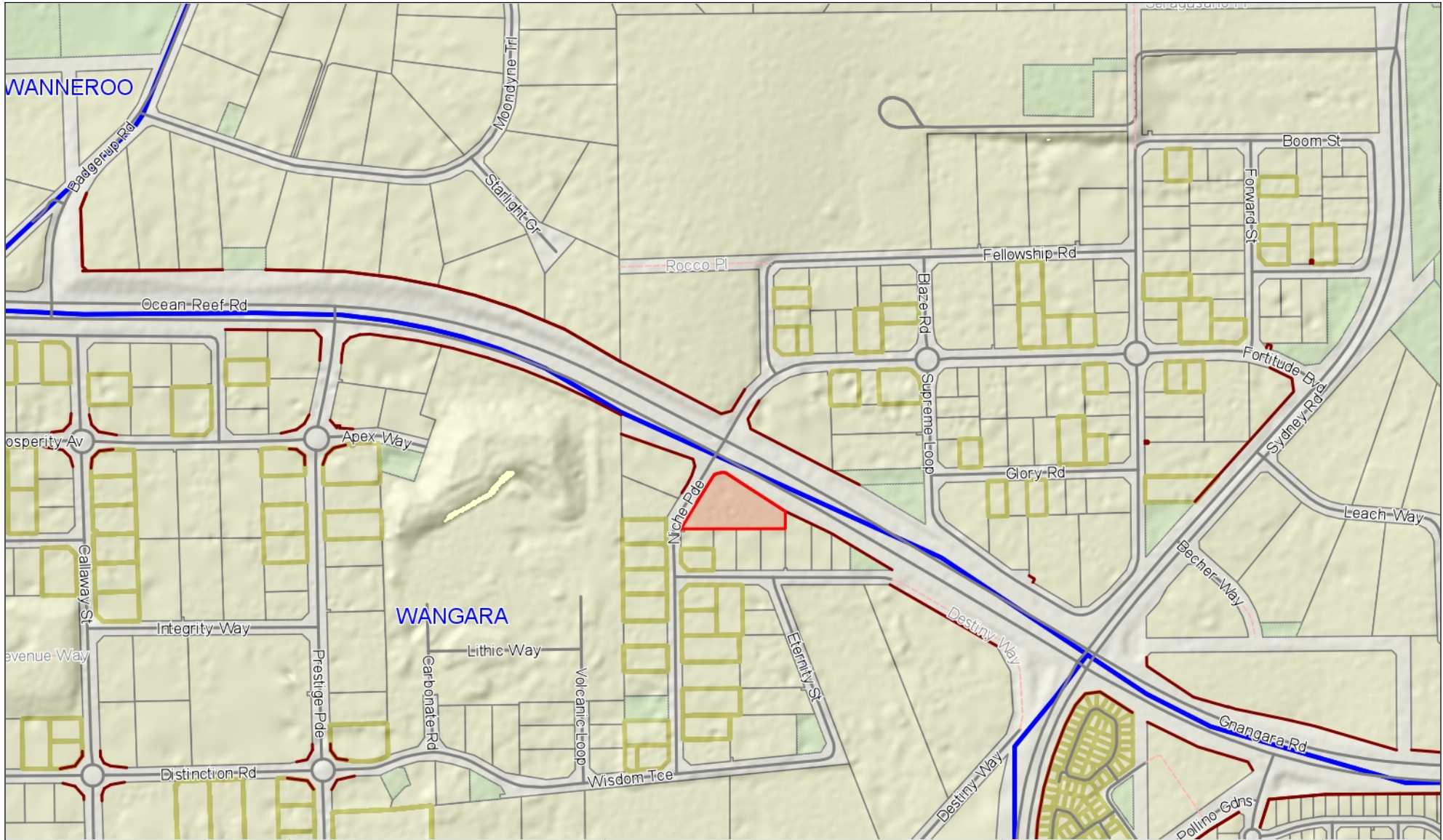
PROPOSED SERVICE STATION DEVELOPMENT
 LOT 311 NICHE PARADE WANGARA

DRAWING TITLE:
PROPOSED SITE PLAN

DRAWING No. **A01**
 JOB No. **A14009**
 drawn J.MAILOLO date 3.09.2015 PAGE No. 2 OF 8
 checked 1:250 REV No. 7

SITE PLAN
 SCALE 1:250

Appendix B Locality Plan



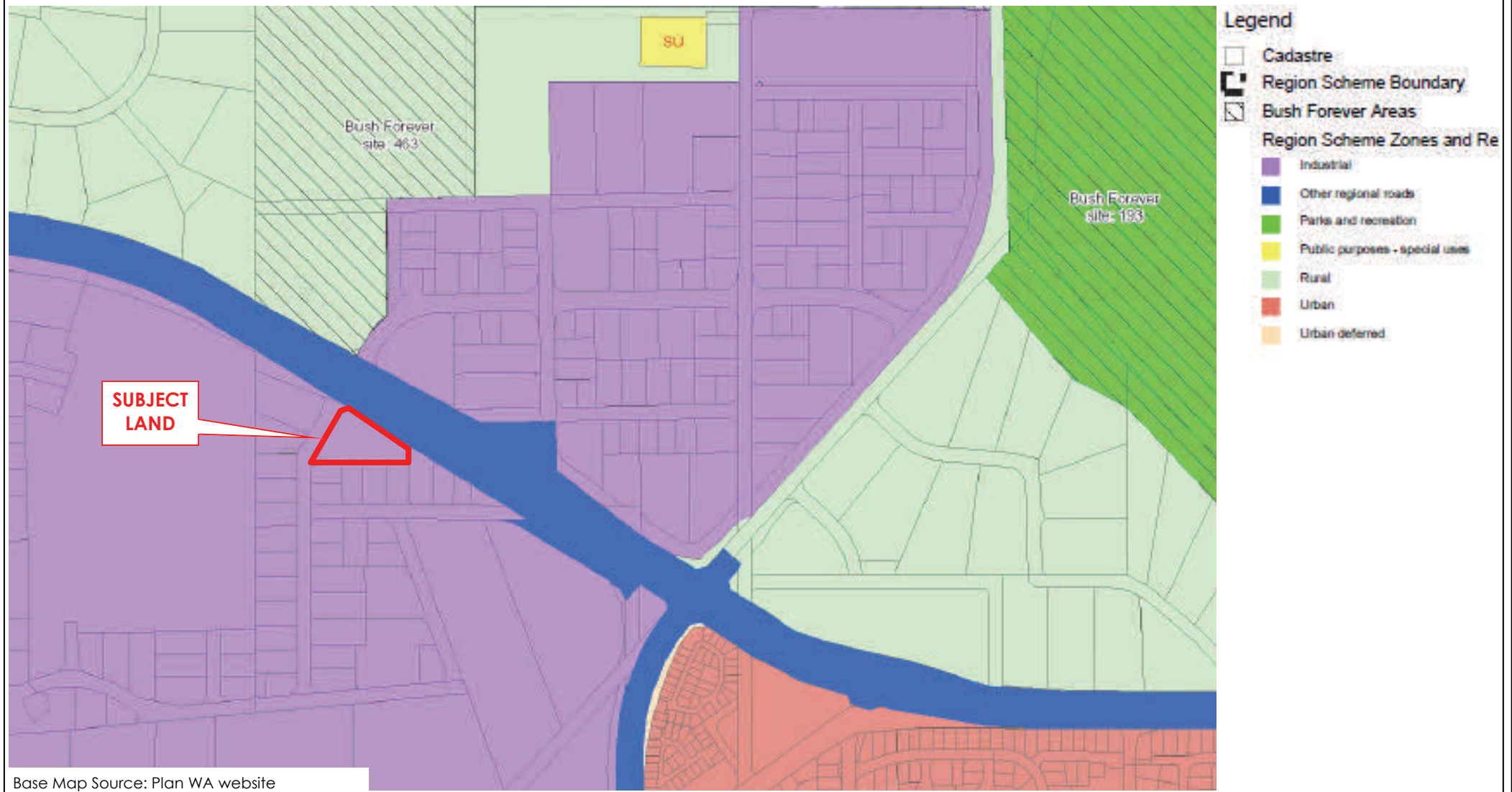
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Lot 311 Niche Parade

Scale: 1:7615
 Projection: GDA94 / MGA zone 50
 Date: 1/06/2017



APPENDIX 7 – FIGURE 6, MRS ZONING MAP EXTRACT



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FIGURE 6

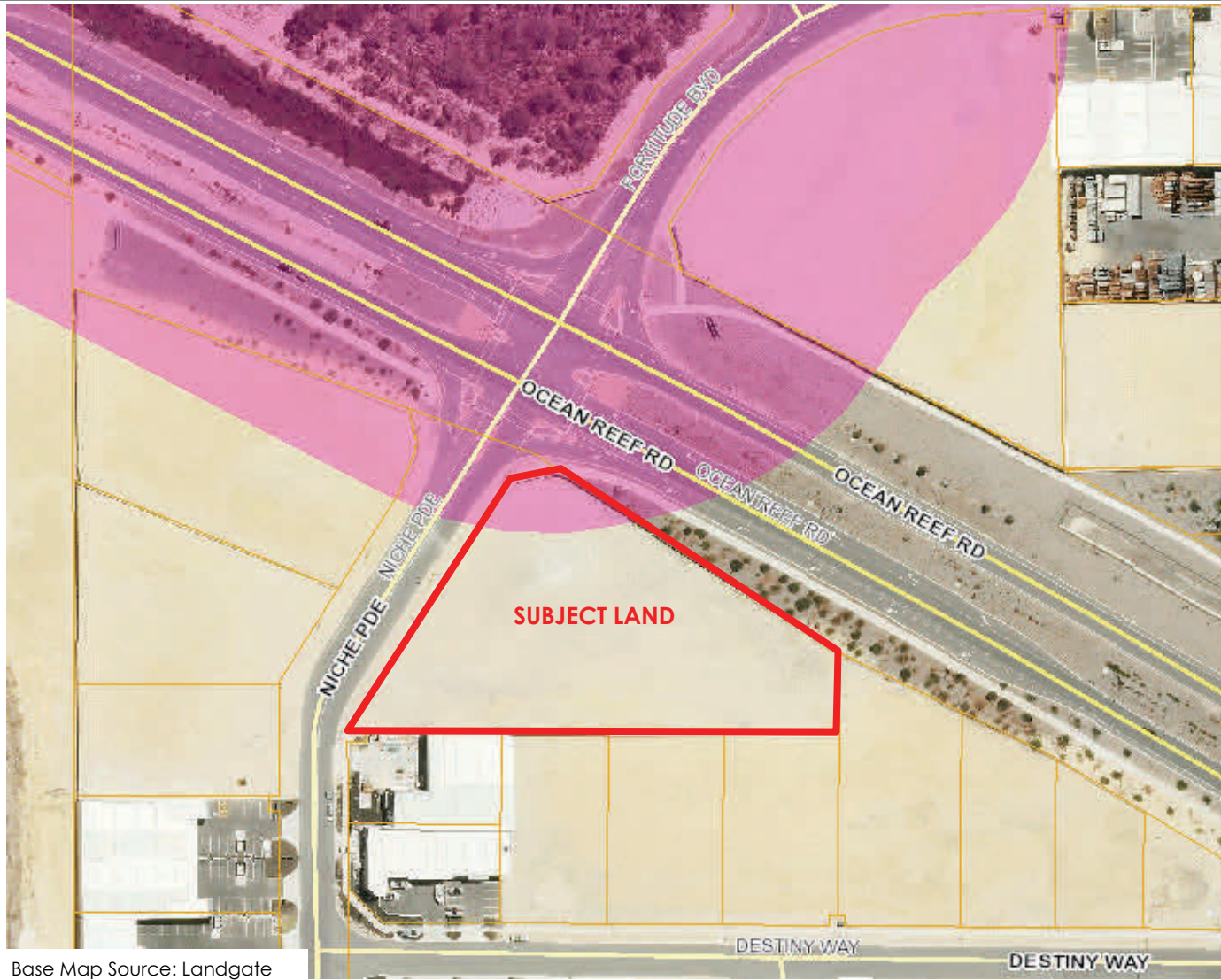
SCALE N.T.S

DATE: 16 / 10 / 2017

**LOT 311 NICHE PARADE,
 WANGARA**

MRS ZONING MAP

**APPENDIX 8 – FIGURE 7, EXTENT OF BUSHFIRE PRONE
AREA**



Base Map Source: Landgate

Legend

Map_of_Bush_Fire_Prone_Areas_2

Overview Towns (LGATE-054)

- Major Towns

Property Boundaries

-

Local Government Authority (LGA) Boundaries (LGATE-006)

- LGA

Roads (Joined) (LGATE-073)

- Freeways & National Highways
- Main Roads
 - Sealed
 - Unsealed
- Minor Roads
 - SE
 - US
- Others
 - Laneway
 - Mall
 - Surveyed Proposed Road

Bush Fire Prone Areas 2016

-

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FIGURE 7

SCALE N.T.S.
DATE: 16 / 10 / 2017

**LOT 311 NICHE PARADE,
WANGARA**

EXTENT OF BUSHFIRE PRONE AREA

APPENDIX 9 – BUSHFIRE MANAGEMENT PLAN

FIRE MANAGEMENT PLAN

Lot 700 and portions of Lots 9000 (formerly
Lot 50) and 10

Ocean Reef and Sydney Roads

Gnangara

City of Wanneroo



FirePlan WA

August 2011

Updated February 2014

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**Fire Management Plan – Lot 700 and portions of Lots 9000 (formerly Lot 50) & 10 Ocean Reef and
Sydney Roads, Gnangara**

Prepared For

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Document Status

Version	Comment	Reviewer	Review Date
Version 1		BWH	01.08.11
Version 2		SR & BWH	03.08.11
Version 3	Updated to reflect new lot numbers, planning approvals, siteworks etc.	SR & BWH	06.02.14

Disclaimer: The measures contained in this fire management plan are considered to be minimum standards and they do not guarantee that a building will not be damaged in a bush fire. All surveys, forecasts, projections and recommendations made in this report associated with the project are made in good faith on the basis of information available to FirePlan WA at the time; and achievement of the level of implementation of fire precautions will depend among other things on the actions of the landowners or occupiers over which FirePlan WA has no control. Notwithstanding anything contained therein, FirePlan WA will not, except as the law may require, be liable for any loss or other consequences (whether or not due to the negligence of the consultants, their servants or agents) arising out of the services rendered by the consultants.

1.0 INTRODUCTION

The purpose of this Fire Management Plan is to assess bush fire risk and to detail any fire management requirements that will be implemented and responsibilities for Lot 700 and portions of Lots 9000 (formerly Lot 50) and 10 Ocean Reef and Sydney Roads, Gnangara. These lots are zoned for industrial use and comprise the Wangara Industrial Extension Area (herein referred to as the subject site). This Fire Management Plan is for the industrial development only and the Lot 6 'Rural Community' zone including the Bush Forever area north of the subject site is subject to a separate fire management plan. It is noted that Lot 9000 was recently created as a balance of title lot following the subdivision of the portion of Lot 50 south of Ocean Reef Road into industrial lots.

The Western Australian Planning Commission (WAPC) and the City of Wanneroo required the preparation of a fire management plan to support the rezoning and structure plan processes associated with the proposed industrial development. This Fire Management Plan was originally prepared to satisfy this requirement and the WAPC/City of Wanneroo deemed the subject land suitable for intensification of land use for industrial activity, including consideration of the bush fire hazard assessment, by rezoning the property and subsequently approving the structure plan and subdivision. The Fire Management Plan has been updated (February 2014) to reflect the rezoning and structure plan approvals and becomes operational as a condition of subdivision, namely Condition 15 of WAPC approval ref. 146778 and Condition 21 of WAPC approval ref. 147960.

The subject site currently has (or will have) a bush fire hazard rating of "Low" based on vegetation clearing which has occurred across the site associated with bulk earthworks and subdivision activities. Bush Forever site No. 463 is external to the subject site and contains remnant vegetation in various states of condition.

This Fire Management Plan complies with the acceptable solutions detailed in Appendix 2 of *Planning for Bush Fire Protection* - Edition 2 (2010) and as summarised in 'Compliance Checklist for Performance Criteria and Acceptable Solutions' at the end of this Fire Management Plan (Section 8).

This Fire Management Plan outlines the responsibility and timing for implementing and maintaining the fire protection measures and strategies contained within, allocating these responsibilities between the developer, future individual industrial lot owners and the City of Wanneroo.

The Fire Management Plan is an ongoing dynamic document that can be varied by the City of Wanneroo as it may deem necessary to do so if fire management strategies require altering to meet changing weather, environment and land use needs. It is noted that the provisions of the *Bush Fires Act 1954* may still be enforced in addition to this Fire Management Plan.

2.0 AIM

The aim of the Fire Management Plan is to reduce the occurrence of and minimise the impact of bush fires.

The Fire Management Plan sets out to reduce this threat by:

- Identifying the objectives of this Fire Management Plan (Section 3)
- Describing the site's description, topography, cultural features and land use (Section 4);
- Identifying the site's potential bush fire issues (Section 5); and
- Outlining the fire mitigation strategies for the site, including identifying the parties responsible for undertaking these fire mitigation strategies (Section 6).

The City of Wanneroo has the responsibility and powers under the Town Planning Scheme and the *Bush Fires Act 1954* to ensure that this Fire Management Plan, City of Wanneroo Fire Control notice and any Special orders issued under the *Bush Fires Act 1954* are complied with.

3.0 OBJECTIVES

The objectives of this Fire Management Plan are to:-

- Assess the bush fire hazard and propose bush fire mitigation measures for the site.
- Minimise fire risk through appropriate design and implementation of any identified fire protection requirements.
- Identify developer, future landowner and City of Wanneroo responsibilities for implementing and maintaining various components of this Fire Management Plan.
- Document the acceptable solutions adopted for the subdivision of Lot 700 and portions of Lots 9000 and 10 Sydney and Ocean Reef Roads, Gnamara to demonstrate compliance with the requirements of '*Planning for Bush Fire Protection – Edition 2 (2010)*'.

4.0 DESCRIPTION OF THE AREA

4.1 GENERAL

This Fire Management Plan applies to Lot 700 and portions of Lots 9000 and 10 Ocean Reef and Sydney Roads, Gnangara encompassing the Wangara Industrial Extension Area north of Ocean Reef Road (refer Figure 1: Location Plan). The subject area comprises a net developable area of approximately 40ha which is to be subdivided into industrial lots of various sizes.

The subject area has historically been used for a turf farm and aboriginal community purposes, however, has recently been cleared to facilitate the industrial subdivision works. Portions of the adjoining land to the north and west comprise Bush Forever Site No. 463, comprised of Swan Coastal Plain Banksia woodland that is generally in good condition, although some parts are degraded.

The proposed development adjoins the existing Wangara Industrial Estate to the south.

4.2 CLIMATE

The Mediterranean climate experienced by this area is such that the majority of rain falls in late autumn through to late spring. This rainfall supports vegetation growth, which dries off in Summer/Autumn.

The bush fire season is generally from October to the following May, but is subject to seasonal changes and drought conditions.

4.3 TOPOGRAPHY

The site is undulating with slopes up to 10°, with the subject site located down gradient of the Bush Forever area. This serves to naturally mitigate some of the bush fire risk as fire preferentially travels up hill.

The subject site has been extensively earth worked and is subject to up to 4m of 'cut' along the boundary of the Bush Forever site. This serves to increase the vertical separation and contribute to shielding at this interface.

4.4 BUSH FIRE FUELS

The subject site has been/will be extensively cleared to facilitate subdivision works and as such, bush fire fuels within this area have/will be removed.

The fuel loads in the adjoining Banksia Woodlands vary between 6-10 tonnes/ha (no leaf litter) with increased loads in some areas where Banksia woodland is more dense and there is leaf litter fuel loads. It is noted that a program of fuel load reduction is being implemented by the City of Wanneroo within the Bush Forever area to reduce the bush fire fuels to acceptable levels – as previously noted, this does is external to the subject site and addressed in a separate Fire Management Plan.

4.5 LAND USE

The area the subject of this Fire Management Plan is zoned for 'General Industrial' use and is identified as the 'Wangara Industrial Extension Area'. It has been cleared and is being subdivided into industrial lots, similar in nature to the existing Wangara Industrial Estate.

4.6 ASSETS

The Bush Forever area is contained in the lot, which adjoins the site, generally to the north and west. Gnangara Lake is to the east on the opposite side of Sydney Road. Existing (recently subdivided) industrial lots are located to the south across Ocean Reef Road.

4.7 ACCESS

The approved Wangara Industrial Extension Area local structure plan (LSP No 96) for the development site proposes one entrance onto Ocean Reef Road and one entrance to Sydney Road (refer Figure 2: LSP No. 96). The internal road system is permeable and interconnected and complies with Acceptable Solution A2.1. All roads will be constructed to City of Wanneroo standards and are in excess of Acceptable Solution A2.2.

4.8 WATER SUPPLY

The site will be reticulated from Water Corporation mains supply and fire hydrants will be installed by the developer in accordance with the *Water Corporation's No 63 Water Reticulation Standard* and will be marked by standard road markings. This complies with Acceptable Solution A3.1.

5.0 FIRE PROBLEM

5.1 BUSH FIRE HISTORY

It is noted that the subject site has been (or will be) extensively cleared during development works. Prior to clearing it is likely that the site had been subject to infrequent bush fires, however, no documented fire history was available.

5.2 BUSH FIRE RISK

Given the extensive clearing of vegetation, the bush fire risk within the subject site is low. Bush fire risk that can threaten the proposed industrial area is likely to originate from the adjoining Bush Forever site.

It is noted that staged fire fuel load reduction program has been commenced in the Bush Forever area and is scheduled to be completed by the City of Wanneroo in winter 2014. It is also noted that the City of Wanneroo has the powers under the Bush Fires Act to issue Special Orders requiring landowners to reduce bush fires fuels to levels detailed in the Special Order should this be required at any time in the future.

In a bush fire in this general area (including adjoining land), ember attack may cause damage to industrial buildings. This could be increased if unsuitable vegetation or other flammable material is stored in the setback area of industrial lots immediately opposite the Bush Forever area. There is a risk that buildings that have evaporative air conditioners installed without effective screening around the roof mounted unit have an increased risk of a building catching on fire due to embers starting a fire in the air conditioning unit.

5.3 BUSH FIRE HAZARD

In *Planning for Bush Fire Protection* Appendix 1 details the methodology for classifying bush fire hazard levels. The methodology rates bush fire hazard using vegetation type and is also based on the underlying assumption that land in Western Australia is predominantly undulating. The methodology specifies three bush fire hazard levels “Low”, “Moderate” and “Extreme”.

This methodology has been used in this Fire Management Plan to determine the bush fire hazard (refer Figure 3: Bush Fire Hazard Assessment).

The assessment of fire risk takes into account existing site conditions which include:

- Topography with particular reference to ground slopes and accessibility;
- Vegetation cover – both remnant and likely revegetation; and
- Relationship to adjoining land.

Following clearing within the subject site associated with the subdivision works the hazard rating will be “Low”. In the adjoining property to the north and west, the hazard rating is assessed as “Moderate” or “Extreme” in the adjoining Bush Forever site and “Low” in portions of the community use area.

The future bushfire hazard will apply to the industrial lots on the outer edge of the development directly opposite the Bush Forever area on the adjoining land. This methodology identifies that the vegetation class within the Bush Forever area is “Type B – Woodland”. As previously identified, the Bush Forever area is located upslope of the subject site. By virtue of the 20m industrial road interface, a minimum setback of 20m is provided from the predominant vegetation class (Bush Forever area). When a 4m fire break is applied along the boundary of the Bush Forever area and 6m front industrial setback is applied to industrial lots, an effective separation of 30m will exist between any future industrial buildings and any vegetation within the Bush Forever area. This separation represents the effective Building Protection Zone, which exceeds the minimum 20m set out in ‘*Planning for Bush Fire Protection*’.

It is noted that AS 3959 construction standards only apply to residential development and as such do not apply to industrial buildings. Notwithstanding, individual lot owners opposite the Bush Forever site will be required to comply with Detailed Area Plans, which will require the front setback area of lots to be maintained with low combustible material.

5.4 BUSH FIRE THREAT

Any bush fire threat originating within the subject site has been greatly reduced due to the removal of vegetation and reduction of levels at the external boundaries of the site, which will occur as part of the site works. Structural fires may start in industrial areas and with a quick fire response fires are unlikely to spread from one lot to another. There is a threat of fires originating in the adjoining Bush Forever Site.

6.0 FIRE MITIGATION

6.1 BUSH FIRE RISK MANAGEMENT

Hazard Management within the subject site will be controlled by:-

- Setbacks of buildings and fuel loads opposite the Bush Forever area are to be managed as Building Protection Zones (BPZ). The BPZ within 20m road reserves will be constructed by the developer at the time of creation of the industrial lots. The BPZ within the street setback areas of lots opposite the Bush Forever area will be implemented through Detailed Area Plans (DAPs) and assessed by the City of Wanneroo through development applications/building licence and thereafter maintained by individual lot owners. The DAPs will specify planting to be in accordance with FESA's '*Plant Guide Within Building Protection Zone for the Swan Coastal Plain of Western Australia*' and limit materials which can be stored in the street setback areas to minimise fire fuel loads.
- All industrial lots proposed in the development will be cleared of all vegetation at the time of site subdivision works.
- Fire Hydrants will be installed throughout the industrial development site by the developer at the time of installing reticulated water and will be to the specifications of the Water Corporation.
- The developer will make prospective purchasers of Lots opposite the Bush Forever Area aware of the Fire Management Plan, Detailed Area Plans and FESA's vegetation planting guidelines.
- The City of Wanneroo is to ensure fuel reduction and fire breaks are maintained to acceptable standards within the adjoining Bush Forever area.

City of Wanneroo is to continue to provide the community with advice on bush fire prevention and preparedness through brochures, newspaper articles, Firebreak Notice issued to rate payers and on their web site.

6.2 FUTURE DEVELOPMENT

This Fire Management Plan has been prepared on the basis of the site being developed in accordance with the approved structure plan (LSP No. 96) layout depicted in Figure 2. Any future proposed subdivision or development that results in a variation to this structure plan and would impact on the Bush Fire Risk Management will require approval from the City of Wanneroo and may result in the need to review the provisions of this Fire Management Plan.

6.3 ACCESS AND FIREBREAKS

6.3.1 Road System

The approved structure plan (LSP No. 96) provides one entrance onto Ocean Reef Road and one entrance to Sydney Road. The internal road system is permeable and interconnected.

All road access will be designed and constructed to Council specifications and will comply with A2.1 & A2.2 of the *Planning for Bushfire Protection Guidelines (2010)*.

6.3.2 Internal Firebreaks

Notwithstanding the provisions of this Fire Management Plan, all lots within the site must comply with the requirements of the City of Wanneroo Fire Control notice, as published annually.

6.4 PUBLIC EDUCATION AND COMMUNITY AWARENESS.

Copies of the approved Fire Management Plan will be issued to each affected property owner by the developer at the sale of the allotment.

Other Public Safety and Community information on Bush Fires is available on the Fire and Emergency Services Authority web site www.fesa.wa.gov.au and the City of Wanneroo website www.wanneroo.wa.gov.au

6.5 FIRE SAFER AREAS

In the event of a bush fire, the Incident Controller of Fire Fighting operation will advise if an evacuation is necessary and, in conjunction with the City of Wanneroo, direct these workers to Safer Refuge Areas. These should be identified in a Local Emergency Management Arrangements by the City of Wanneroo.

6.6 ASSESSMENT OF FIRE MANAGEMENT STRATEGIES

It will be the responsibility of the developer initially to implement the relevant provisions of this Fire Management Plan in order to seek clearance of the related condition(s) of subdivision. The City of Wanneroo will ensure that the developer requirements identified in this Fire Management Plan are met by the developer prior to clearing any conditions of subdivision relating to this Fire Management Plan.

After any major fires that may occur during or once this development has been completed, the City of Wanneroo may conduct a Post Incident Analysis of the fire, which may include identifying and implementing any changes that may be needed to improve the performance of fire prevention strategies.

With the hazard management provisions detailed in this Fire Management Plan any fires that occur in the site are not expected to devastate the estate if the provisions of this Fire Management Plan are implemented initially by the Developer and maintained by future affected property owners, the City of Wanneroo and FESA (Section 6.7).

This Fire Management Plan has been prepared in accordance with the acceptable solutions detailed in *Planning for Bush Fire Protection Edition 2 (2010)*. It is noted that this Fire Management Plan cannot guarantee that a building will survive a bushfire event in every occasion. This is substantially due to the unpredictable nature and behavior of fire and extreme weather conditions.

6.7 IMPLEMENTATION OF THE FIRE MANAGEMENT PLAN.

This Fire Management Plan becomes operational as a condition of subdivision.

In implementing this Fire Management Plan, the following responsibilities have been determined.

6.7.1 Developer's Responsibilities

As a condition of subdivision the developer shall be required to carry out works described below to the satisfaction of the City of Wanneroo (and in the case of fire hydrants, to the satisfaction of the Water Corporation):

- All internal roads and access ways are to comply with the design requirements of the City of Wanneroo.
- Ensure fire hydrants are installed (as is standard Water Corporation requirements within the Perth metropolitan region) at the time of reticulating a water supply within the industrial subdivision.
- Preparation of a Detailed Area Plan for industrial lots immediately opposite the Bush Forever area (as identified on LSP N0. 96) to control vegetation and materials stored in the front setback areas.
- Each lot is to comply with the City of Wanneroo Fire Control Notice as published annually. This is to be maintained until lots are sold.
- Supply a copy of this Fire Management Plan, the Detailed Area Plan and FESA's vegetation planting guidelines to each affected property purchaser on sale of the allotment.

6.7.2 Property Owner's Responsibilities

To maintain the reduced level of risk and threat of fire, the owners/occupiers of industrial lots opposite the Bush Forever area and identified in any applicable Detailed Area Plan (DAP) will be responsible for undertaking, complying and implementing measures protecting their own assets from the threat and risk of bush fire:

- Maintaining the property in good order to minimize potential bushfire fuels to mitigate the risk of fire on the property, including those requirements specified in the DAP;
- Ensuring that the lot complies with the City of Wanneroo Fire Control Notice;
- Maintaining the Building Protection Zoned in the lot street setback area in perpetuity if required in the lot (this is identified on the DAP held by the City of Wanneroo and will have been supplied to the original owner of the land).
- Complying with the instructions of FESA Fire Services, the City of Wanneroo and/or volunteer fire services in maintaining the property or during the event of a bushfire;
- Ensuring that in the event an evaporative air conditioner is installed at the property, suitable external ember screens are installed to roof mounted units.

6.7.3 City of Wanneroo

The responsibility for compliance with the law rests with individual property owners and occupiers and the following conditions are not intended to unnecessarily transfer these responsibilities to the City of Wanneroo.

The City of Wanneroo shall be responsible for:

- Ensuring compliance with the Detailed Area Plans for those applicable industrial lots at the time of development application/building licence and then ongoing.
- Enforcing the City of Wanneroo Fire Control Notice.
- Monitoring bush fire fuel loads in the industrial lots and Bush Forever site and liaise with relevant landowners to maintain safe levels.
- Maintaining the road reserve interface as a Building Protection Zone.
- Providing fire prevention and preparedness advice to landowners upon request; and
- Ensuring the developer has implemented (or made other arrangement suitable to the City) the applicable requirements (refer 6.8.1) of this Fire Management Plan prior to clearance of conditions of subdivision.

6.7.4 Fire and Emergency Services Authority.

The Fire and Emergency Services Authority shall be responsible for:

- Developing and maintaining any applicable District Fire Fighting Facilities under its control.

7.0 APPENDICES

7.1 MAPS AND FIGURES

Figure 1: Location Plan

Figure 2: Approved Structure Plan (LSP No. 96)

Figure 3: Bush Fire Hazard Assessment

Figure 1: Location Plan

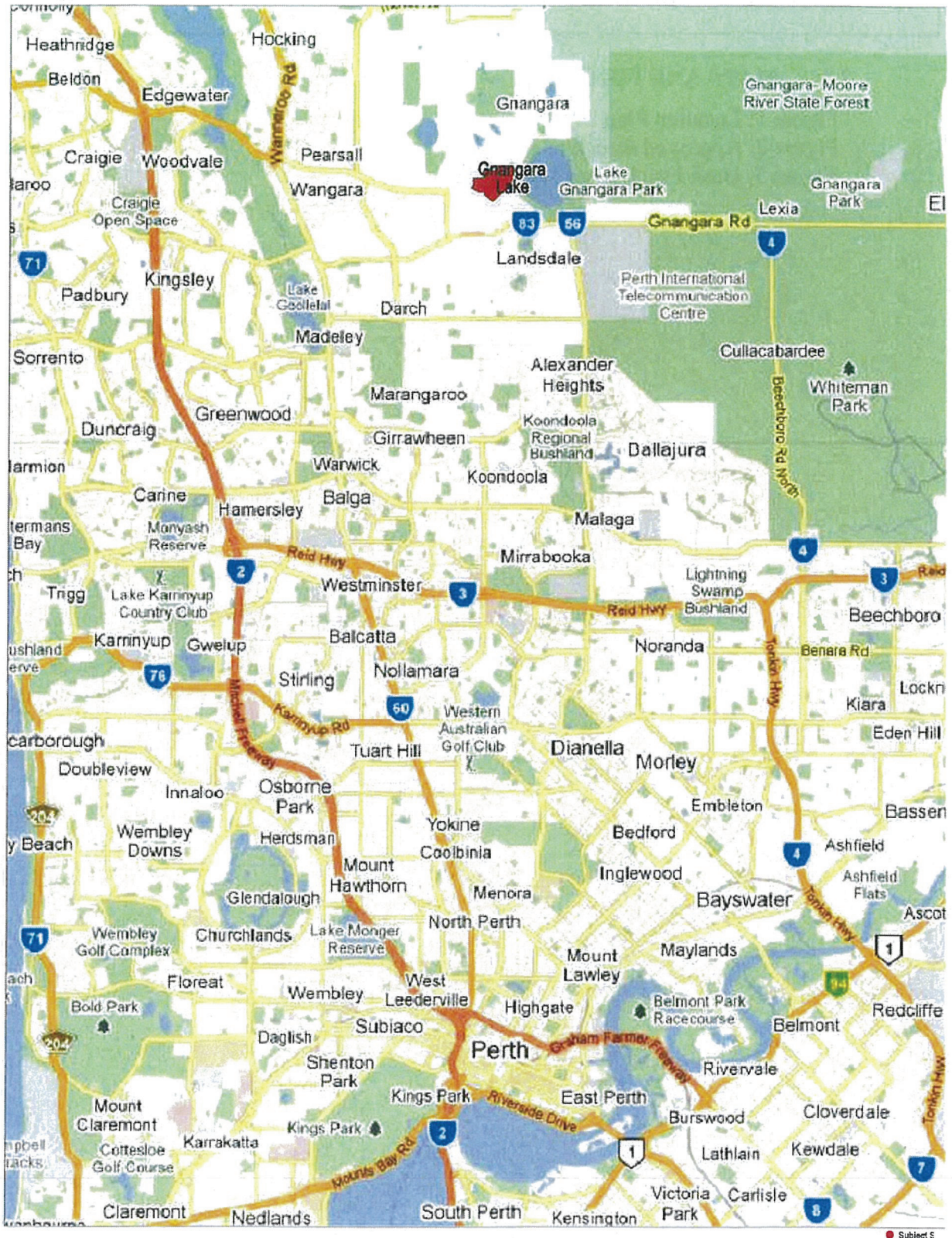


Figure 3: Bush Fire Hazard Assessment



7.2 WORKS PROGRAM

The works identified in this Fire Management Plan as being the developer responsibility will generally be implemented during subdivisional works.

Landowners and the City of Wanneroo will be responsible for implementing the applicable actions identified in the Fire Management Plan for each, thereafter.

7.3 GUIDELINES SPECIFICATIONS AND MINIMUM STANDARDS

The following section outlines the required specifications and minimum development standards that are required under this Fire Management Plan.

7.3.1 Building Protection Zone

The aim of the Building Protection Zones (BPZ) is to reduce bush fire intensity close to buildings and to minimise the likelihood of flame contact with buildings.

The Building Protection Zone is a low fuel area between the industrial area and the adjoining Bush Forever area which complies with *Planning for Bush Fire Protection* Acceptable Solution A4.3.

A minimum 20 metre Building Protection Zone is to apply to the interface area of industrial lots opposite the Bush Forever Site. Where possible, this is to be incorporated into a public road reserve. The Building Protection Zone must fulfil the following conditions:

- Bush fire fuels must be maintained at or below 2 tonnes per hectare and dry grass must be maintained below a height of 50mm;
- The spacing of tree trunks should be 15-20 metres apart to provide for a separation of 10 metres between crowns when trees mature;
- Trees are to be progressively low pruned at least to a height of 2 metres;
- No tall shrubs or trees are to be planted within 2 metres of a building including windows;
- There are no tree crowns over hanging the building;
- Branches, must be removed at least 2 metres back from the eaves of all buildings;
- Shrubs within the Building Protection Zone have no dead material within the plant;
- Trees in the Building Protection Zone have no dead material within the plant's crown or on the bole (tree trunk);
- Fences within the Building Protection Zone are to be constructed using non combustible materials (e.g. colour bond iron, brick, limestone);

- All leaves, twigs, logs, branches must be removed from within the building protection zone. Annual falls of leaf litter must be raked up and removed or burnt; and

7.4 GLOSSARY

Acceptable Solution

A statement describing an acceptable means of complying with the requirements of corresponding performance criteria.

Appliance or Fire Appliance

A fire fighting appliance (vehicle) with structural, grass and bush fire fighting capabilities, with either a 2000 litres water capacity (2.4 appliance) or a 3000 litre water capacity (3.4 appliance) and four (4) wheel drive.

Building Protection Zone (BPZ)

Low fuel area immediately surrounding buildings. Minimum width 20 metres, increasing with slope. Maintained by the landowner or, if incorporated into a road reserve, by the local government.

Bush

Under the Bush Fires Act 1954 the term bush is defined to include trees, bushes, plants, stubble, scrub and undergrowth of a kind whatsoever whether dead or alive and whether standing or not standing.

Bush Fire or Wildfire

A general term used to describe fire in vegetation that is not under control.

Bush Fire Hazard.

The flammability, arrangement and quantity of vegetation, dead or alive, that can be burnt in a bush fire. Development is to be avoided in extreme bush fire hazard designated areas.

Bush fire prone area - for the purposes of this fire management plan, a bush fire prone area is an area that has been declared as such by the relevant local government responsible for an area.

Bush Fire Risk

The chance of a bush fire starting that will have harmful consequences on life and property. It is measured in terms of consequences and likelihood and arises from the interaction of hazards, communities and the environment.

Development Application

An application for approval to carry out a development under either a local planning scheme or regional planning scheme.

Street setback – the horizontal distance between a wall of a building at any point, and an adjacent lot boundary, measured at right angles (90 degrees) to the boundary. Minimum setbacks are generally specified by the City of Wanneroo in the Local Planning Scheme and associated policies.

Emergency Access Way

Road not normally open but available to the public (using two wheel drive vehicles) for evacuation during a bush fire emergency.

FESA

The Fire and Emergency Services Authority of Western Australia.

Fire Break or Firebreak

Any natural or constructed discontinuity in a fuel bed used to segregate, stop and control the spread of a bush fire or to provide a fire line from which to suppress a bush fire. This is an area cleared to reduce the risk of bush fire damage.

FDI- Fire Danger Index

The chance of a fire starting, its rate of spread, its intensity and the difficulty of its suppression, according to various combinations of air temperature, relative humidity, wind speed and both the long and short- term drought effects.

Fire Protection

A generic term used to describe the range of services and systems used to mitigate the impact of fire on the community. It encompasses both fire prevention and emergency response.

Fire Management Plan

Ongoing, dynamic document that sets out the medium to long term mitigation strategies for fire hazards and risks in particular developments within local government areas.

Fire Services Access Route

Accessible by heavy four wheel drive fire fighting vehicles.

Fuel Reduction also Hazard Reduction

Removal and modification of bush fire fuel, or increase in building construction standards or a combination of the two.

Performance Criteria.

Statement which specifies the outcomes required for the protection of life and property from bush fires.

Structural Fire

A fire in a building.

8.0 FIRE MANAGEMENT PLAN COMPLIANCE CHECKLIST FOR PERFORMANCE CRITERIA AND ACCEPTABLE SOLUTIONS

PROPERTY DETAILS: Lot 700 and portions of Lots 9000 and 10 Ocean Reef and Sydney Roads GNANGARA
Local Government: City of Wanneroo

Element 1: Location

Does the proposal comply with the performance criteria by applying acceptable solution A1.1?

Yes No

Bush fire hazard level is manageable and an appropriate BPZ can be implemented

Element 2: Vehicular Access

Does the proposal comply with the performance criteria by applying acceptable solution A2.1?

Yes No

Does the proposal comply with performance criteria by applying acceptable solution A2.2?

Yes No

Subdivisional roads will exceed minimum requirements

Does the proposal comply with the performance criteria by applying acceptable solution A2.3?

Yes No

N/A – No cul-de-sacs are proposed

Does the proposal comply with the performance criteria by applying acceptable solution A2.4?

Yes No

N/A – No battle axes are proposed

Does the proposal comply with the performance criteria by applying acceptable solution A2.5?

Yes No

Private driveways will comply with the City's requirements

Does the proposal comply with the performance criteria by applying acceptable solution A2.6?

Yes No

N/A – No emergency access ways are proposed

Does the proposal comply with the performance criteria by applying acceptable solution A2.7?

Yes No

N/A – No fire serve access routes are proposed

Does the proposal comply with the performance criteria by applying acceptable solution A2.8?

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A2.9?

Yes No

Complying with City of Wanneroo Fire Control notice.

Does the proposal comply with the performance criteria by applying acceptable solution A2.10?

Yes No

N/A – no signage required within the subject site

Element 3: Water

Does the proposal comply with the performance criteria by applying acceptable solution A3.1?

Yes No

Development will have reticulated water, fire hydrants installed by Developer

Does the proposal comply with the performance criteria by applying acceptable solution A3.2?

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A3.3?

Yes No

N/A

Element 4: Siting of Development

Does the proposal comply with the performance criteria by applying acceptable solution A4.1?

Yes No

BPZ

Does the proposal comply with the performance criteria by applying acceptable solution A4.2?

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A4.3?

Yes No

Does the proposal comply with the performance criteria by applying acceptable solution A4.4?

Yes No

N/A

Does the proposal comply with the performance criteria by applying acceptable solution A4.5?

Yes

No

Element 5: Design of Development

Does the proposal comply with the performance criteria by applying acceptable solution A5.1?

Yes

No

The development uses acceptable solutions as appropriate to meet the requirements under performance criterion P5. Note: AS 3959 does not apply to industrial development.

Does the proposal comply with the performance criteria by applying acceptable solution A5.2?

Yes

No

Applicant Declaration:

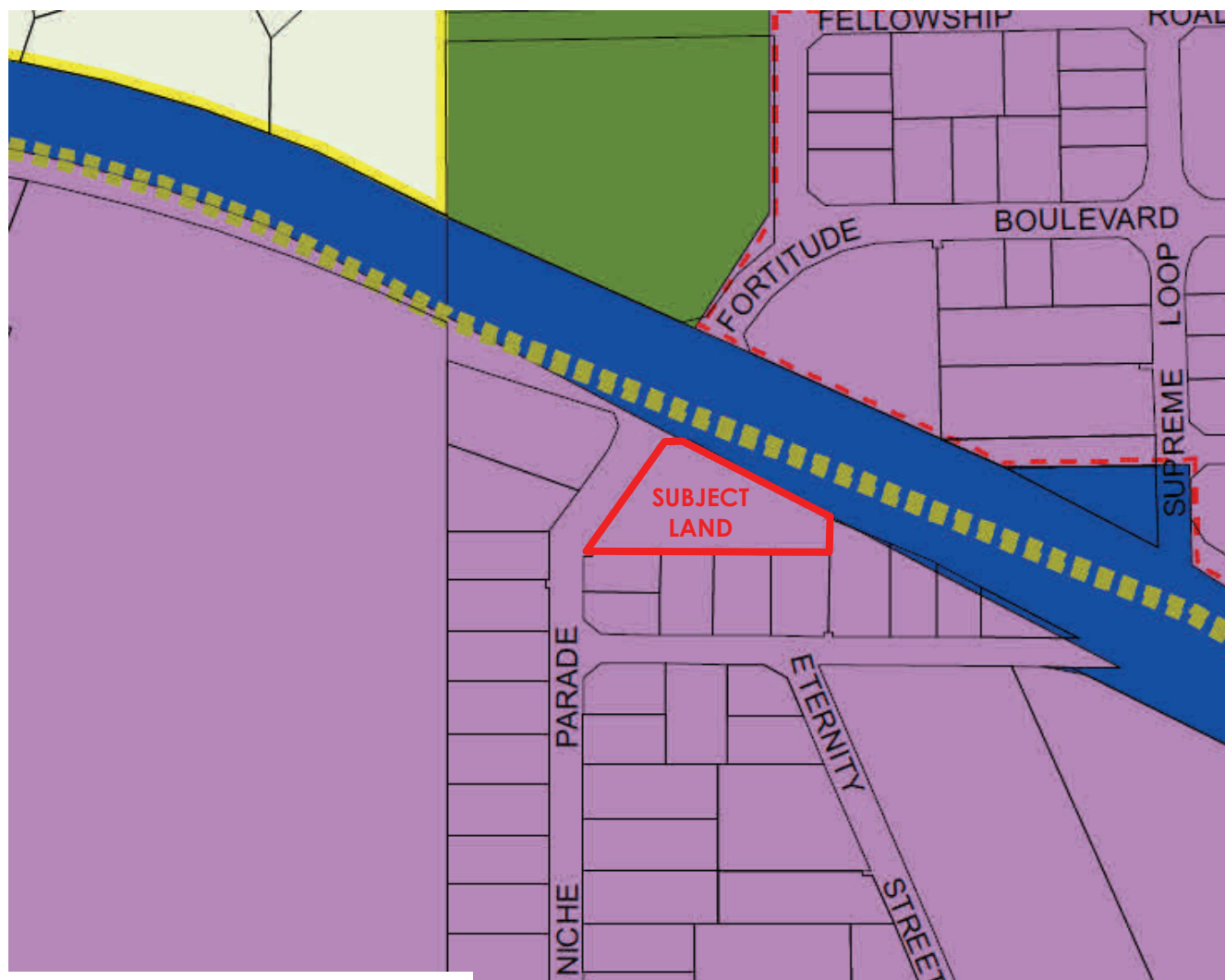
I declare that the information provided is true and correct to the best of my knowledge.

Name of Person Preparing the Fire Management Plan:

Full Name: *B.W. Harris* for FirePlan WA

Date: 2/8/2011

**APPENDIX 10 – FIGURE 8, DPS NO.2 ZONING MAP
EXTRACT**



LOCAL SCHEME ZONES

(see scheme text for additional information)

- Business
- Centre
- Civic and cultural
- Commercial
- General industrial
- General rural
- Industrial development
- Landscape enhancement
- Marina

- Mixed use
- Private clubs/recreation
- Residential
- Rural community
- Rural resource
- Service industrial
- Smart growth community
- Special residential
- Special rural
- Special use
- Urban development

OTHER CATEGORIES

(see scheme text for additional information)

- Scheme boundary
- Local Government boundary
- R20 R Codes
- A1 Additional uses
- R1 Restricted uses
- SRes1 Special residential area
- SR1 Special rural area
- SU1 Special use area
- EC1 Environmental condition area
- Locality boundary
- Rcode subject to agreed structure plan
- RC1 Rural community area
- No zone
- Waterbodies

Base Map Source: Dept. of Planning website

Steve Pandevski
Consulting Town Planner



NORTH

SAMSARA DEVELOPMENTS PTY LTD

FIGURE 8

SCALE N.T.S

DATE: 16 / 10 / 2017

**LOT 311 NICHE PARADE,
WANGARA**

DPS2 ZONING MAP EXTRACT

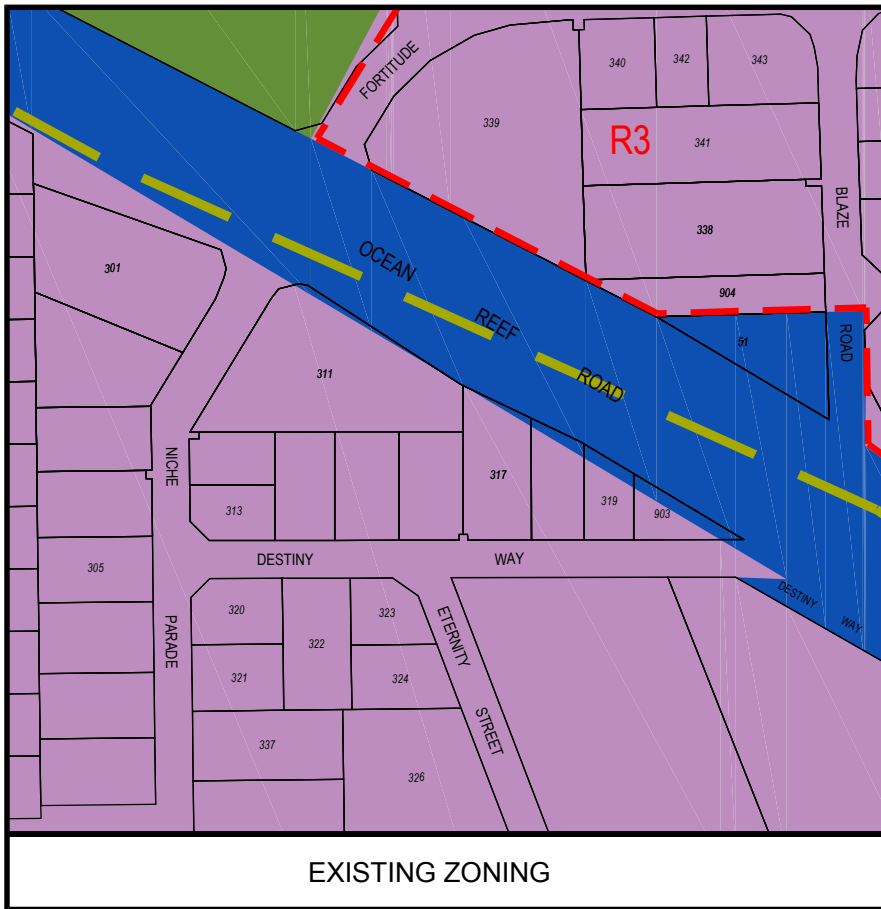
PLANNING AND DEVELOPMENT ACT 2005

CITY OF WANNEROO

DISTRICT PLANNING SCHEME NO. 2 - AMENDMENT NO. 154

The City of Wanneroo under and by virtue of the powers conferred upon it in that behalf by the Planning and Development Act 2005 hereby amends the above local planning scheme by modifying Schedule 2 – Section 1 (Clause 3.20) – Additional Uses by including the following entry and modifying the scheme map.

No.		Street/Locality	Particulars of Land	Additional Use and Conditions (where applicable)
<i>A37</i>	<i>1-37</i>	<i>1 Niche Parade, Wangara</i>	<i>Lot 311</i>	<i>Drive-Through Food Outlet limited to a maximum net lettable area of 300m²</i>



LEGEND

REGION SCHEME RESERVES (MRS)

OTHER REGIONAL ROADS

LOCAL SCHEME RESERVES
(see scheme text for additional information)

GENERAL INDUSTRIAL

RURAL COMMUNITY

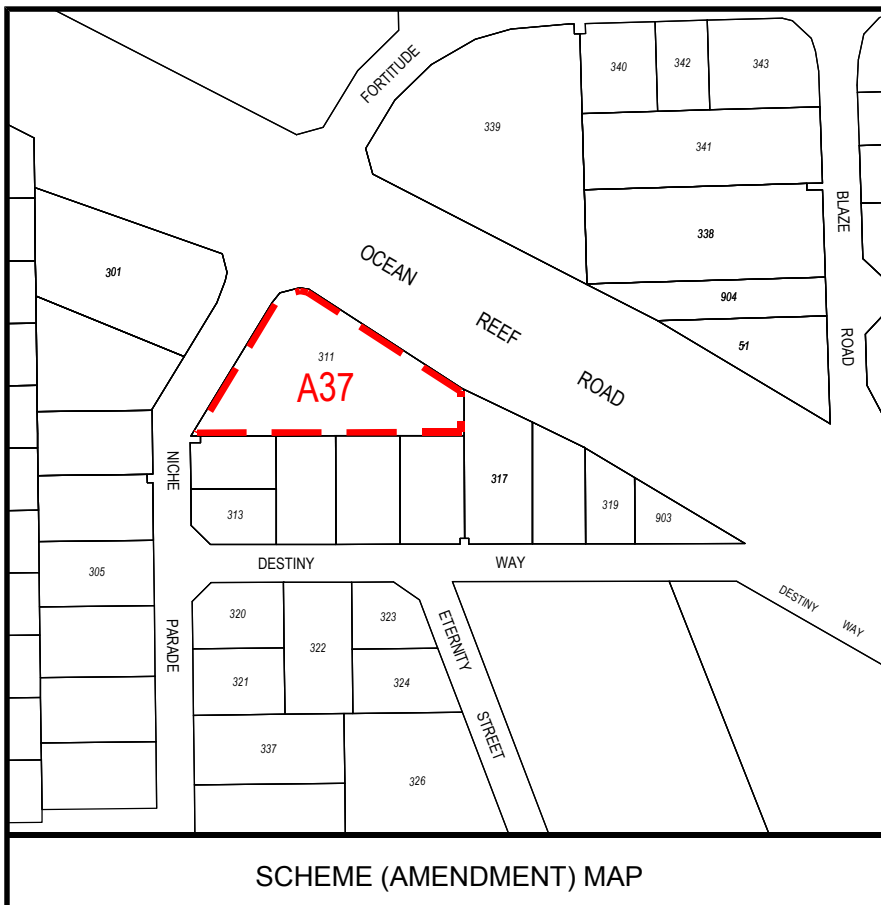
OTHER CATEGORIES

(see scheme text for additional information)

A37 ADDITIONAL USES

R3 RESTRICTED USES

LOCALITY BOUNDARY



COUNCIL ADOPTION

This Complex Amendment was adopted by resolution of the Council of the City of Wanneroo at the Ordinary Meeting of the Council held on the tenth day of October 2017

.....
MAYOR

.....
CHIEF EXECUTIVE OFFICER

COUNCIL RESOLUTION TO ADVERTISE

By resolution of the Council of the City of Wanneroo at the Ordinary Meeting of the Council held on the tenth day of October 2017, proceed to advertise this amendment.

.....
MAYOR

.....
CHIEF EXECUTIVE OFFICER

COUNCIL RECOMMENDATION

This Amendment is recommended for by resolution of the City of Wanneroo at the Ordinary Meeting of the Council held on theday of , 20... and the Common Seal of the City of Wanneroo was hereunto affixed by the authority of a resolution of the Council in the presence of:

.....
MAYOR

.....
CHIEF EXECUTIVE OFFICER

WAPC RECOMMENDATION FOR APPROVAL

.....
DELEGATED UNDER S.16 OF
PD ACT 2005

DATE

Approval Granted

.....
MINISTER FOR PLANNING, LANDS AND
HERITAGE

DATE