



AMENDMENT NO. 7

TO THE

NEERABUP INDUSTRIAL AREA

AGREED STRUCTURE PLAN NO. 17

RECORD OF AMENDMENTS MADE TO

NEERABUP INDUSTRIAL AREA AGREED LOCAL STRUCTURE PLAN NO. 17

Amendment No.	Summary of the Amendment	Date approved by WAPC
2	Makes provisions for some design guidelines applicable to a portion of the Agreed Structure Plan known as Meridian Park and addition of Plan 6 to illustrate the Meridian Park area.	18.08.2008
3	Realignment of 'Road B' and intersection with Pederick Road.	12.10.2011
4	<p>Deleting Plan 2 Neerabup Industrial Area Final Surface Contour Plan (Sept 2004) and replace with the updated Plan 2 Neerabup Industrial Area Final Surface Contour Plan (August 2015) - Drawing No.5920-00-SK128 Rev F.</p> <p>Plan 1 and Figure 8.1 being modified to delineate and annotate the 98ha area within the northern part of the site as "Proposed Conservation Areas Subject to Environmental Review" so as to match the delineation and annotation on the Final Surface Contour Plan. Plan 1 and the Final Surface Contour Plan being modified to delineate and annotate the 47ha area within the south eastern part of the site as "Reserve for Conservation".</p> <p>Deleting Figure 6.1 Neerabup Industrial Area Final Surface Contour Plan (Sept 2004) and replace with the updated Figure 6.1 Neerabup Industrial Area Final Surface Contour Plan (August 2015) - Drawing No.5920-00-SK128 Rev F.</p> <p>Amend Part 1 – Statutory Planning Section to align with the <i>Planning and Development (Local Planning Schemes) Regulations 2015</i>.</p> <p>Part 1 following section 11.0 the following section being added: 12.0 Bushfire and include Appendix 9 – Bushfire Management Plan (Strategen, June 2017)</p>	25.08.2017
5	Make provisions for additional land uses applicable to Lots 1001 and 1021 Greenwich Parade.	20.12.2019
6	<p>Rectify existing mapping anomalies of LSP 17 Map and Figure 8.1 where the 'Service Industrial' and 'General Industrial' designations do not correctly align with the lot cadastral boundaries.</p> <p>Modify the LSP 17 map and Figure 8.1 to replace the 'Service Industrial' designation for portions of Lot 9006 abutting future Pinnacle Drive (south of Avery Street) with the 'General Industrial' designation such that it is consistent with the City of Wanneroo District Planning Scheme No. 2 zoning map.</p> <p>On the LSP 17 Map and Figure 8.1, reinstate the 30 metre wide road reserve for the full length of Warman Street.</p>	9.10.2020
7	Deletion and replacement of the entire structure plan content, undertaken by the City of Wanneroo following a planning framework review for the Neerabup Industrial Area.	TBA

**AMENDMENT NO. 7 TO
NEERABUP INDUSTRIAL AREA AGREED LOCAL STRUCTURE PLAN NO. 17**

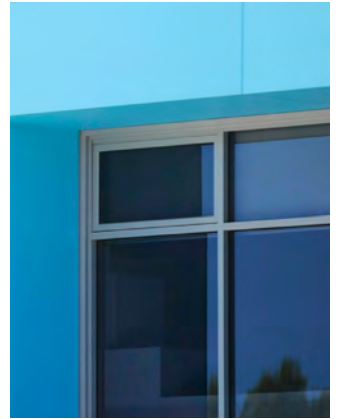
The City of Wanneroo, pursuant to its District Planning Scheme No. 2, hereby recommends to the Western Australian Planning Commission to approve the abovementioned amendment by deleting the content of the entire structure plan (including Part 1, Part 2 and Technical Appendices), and replacing that content with what is provided for in Schedule 1 and Schedule 2.



Schedule 1

New Structure Plan Documentation
Part 1 and Part 2

Neerabup Industrial Area Agreed Local
Structure Plan No. 17



Neerabup Industrial Area

Agreed Local Structure Plan No.17

This structure plan is prepared under the provisions of the
City of Wanneroo District Planning Scheme No. 2

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS
APPROVED BY RESOLUTION OF THE WESTERN
AUSTRALIAN PLANNING COMMISSION ON:

11 January 2005

In accordance with Schedule 2, Part 4, Clause 28 (2) and
refer to Part 1, 2. (b) of the *Planning and Development
(Local Planning Schemes) Provisions 2015*.

Date of Expiry: **<TBA>**

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<TBA>

Signed for and on behalf of the Western Australian Planning Commission:

An officer of the Commission duly authorised by the Commission pursuant to Section 16
of the Planning and Development Act 2005 for that purpose.

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EXECUTIVE SUMMARY

The Neerabup Industrial Area Agreed Local Structure Plan No. 17 (**ASP 17**) affects approximately 1,000 hectares of land within the Neerabup Industrial Area (NIA). The NIA relates to numerous land parcels in the Neerabup locality, which are zoned 'Industrial' under the Metropolitan Region Scheme (**MRS**).

Although industrial development in the NIA commenced in the late 1970's, ASP 17 was only initially approved by the Western Australian Planning Commission (**WAPC**) in January 2005. The City of Wanneroo (the **City**) has since undertaken a planning framework review of the NIA, which resulted in a major amendment to this structure plan (Amendment No. 7).

Most areas affected by structure plans in the City of Wanneroo have an underlying zoning of 'Urban Development' under the City's local planning scheme. However, in the case of land affected by ASP 17, industrial zonings and local scheme reserves have been applied across land in the NIA through Amendment No. 202 to District Planning Scheme No. 2 (**DPS 2**). Amendment No. 202 was prepared through the same planning framework review process as Amendment No. 7 to this structure plan.

Land use permissibility in the NIA, set through the local planning scheme, is responsive to both conventional and innovative industrial development. For the planning framework to be responsive to industrial innovation in particular, a wider array of land uses were made permissible in the NIA through amendments to DPS 2. This is to attract a broader range of industries that were not permitted in the City's industrial areas prior to the planning framework review.

As zoning and land use controls affecting the NIA are found within DPS 2, no such controls are needed in this structure plan. The structure plan functions are therefore limited to coordinating the ongoing development of land in the NIA, as it expands through subdivision.

Ongoing subdivision and development in the NIA will continue generally in a northerly direction away from Flynn Drive. Subdivision will be undertaken by DevelopmentWA and the City of Wanneroo – as key landowners – in the western and central parts of the NIA. ASP 17 also facilitates the further subdivision of other landholdings in the eastern parts of the NIA, which are owned by a small number of major landowners.

The NIA is identified for industrial development in various strategic documents, prepared at the State and local government level. The WAPC's North-West Sub-regional Planning Framework (**NWSRPF**), which forms part of the Perth and Peel @3.5million series of frameworks, acknowledges that the NIA can meet much of the demand for industrial land in the North-West Metropolitan sub-region (**sub-region**) by 2050. The City also has economic development strategies in place that identify the NIA as a focus area having the potential to provide in excess of 20,000 jobs, and contributing toward a greater level of employment self-sufficiency in the sub-region.

This structure plan also recognises the transport planning initiatives highlighted in the NWSRPF. ASP 17 coordinates the structure planning within the NIA in a way that recognises the proposed rail corridor alignment (to traverse through the NIA) as well as the prospect of changing traffic flows as a result of the proposed Whiteman-Yanchep Highway being delivered at a future date.

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To support ASP 17, the following technical reports have been prepared, which are included as technical appendices to this structure plan:

- Economics and Employment Strategy
- Bushfire Management Plan
- Servicing Report
- Local Water Management Strategy
- Traffic and Transport Study
- Car Parking Strategy
- Environmental Report
- Subdivision and Built Form Report

The abovementioned technical reports address the relevant planning considerations, and demonstrate that the NIA is suitable for continued industrial development, as this structure plan sets out to coordinate.

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- Traffic and Transport Study

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Neerabup Industrial Area

Agreed Local Structure Plan

Part 1 - Implementation



1.0 STRUCTURE PLAN AREA

The Neerabup Industrial Area Agreed Local Structure Plan No. 17 (**ASP 17**) applies to various parcels of land contained within the inner edge of the broken line denoting the structure plan boundary, as shown on **Plan 1: Local Structure Plan**.

2.0 STRUCTURE PLAN CONTENT

This Local Structure Plan comprises of:

- Part 1 – Implementation Section
- Part 2 – Explanatory Report
- Technical Appendices

Part 1 of ASP 17 comprises the structure plan map and planning provisions for the subdivision and development of the Neerabup Industrial Area.

Part 2 provides clarity and guidance to the provisions contained in Part 1.

The Technical Appendices have informed the preparation of both Part 1 and Part 2.

3.0 OPERATION

This structure plan was initially approved by the Western Australian Planning Commission (**WAPC**) on 11 January 2005. However, in accordance with Clause 28 of the deemed provisions for local planning schemes contained in Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015 (Deemed Provisions)*, the approval of this structure plan is taken to have commenced on 19 October 2015.

ASP 17 has effect for a period of ten years from the date that Amendment No. 7 was approved by the WAPC (refer to the Table of Amendments).

4.0 RELATIONSHIP WITH THE SCHEME

In accordance with Clause 27 of the Deemed Provisions, a decision-maker for an application for development approval or subdivision approval within this structure plan area is to have due regard to, but is not bound by, this structure plan when deciding the application.

Notwithstanding the above, a decision-maker is however bound to adhere to all provisions contained in a local planning scheme relevant to the land in this structure plan area. Zoning and land use permissibility of land subject to this structure plan is prescribed in the local planning scheme and not in this structure plan.

5.0 STAGING

5.1 Staging of Subdivision and Development on Zoned Land

ASP 17 is not accompanied by a Staging Plan. Timing of subdivision within the ASP 17 area will be primarily influenced by four factors:

- The fragmented land ownership, and the varying intentions of individual landowners;
- The location and quantities of basic raw materials that are capable of being extracted – and the desire of respective landowners to extract that material;
- Proximity to, and availability of, service infrastructure; and
- Market forces, such as industrial land demand and land values.

5.2 Land Subject to Further Structure Planning

Plan 1 identifies ‘areas subject to further structure planning’. These areas require more extensive planning and/or environmental considerations prior to any subdivision or development.

Prior to industrial subdivision and development occurring in areas that are ‘subject to further structure planning’, a landowner/proponent must seek to:

- Amend this structure plan, to:
 - Impose provisions that are sufficient in supporting industrial subdivision and development;
 - Adequately respond to any environmental attributes that may exist on the respective land; and
 - Designate final surface contour levels that will appropriately coordinate with levels of adjoining land; and
- Amend the local planning scheme to rezone land from ‘Industrial Development’.

6.0 SUBDIVISION AND DEVELOPMENT REQUIREMENTS

6.1 Surface Contour Levels

6.1.1 **Plan 2: Final Surface Contour Plan** illustrates the final surface contour levels that should be achieved through subdivision and/or development of land in the structure plan area.

6.1.2 Accompanying any application for basic raw material extraction within the structure plan area, the landowner/proponent must demonstrate how the final contour levels shown on **Plan 2** will be established following completion of works.

6.1.3 At subdivision stage, the City and/or the WAPC may support minor variances to final contour levels to that shown on **Plan 2**, if satisfied that such a variation:

- Complies with the design criteria contained in Section 3.6.5 of Part 2 (the Explanatory Report); and
- Will not adversely affect the ability of adjoining landholdings from conforming to the Final Surface Contour Plan.

6.1.4 Through subdivision or development, land adjoining the proposed rail corridor alignment (where shown on **Plan 2**) is to be contoured to a level that is agreed by the Public Transport Authority and/or other relevant government agencies. Final surface contour levels are to coordinate with any known design levels of the proposed rail corridor.

6.2 Car Parking

Subdivision should be carried out in a manner that encourages car parking within development on lots, on the road carriageways or in on-street parking embayments. Subdivision should be designed to discourage car parking on verges where possible.

6.3 Public Open Space

6.3.1 Public open space (POS) should generally constitute at least 2% of the structure plan area. In this context, the 'structure plan area' is the entire structure plan area as shown in **Plan 1**, but excluding the following:

- Areas that are 'subject to further structure planning';
- Conservation areas; and
- Areas already subdivided for industrial development and have not been designated a sector on **Plan 3**.

6.3.2 Table 1 below outlines the amount of POS to be provided in the structure plan area, within four sectors as shown in **Plan 3**:

Sector	POS Minimum Area
1	6.45 ha
2	2.98 ha
3	1.82 ha
4	1.79 ha

Table 1: Public Open Space Provision in Sectors

6.3.3 This structure plan allows flexibility with where POS is to be located within each sector. However, POS should be designed and located:

- To contribute to improved stormwater quality through water sensitive urban design;
- To provide an opportunity for unstructured recreation during working hours (lunch breaks etc.) and to improve amenity within a built environment;
- Be located where walkable catchment can be maximised and of appropriate size to provide an area protected where possible from the impacts of surrounding industry; and
- To retain natural environmental assets where possible.

6.3.4 Through subdivision, POS should be vested in the Crown and thereafter managed by the local government.

6.4 Pinjar Tip Site Leachate Plume

Land affected by the Pinjar Tip Site Leachate Plume is identified in Part 2 of this structure plan (Section 2.3.2). Conditions may be imposed on relevant development or subdivision approval to ensure that prospective purchasers of land or development are appropriately informed of the potential impacts of this plume.

6.5 Bushfire Hazard

A decision maker may impose conditions of subdivision or development approval to address a bushfire risk, or require notification to be placed on the Certificate of Title for lots within a bushfire prone area, in accordance with an approved Bushfire Management Plan and/or State Planning Policy 3.7: Planning in Bushfire Prone Areas (and associated Guidelines).

6.6 Interface with Adjoining Land

6.6.1 The local planning scheme facilitates service or lighter industrial land uses on the southern portion of the structure plan area. This ensures that an interface is maintained between heavier industries located further to the north in the structure plan area and sensitive land uses (residential and rural-residential development) located south of Flynn Drive.

6.6.2 An interface provided through subdivision should secure an adequate separation between the natural environment and industrial built form, particularly between:

- Industrial lots and the Mather Reserve conservation area located at Lot 8001 Flynn Drive;
- Industrial lots and the MRS Parks and Recreation reservation located at Lot 502 Flynn Drive; and
- Industrial lots and 'areas subject to further structure planning' which are retaining the natural environment.

6.6.3 Roads designed and constructed through subdivision should connect seamlessly with existing or proposed roads on adjoining land.

6.7 New Infrastructure

As industrial subdivision in the structure plan area progresses, the following major infrastructure will be required:

- Four wastewater pumping stations, generally located where shown on **Plan 1**;
- Interim wastewater infrastructure as required, pending the accessibility, availability and construction of permanent wastewater pump stations;
- Reticulated water servicing for lots with a final surface contour of above 65m AHD will require the prior construction of a pressure booster station in the vicinity of the Flynn Drive/Mather Drive intersection (or any other alternative location as agreed by the Water Corporation). In the longer term, high level water tanks on Lot 10 Wattle Avenue, Nowergup may also be required to service levels above 65m AHD in the structure plan area;
- A minimum of one new Western Power zone sub-station; and
- Telecommunications infrastructure in locations that would provide optimal cellular network coverage to support industries and other wireless infrastructure in the NIA. Locations for telecommunications infrastructure will be considered through the development application process.

7.0 LOCAL DEVELOPMENT PLANS

Local Development Plans are to be prepared and implemented by the local government pursuant to Clause 47 of the Deemed Provisions, prior to the development of lots:

- Within the Service Hubs where located on **Plan 1**;
- Sharing boundaries with public open space, recreation or conservation reserves;
- Abutting the proposed rail corridor; and
- Accessed by Controlled Access Places (**CAPS**) roads.

8.0 OTHER REQUIREMENTS

8.1 Road Widening Requirements

8.1.1 **Plan 1** depicts the need for widening of the following existing road reserves:

- Pederick Road – from Mather Drive to the eastern boundary of the structure plan area;

- Orchid Road – from Pederick Road to the northern boundary of the structure plan area; and
- Mather Drive – north of Pederick Road.

8.1.2 At the subdivision stage, landowners/proponents will be required to design and undertake road widening where indicated in Section 8.1.1 above, to the satisfaction of the City, the WAPC and/or other relevant agencies sufficient to support:

- Road infrastructure sufficient to accommodate ultimate traffic volumes;
- The vehicle types projected to use the respective road, including the accommodation of heavy vehicles rated RAV 4 or RAV 7 (refer Section 8.4 below);
- Intersection controls and treatments;
- Verge treatments – such as footpaths, street lighting and drainage; and
- All existing and required service utility infrastructure, including (but not limited to) high voltage power lines and poles.

8.1.3 Road widening design should be:

- Informed by the guidance provided in Part 2 of this structure plan;
- Informed by the content of the Traffic and Transport Study provided in the Technical Appendices, particularly the cross-sectional detail contained within that Study; and
- To the satisfaction of the City, other relevant government agencies and utility providers.

8.2 Restriction of Access from Major Roads

8.2.1 Where possible, subdivision should be designed in a manner that avoids direct vehicular access onto industrial lots from the major roads identified on **Plan 1** (including Flynn Drive).

8.2.2 Notwithstanding Section 8.2.1 above, subdivision design may provide CAPS roads or alternative means that would provide indirect vehicular access onto industrial lots from major roads.

8.2.3 The WAPC may impose conditions of subdivision approval requiring a covenant be placed on relevant lots pursuant to Section 150 of the *Planning and Development Act 2005* and Part 3, Division 3 of the *Planning and Development Regulations 2009* (or other legal mechanism), in order to prevent access from major roads directly onto industrial lots.

8.3 Restricted Access Vehicle Movements

8.3.1 Pederick Road is required to be upgraded, designed and constructed to accommodate vehicles rated as RAV 7 by Main Roads Western Australia.

8.3.2 All other roads within the structure plan area (including minor roads) are required to be designed and constructed to accommodate heavy vehicles rated as RAV 4.

8.4 Robotics Precinct

Plan 1 shows the current location of the Australian Automation and Robotics Precinct (**AARP**), as it is located within the structure plan area. The AARP provides areas for testing, research and development; as well as training in autonomous, remote operations, robotics systems and equipment. The AARP could potentially expand eastward in the future, into the area also shown in **Plan 1**.

This structure plan acknowledges that the AARP is not an ultimate use of the land that it occupies. Should the AARP cease to operate, this structure plan coordinates further contouring and industrial subdivision of the subject land.

8.5 Service Hubs

Plan 1 identifies the location of two Service Hubs, located on:

- Portions of Lot 1001 and Lot 1021 Greenwich Parade, Neerabup; and
- Portions of Lot 5 and 900 Flynn Drive, Neerabup.

The provision of two 'service hubs' in the structure plan area is to provide ease of access to basic services for business owners, employees and visitors of the NIA.

Land uses permissible in the Service Hubs include restaurants/take away food outlets, offices, medical and convenience-type stores. These land uses are permissible through the local planning scheme, subject to conditions limiting activities so that they do not compromise or compete with activity centres located outside the structure plan area.

8.6 Development Contributions

8.6.1 Landowners within the structure plan area will be responsible for providing contributions toward shared infrastructure costs. Infrastructure items that will be subject to shared costs will be determined through the formulation of a development contribution plan (**DCP**), prepared through a scheme amendment process.

8.6.2 Interim measures may be applied by the City and/or the WAPC through conditions of subdivision approval to facilitate collection of contributions pending the formulation of a DCP.

9.0 ADDITIONAL INFORMATION

9.1 **Table 2** below outlines information required to be prepared at the subdivision stage:

Additional Information	Conditions (if applicable)	Approval Stage	Consideration Required
Bushfire Management Plan	Where land is identified as 'bushfire prone' by the Fire and Emergency Services Commissioner under the <i>Fire and Emergency Services Act 1998</i>	Subdivision application	City of Wanneroo and DFES
Preliminary Site Investigation	Where land may be potentially impacted by prior contaminating activities	Subdivision application	City of Wanneroo
Traffic Impact Assessment	Where a traffic analysis associated with subdivision proposals is required. To be in accordance with WAPC guidelines	Subdivision application	City of Wanneroo
Urban Water Management Plan		Condition of subdivision	City of Wanneroo
Geotechnical Report	To ensure that the ground is suitable and stable for further development – in consideration of karst, land restoration following extraction and/or possible underground contaminants from prior land use	Condition of subdivision	City of Wanneroo
Karstic Features Management Plan	In areas identified as having a medium or high karst risk by the City of Wanneroo	Condition of subdivision	City of Wanneroo
Native Fauna Management Plan	For subdivisions that result in a loss of fauna habitat	Condition of subdivision	City of Wanneroo
Flora and Vegetation Surveys	For subdivisions that result in a loss of natural vegetation	Condition of subdivision	City of Wanneroo
Dieback Management Plan	For subdivisions that propose removal of natural vegetation or affects land adjoining where vegetation will be retained	Condition of subdivision	City of Wanneroo

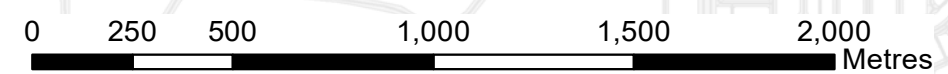
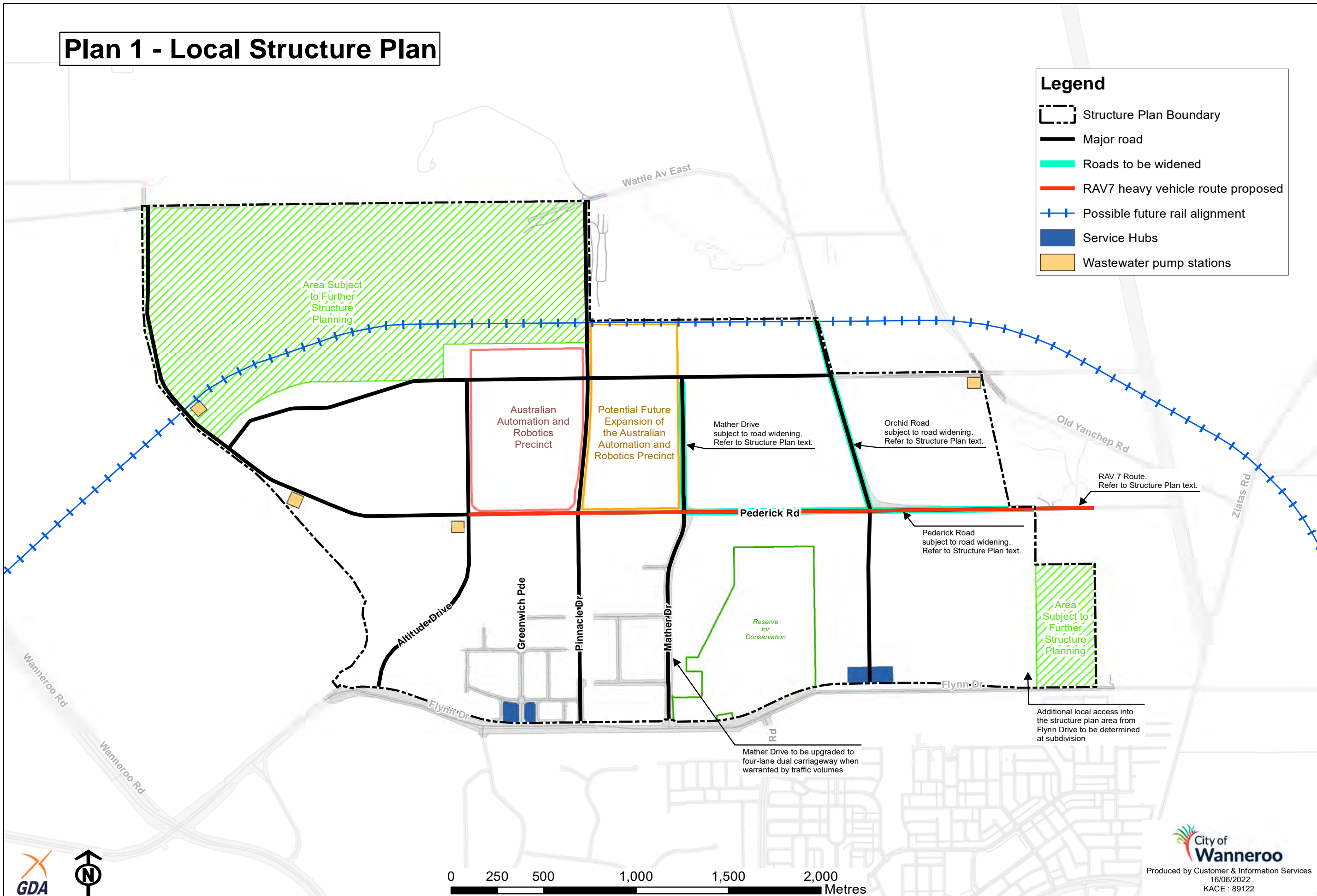
Table 2: Additional Information Required at Subdivision Stage

9.2 Any of the technical information listed above may be required to be submitted with a development application, where such information has not been submitted to the City through a prior subdivision proposal.

Plan 1 - Local Structure Plan

Legend









- Structure Plan Boundary
- Major road
- Roads to be widened
- RAV7 heavy vehicle route proposed
- Possible future rail alignment
- Service Hubs
- Wastewater pump stations

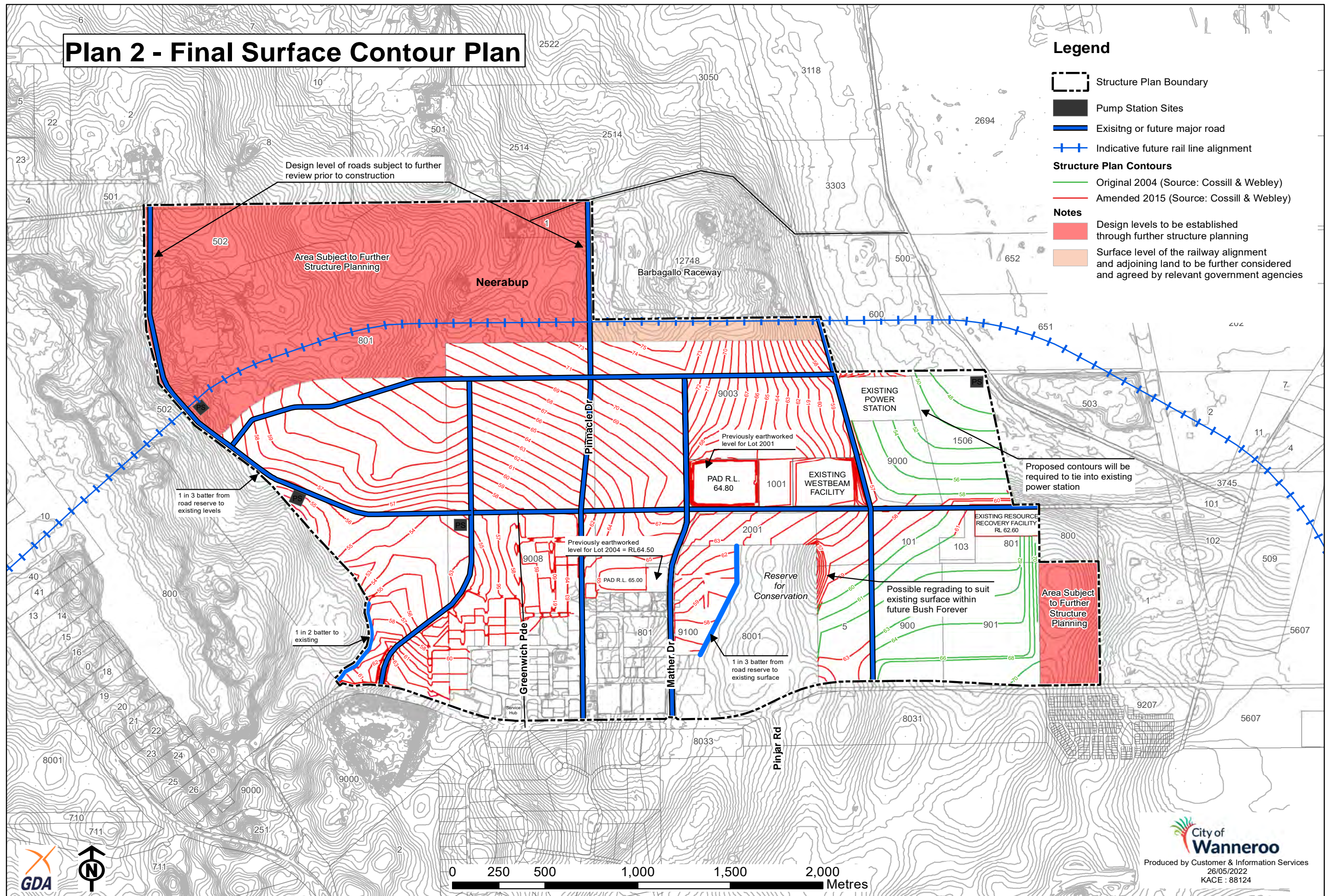


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Plan 2 - Final Surface Contour Plan







Legend

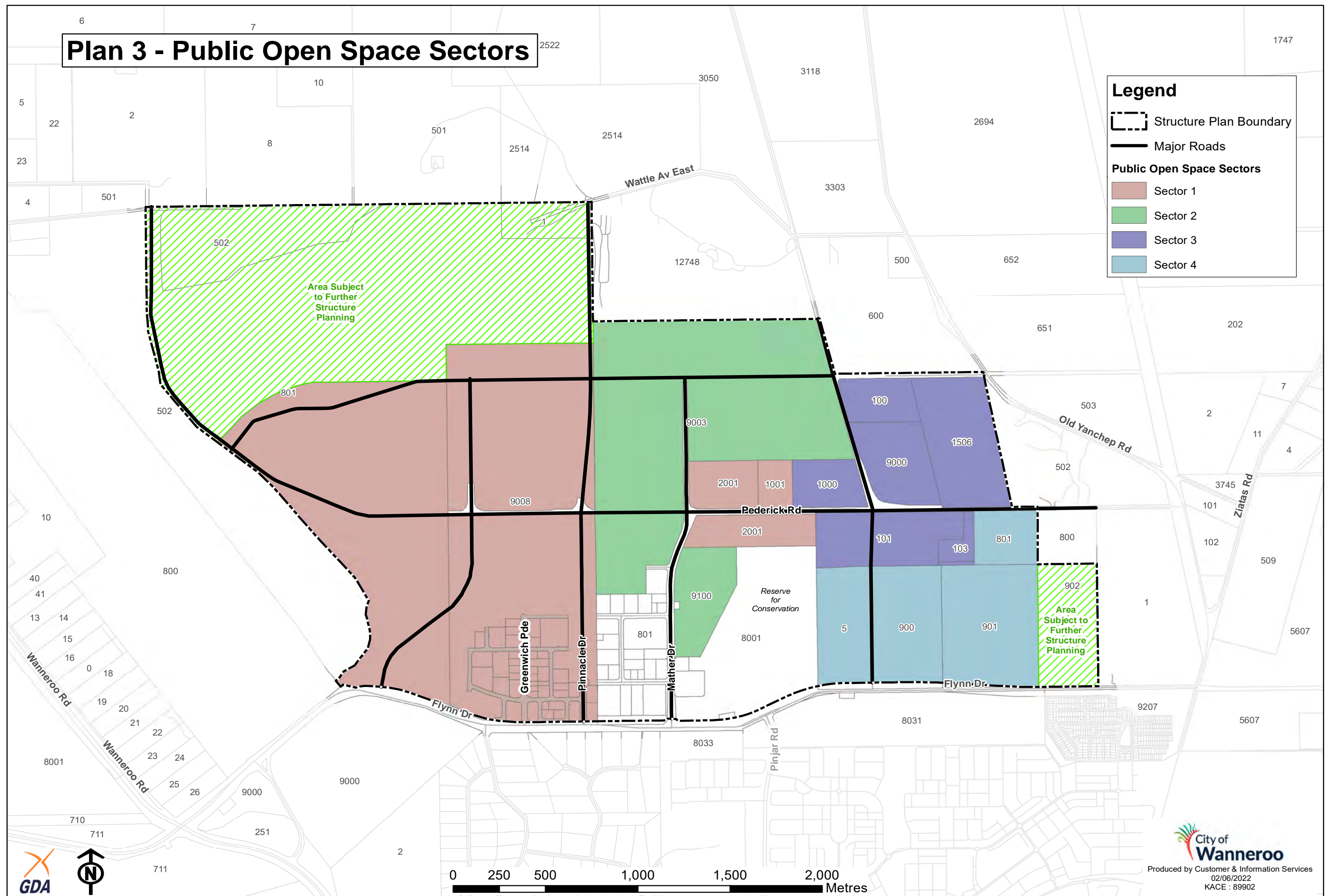
-  Structure Plan Boundary
-  Pump Station Sites
-  Existing or future major road
-  Indicative future rail line alignment
- Structure Plan Contours**
-  Original 2004 (Source: Cossill & Webley)
-  Amended 2015 (Source: Cossill & Webley)
- Notes**
-  Design levels to be established through further structure planning
-  Surface level of the railway alignment and adjoining land to be further considered and agreed by relevant government agencies



Plan 3 - Public Open Space Sectors

Legend

-  Structure Plan Boundary
-  Major Roads
- Public Open Space Sectors**
-  Sector 1
-  Sector 2
-  Sector 3
-  Sector 4



Neerabup Industrial Area

Agreed Local Structure Plan

Part 2 - Explanatory Report



1.0 PLANNING BACKGROUND

1.1 Introduction and Purpose

The Neerabup Industrial Area (**NIA**) is the largest single industrial area in the north-west sub-region of the Perth Metropolitan Region (**sub-region**). The emergence of the NIA provides a rare opportunity to attract investment for industrial companies looking to secure and build their portfolio in the sub-region in the medium to long term.

The City of Wanneroo (**City**) also contains the majority of industrial land in the sub-region. As recognised in the City's economic development strategy documents, industrial land is critically important for the sub-region to provide substantial and diverse local employment opportunities. With the Wangara Industrial Area now almost completely 'built out', the NIA is emerging as an area that can meet the demand for industrial land in the sub-region into the short to medium term.

This structure plan, being the City of Wanneroo's Neerabup Industrial Area Agreed Local Structure Plan No. 17 (**ASP 17**) was initially approved by the Western Australian Planning Commission (**WAPC**) on 11 January 2005.

The City has taken the view that ASP 17, as it was initially approved, was becoming outdated and in need of review. For a four-year period from 2018 to 2022, the City undertook a major planning framework review of the planning framework affecting the NIA, including ASP 17. This Report is a product of that review, and is a revision of an original Part 2 structure plan document that supported the initially approved structure plan. This Report provides up-to-date explanatory information to support ASP 17, by providing a synthesis of the following:

- The relevant content of the original Part 2 Report;
- An updated understanding of the factors that will influence future subdivision and development of land in the NIA;
- Findings and recommendations from recent technical studies obtained by the City (refer to the Technical Appendices of this structure plan); and
- Current aspirations of the City and major landowners.

The City has also captured advice expressed by Department of Planning, Lands and Heritage (**DPLH**) officers, on their aspirations for the NIA from a sub-regional perspective.

The preparation of the revisions to this structure plan has been managed and worked on by officers of the City. The City did, however, obtain technical inputs from GHD Pty Ltd (**GHD**) and Bushfire Prone Planning, for the various reports provided in the Technical Appendices.

1.2 Land Description

1.2.1 Location

This structure plan affects the NIA, which is situated approximately 30 kilometres north of the Perth Central Business District – and approximately seven kilometres north of Joondalup City Centre.

A map showing the location of the NIA is provided as **Figure 1**.

The NIA lies wholly within the City of Wanneroo, and within the Neerabup locality. The NIA is situated east of Wanneroo Road and the Mitchell Freeway, with road access being provided from the west via Flynn Drive, from the south via Pinjar Road and from the east via Old Yanchep Road.

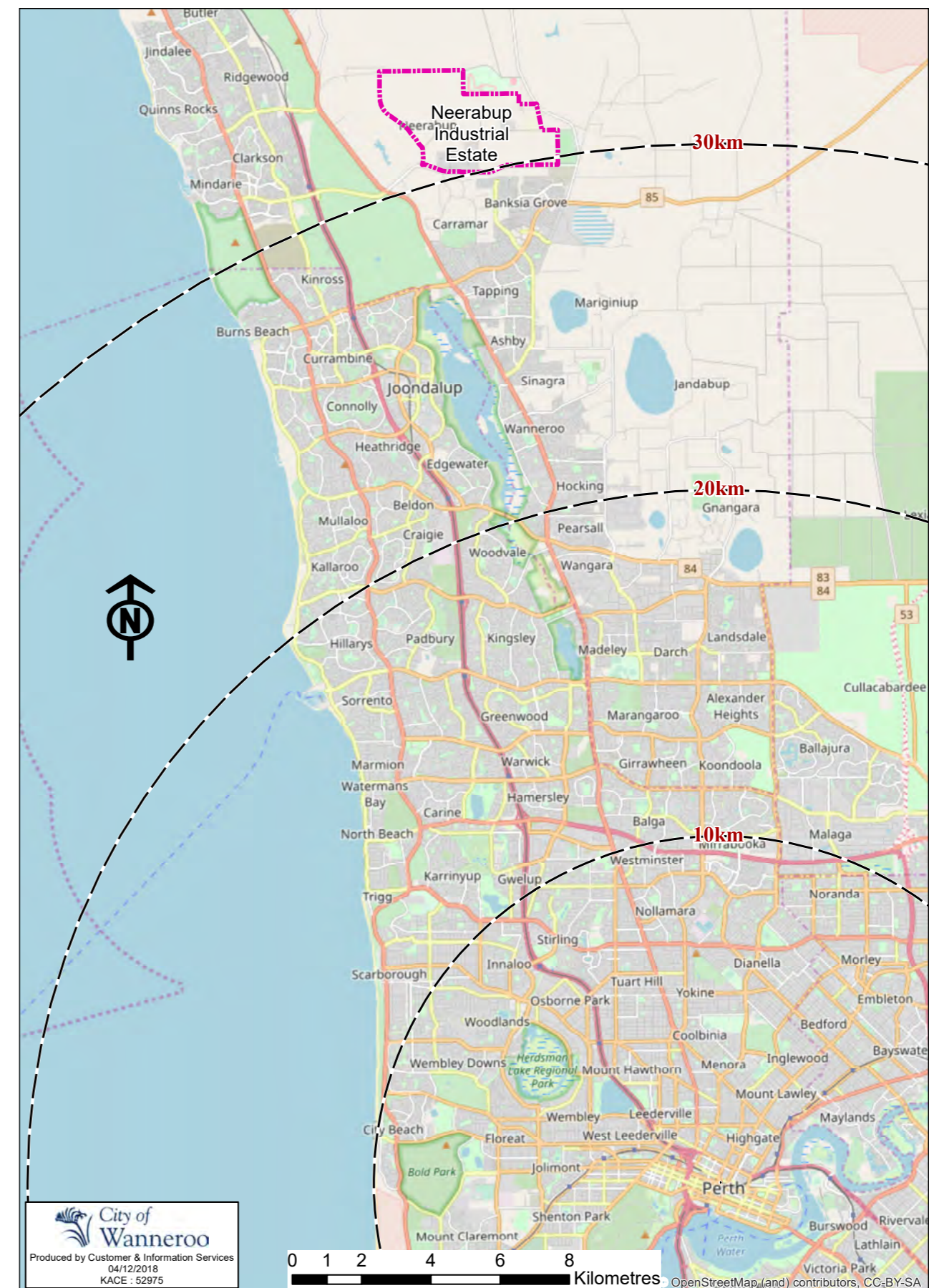


Figure 1: Location of the Neerabup Industrial Area

(Source: City of Wanneroo)

1.2.2 Area and Land Use

The NIA is situated in vicinity of existing and future residential and rural-residential development to the south; as well as rural, recreational uses and bushland to the west, north and east.

The structure plan covers an area of approximately 1,000 hectares. Much of the structure plan area contains a sand and limestone resource, which has been extracted as a basic raw material since the 1970's. It is anticipated that resource extraction will still occur in the structure plan area for many years to come.

The eastern part of the structure plan area has been used for intensive agriculture since the early 1980's, with much of this land still being used for this purpose.

Industrial development first occurred in the NIA in a 25-hectare area to the west of Mather Drive; commencing in the late 1970's and occurred slowly over a 40 year period. In 2007, LandCorp (now DevelopmentWA) commenced its own subdivision of its Meridian Park Industrial Estate, which continues to progress generally in a northerly direction away from Flynn Drive.

Further north of the existing Meridian Park Industrial Estate development front, development of the Australian Automation and Robotics Precinct (AARP) got underway in 2021. The AARP provides areas for testing, research and development; as well as training in autonomous, remote operations, robotics systems and equipment. The AARP is expected to be a medium-term use that occurs in the NIA, before the land being developed for industrial use in the future.

A plan showing existing land uses and the progression of industrial development in the NIA is included in **Figure 2**.

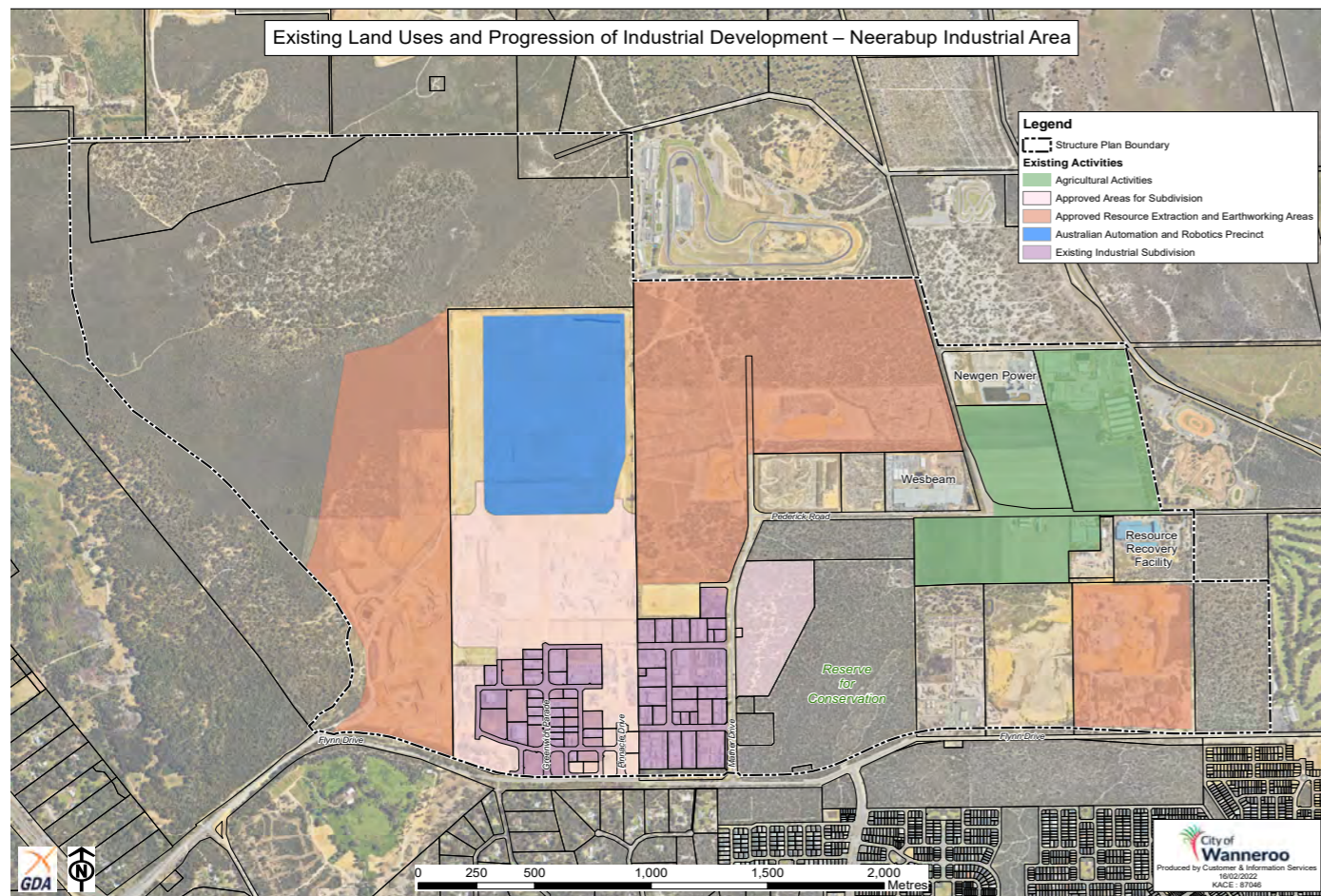


Figure 2: Land Uses and Progression of Industrial Development in the NIA
(Source: City of Wanneroo)

1.2.3 Land Description and Ownership

The ownership of land in the Neerabup Industrial Area is fragmented, as shown on the plan contained in **Figure 3** below.

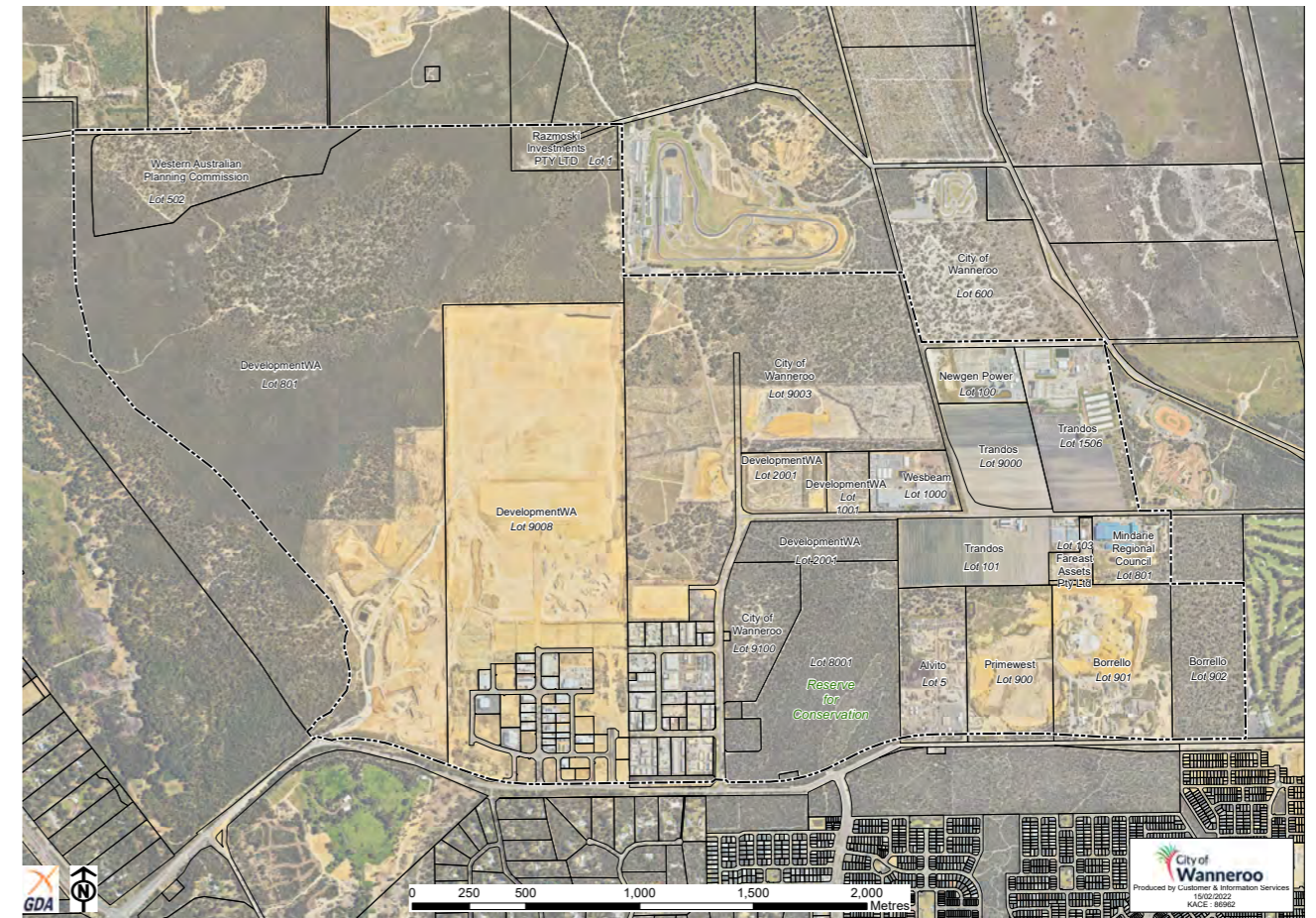


Figure 3: Land Uses and Progression of Industrial Development in the NIA
(Source: City of Wanneroo)

Land in the NIA is also broken down by land ownership and area as outlined in **Table 1** below:

Landowner	Land Area
DevelopmentWA	455.5 ha
City of Wanneroo (Freehold)	149.1 ha
Alvito Pty Ltd	19.3 ha
Primewest (Neerabup) Pty Ltd	24.7 ha
Borrello Family	57.2 ha
Mindarie Regional Council	10.4 ha
Trandos Family	67.5 ha
Fareast Assets Pty Ltd & Minalbi Pty Ltd	3.65 ha
Wesbeam Pty Ltd	10.0 ha
NewGen Power Pty Ltd	9.66 ha
Razmoski Investments Pty Ltd	8.81 ha
Western Australian Planning Commission	34.1 ha
Crown Land Conservation Reserve (Lot 8001)	50.0 ha
Other Crown/Freehold Lands owned and/or managed by government agencies	4.65 ha
Land Already Subdivided for Industrial	46.8 ha (approx.)

Table 1: Land Ownership Detail of the NIA

1.3 Planning Framework

The *Planning and Development Act 2005 (Act)* provides for an efficient and effective land use planning system in Western Australia. The Act also gives force and effect to region and local planning schemes, which provide land use planning for their respective areas.

For the NIA, the Metropolitan Region Scheme (**MRS**) is the relevant region planning scheme.

At the time this report was prepared, the City's District Planning Scheme No. 2 (**DPS 2**) was operating as the local planning scheme. The City has intentions to prepare a new Local Planning Scheme No. 3, which could be in place later in the period that this structure plan is effective. Therefore, a generic reference to the 'local planning scheme' is used in this document where applicable.

The deemed provisions for local planning schemes (**Deemed Provisions**) in Schedule 2 of *Planning and Development (Local Planning Schemes) Regulations 2015 (Regulations)* set out how structure plans are to be prepared, advertised, approved and operated. The 'Structure Plan Framework' (WAPC, 2015) provides further guidance on the scope, format and content of structure plans. This structure plan has been updated to ensure consistency with legislative requirements and guidance provided in the Structure Plan Framework.

This local structure plan is not subject to an over-arching structure plan at a district or regional level.

Further detail on the planning framework as it affects the NIA and ASP 17 is provided below, and in the Appendices of this Report where stated.

1.3.1 Zoning and Reservations

1.3.1.1 Metropolitan Region Scheme Zoning of the NIA

The MRS sets out an 'Industrial' zoning for the vast majority of the structure plan area (refer **Figure 4**). A small portion of land in the south-western corner of the structure plan area is currently reserved for the purpose of Parks and Recreation under the MRS. At the time this Report was being prepared, this land was subject to an MRS amendment (1379/57) to also have this land zoned 'Industrial'.

This structure plan and the current DPS 2 zonings applicable over the NIA (refer Section 1.3.1.2 below) are consistent with the MRS 'Industrial' zoning.

1.3.1.2 DPS 2 Zoning and Land Use Permissibility – Within the Structure Plan Area

At the time this Report was being prepared, land in the NIA was zoned under DPS 2 as shown in **Figure 5**. Zoning in the NIA was largely Industrial Development; with an exception being the General Industrial zone applying over a 174 area located centrally within the NIA.

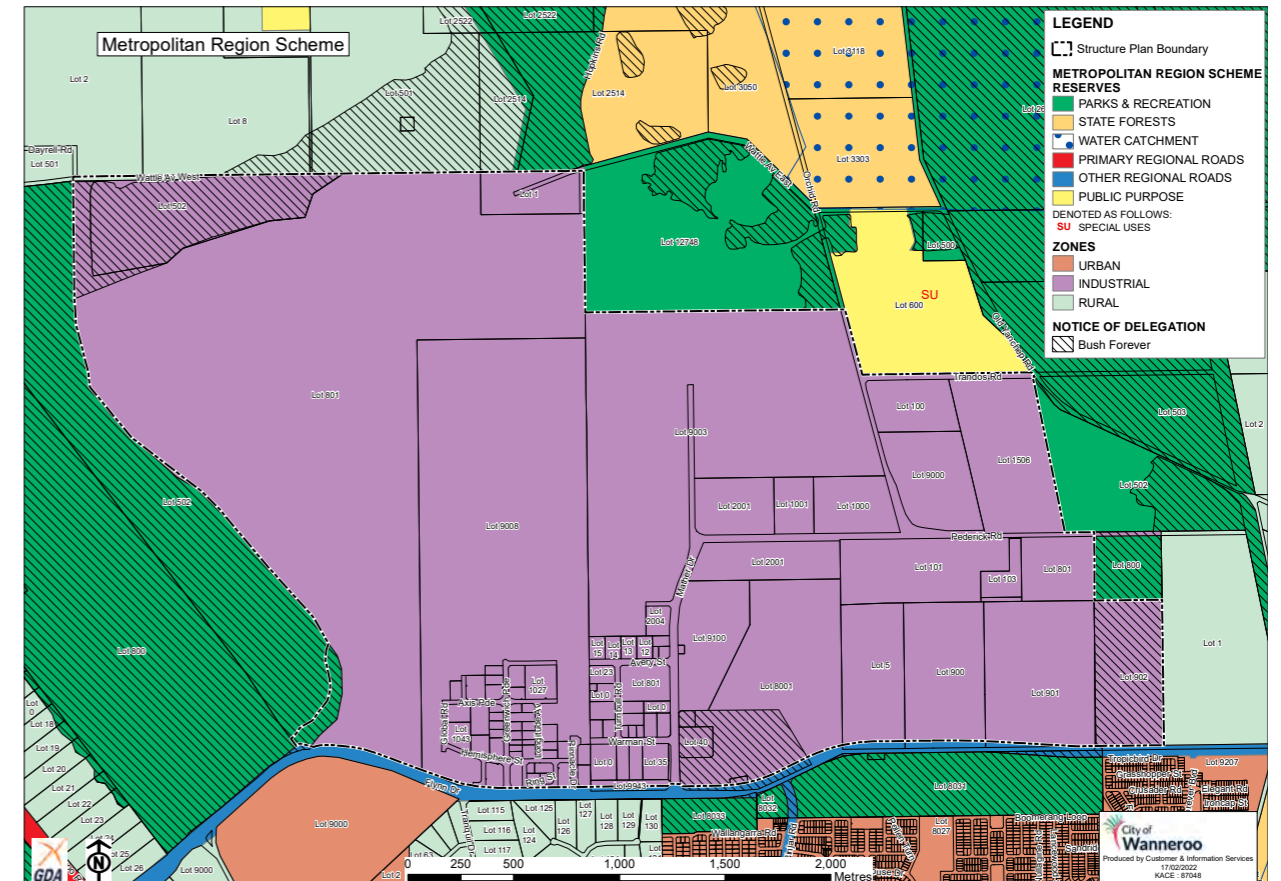


Figure 4: MRS Extract of NIA and Surrounds
(Source: City of Wanneroo using MRS data from the WAPC)

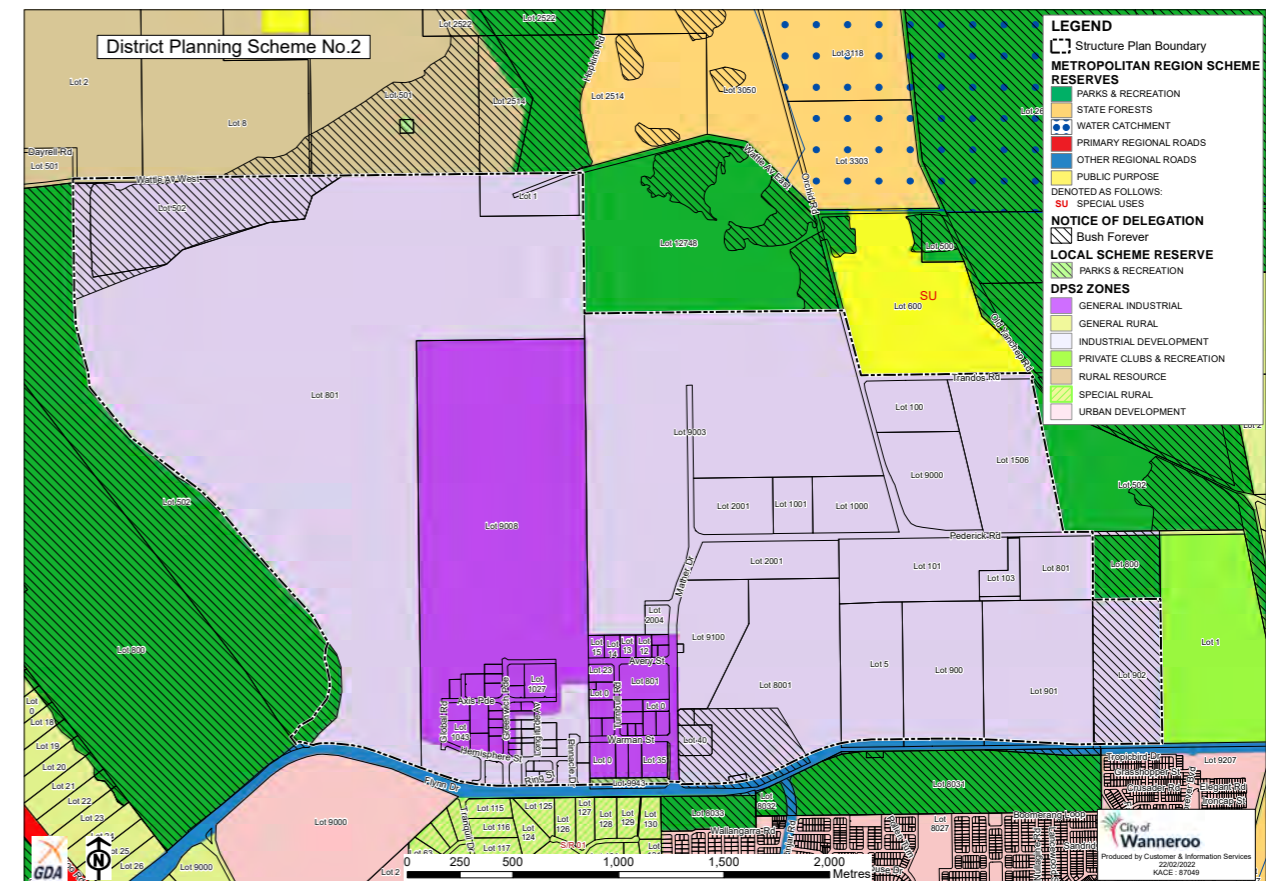


Figure 5: DPS 2 Extract of NIA and Surrounds
(Source: City of Wanneroo)

The City had prepared Amendment No. 202 to DPS 2, which proposed to zone the majority of land capable of industrial development in the NIA General Industrial and Service Industrial. Amendment No. 202 to DPS 2 also proposed to classify of a 50-hectare conservation area at Lot 8001 as 'Local Schemes Reserve – Conservation'. Amendment No. 202 to DPS 2 was prepared at the same time as this Report, and also prepared as a result of the City's planning framework review for the NIA undertaken by the City. The Scheme Map changes proposed through Amendment No. 202 are shown in **Figure 6**.

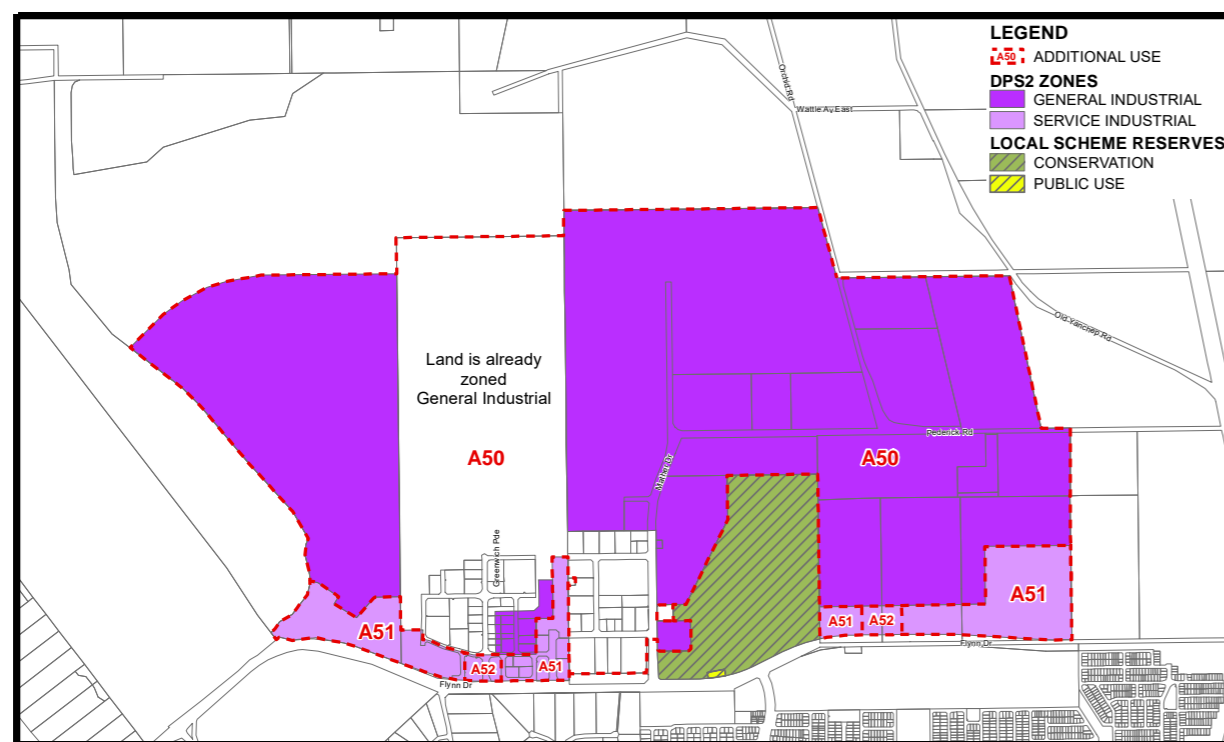


Figure 6: Zoning of NIA Proposed through Amendment No. 202 (as advertised)

(Source: City of Wanneroo)

At the time Amendment No. 202 to DPS 2 was being prepared, the City had advanced a separate DPS 2 amendment (Amendment No. 172) through the advertising process. The purpose of Amendment No. 172 was to align DPS 2 to the Model Provisions for local planning schemes contained with the Regulations (**Model Provisions**) as much as possible. The Model Provisions also have alternative industrial zones of 'General Industry' and 'Light Industry', which will be applied to land in the NIA following the approvals of Amendment No. 172 and Amendment No. 202 to DPS 2.

Both Amendment No. 172 and Amendment No. 202 to DPS 2 broaden the range of land use permissibility in the industrial zones which will take effect on approval of both those amendments.

1.3.1.3 Structure Plan Relationship with Deemed Provisions

The preparation of Amendment No. 202 to DPS 2, separate to this structure plan, was undertaken under guidance from senior officers at DPLH. The zones assigned for the NIA through Amendment No. 202 do not specifically require a structure plan to guide further subdivision and development. However, pursuant to Clause 15(c) of the Deemed Provisions, a structure plan is considered required in this instance for the purposes of orderly and proper planning.

1.3.1.4 DPS 2 and MRS Zoning – Adjacent to the Structure Plan Area

The MRS and DPS 2 maps in **Figure 4** and **Figure 5** also indicate the current zoning and reservations of land adjacent to the NIA (as at the time this report was prepared), which could be summarised as follows:

- Lake Neerabup located to the west of the NIA is reserved for the purpose of Parks and Recreation under the MRS.
- Land to the northwest of the NIA is zoned Rural under the MRS and Rural Resource under DPS 2. Some of which is designated 'Bush Forever'.
- Land due north of the NIA is reserved for Parks and Recreation under the MRS (including the Barbagallo Raceway).
- To the northeast of the NIA is Lot 600 Wattle Avenue, which is reserved under the MRS for 'Public Purposes (Special Use)'. The 'special use' prescription to the MRS reservation is to support power generation.
- To the east of the NIA is:
 - o A motocross facility site, which is reserved for Parks and Recreation under the MRS; and
 - o The Wanneroo Golf Club site which is zoned Rural under the MRS and Private Clubs/Recreation under DPS 2.
- The southern extent of the NIA adjoins Flynn Drive, which is reserved for the purpose of 'Other Regional Road' under the MRS. To the south of Flynn Drive, zoning of land is described as follows:
 - o To the south-west and south-east of the NIA, land zoned Urban under the MRS and Urban Development under DPS 2;
 - o Due south of the NIA, land is zoned Rural under the MRS and zoned Special Rural under DPS 2, adjoining an area reserved for the purpose of Parks and Recreation under the MRS.

1.3.2 Planning Strategies and Other Strategic Documents

1.3.2.1 North-West Sub-Regional Planning Framework (WAPC, 2018)

The DPLH, on behalf of the WAPC, has prepared the Perth and Peel @3.5million series of sub-regional frameworks, which puts land use and infrastructure frameworks in place with an aim of accommodating 3.5 million people in the Perth and Peel Regions by 2050. For this structure plan, the relevant document in this series is the North-West Sub-regional Planning Framework (**NWSRPF**), which aims to establish a long-term and integrated planning framework for land use and infrastructure to guide future growth across the sub-region.

The key principles of the WAPC's 'Directions 2031 and Beyond' (2010) formed the basis for the development of the Perth and Peel@3.5million frameworks.

The NWSRPF recognises the role of Activity Centres and Industrial Centres across the sub-region. In respect to Activity Centres, the NWSRPF identifies existing and emerging Secondary Activity Centres at Wanneroo, Clarkson, Alkimos and Two Rocks North as well as the existing Strategic Metropolitan Centre at Joondalup and emerging Strategic Metropolitan Centre at Yanchep.

Similarly, the NWSRPF acknowledges the emergence of Neerabup as an industrial area, as well as the limited amount of vacant industrial land remaining in Wangara and Landsdale. The NWSRPF also identifies the prospect for new industrial areas being developed in Nowergup, Jandabup and Pinjar – however, the establishment of industrial areas at these locations still require extensive investigation.

A plan from the NWSRPF showing the location of Activity Centres and Industrial Areas (existing, proposed or subject to investigation) is included as **Figure 7**.

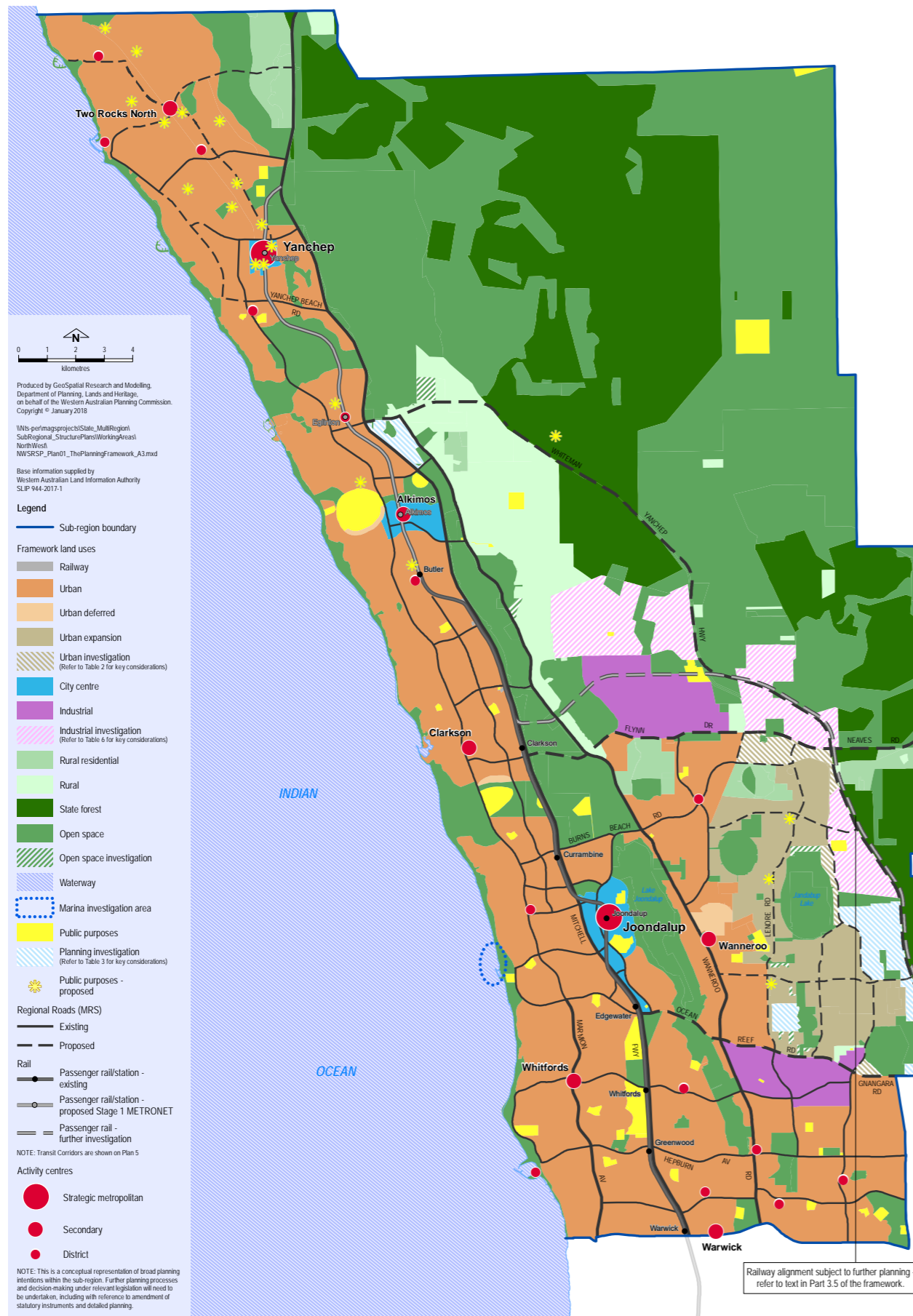


Figure 7: North-West Sub-Regional Planning Framework Map showing Activity Centres and Industrial Areas
(Source: DPLH)

1.3.2.2 City of Wanneroo Economic Development Strategies

The formulation of the current version of this structure plan was informed by the City's Economic Development Strategy and Action Plan 2016-2021 (**Economic Strategy**).

This Economic Strategy included the identification of the NIA as a focus area having the potential to provide 20,000 jobs. The Economic Strategy also focussed on the development of advanced manufacturing and engineering, clean technologies and agribusiness within the City. Through Amendment No. 172 and Amendment No. 202, DPS 2 will set out zoning and land use permissibility in the NIA that will support development associated with all these focus areas.

The 'Neerabup Industrial Area Economic and Employment Strategy Report' (GHD, 2020), prepared to support this structure plan (and included as a Technical Appendix), confirms that 20,000 jobs in the NIA is achievable – and outlines how the NIA could reach an ultimate job number total of 28,692 by 2064 based on a moderate growth trajectory.

A new Economic Development Strategy 2022-2032 is expected to be endorsed by Council in mid-2022. The new Strategy will continue to highlight the importance of the NIA in providing economic development opportunities for the City.

1.3.2.3 Future City of Wanneroo Local Planning Strategy

At the time that this Report was being prepared, the City was also preparing its Local Planning Strategy. It is intended that the Local Planning Strategy would provide the strategic information needed to formulate a new local planning scheme, which will eventually replace DPS 2. The Local Planning Strategy will set out the City's objectives for land in the scheme area; as well as addressing the social, environmental, resource management and economic factors that affect, and in turn are affected by, land use and development.

1.3.3 Planning Policies

1.3.3.1 State Planning Policies

A number of State Planning Policies and Development Control Policies have particular relevance to this structure plan, as well as subsequent subdivision and development of the NIA. Key policies noteworthy of identification and further discussion are listed below:

- State Planning Policy 1: State Planning Framework Variation 3 (WAPC, 2017);
- State Planning Policy 2.4: Planning for Basic Raw Materials (WAPC, 2021);
- State Planning Policy 3.6: Infrastructure Contributions (WAPC, 2021);
- State Planning Policy 3.7: Planning in Bushfire Prone Areas (WAPC, 2015); and
- Development Control Policy 4.1: Industrial Subdivision (WAPC, 1988)

Further detail on the policies listed above, and how they relate to the structure planning of the NIA, is provided in **Appendix 1**.

In addition to the State Planning Policies and Development Control Policies elaborated on in **Appendix 1**, there are a number of other State-level policy and guidance documents that have some relevance to the content of this structure plan and should be noted, including:

- State Planning Policy 2: Environment and Natural Resources (WAPC, 2003);
- State Planning Policy 2.2: Gnamagara Groundwater Protection (WAPC, 2005);
- State Planning Policy 2.9: Water Resources (WAPC, 2006); and
- State Planning Policy 5.2: Telecommunications Infrastructure (WAPC, 2015).

1.3.3.2 Local Planning Policies

The City has a suite of local planning policies which provide guidance on structure planning, subdivision and development of land within the local planning scheme area. The following local planning policies are considered to be the most relevant to the structure planning of the NIA:

- Local Planning Policy 1.1: Conservation Reserves (City of Wanneroo, 2021);
- Local Planning Policy 2.5: Telecommunications Infrastructure (City of Wanneroo, 2017);
- Local Planning Policy 4.3: Public Open Space (City of Wanneroo, 2021);
- Local Planning Policy 4.4: Urban Water Management (City of Wanneroo, 2020); and
- Local Planning Policy 4.13: Caves and Karstic Features (City of Wanneroo, 2018).

Elaboration on the relevance of the above-listed local planning policies, in respect to the structure planning of the NIA, is provided in **Appendix 1**.

1.3.4 Other Approvals and Decisions

The formulation of this structure plan document acknowledges relevant development approvals that the City has granted; as well as recent subdivision applications and/or approvals received and granted by the WAPC. Similarly, the City also acknowledges the content of other structure plans affecting land in proximity to the NIA.

The relevance of planning decisions for land within and in proximity of the NIA, and how these decisions have influenced the content of this structure plan, is discussed further in **Appendix 2**.

1.3.5 Pre-Lodgement Consultation

The original ASP 17 documentation was prepared by Taylor Burrell Barnett Town Planning and Design, in conjunction with Sinclair Knight Merz and others which provided engineering and environmental inputs. The preparation of that original documentation was informed by consultation with existing landowners, the City of Wanneroo, the (then) Department of Planning and Infrastructure and relevant State Government authorities.

Throughout the City's considerations and investigations as part of the more recent planning framework review for the NIA, the City frequently engaged with and sought advice from officers at the DPLH.

The City also regularly engaged with DevelopmentWA, recognising that they are a majority landowner in the NIA. In particular, the City engaged with DevelopmentWA during the formulation of the Concept Masterplanning (refer Section 2.6.1). Through that engagement, the City was able to better identify and discuss the opportunities, constraints, and key issues such as major road provision and traffic movements.

Other major landowners in the NIA were also engaged during the planning framework review process. This was to gauge their issues and aspirations relevant to them regarding further subdivision and development of the NIA.

The City engaged with key stakeholders during the formulation of this current version of the structure plan, to ensure that the content within the documentation was reasonably acceptable for all parties. These stakeholders were given draft structure plan documents for review and comment – and this occurred prior to this revision of the structure plan being presented to the City's Council for initiation.

2.0 SITE CONDITIONS AND CONSTRAINTS

2.1 Biodiversity and Natural Area Assets

An Environmental Assessment Report (GHD, 2020) supports this structure plan and is included as a Technical Appendix. This report provides an overview of the environmental features of the NIA and continued consideration of the environment as the NIA becomes developed for industrial use. The Environmental Assessment Report also provides a Literature Review, which identifies a number of previous environmental investigations that have been undertaken by the City and others.

2.1.1 Flora, Vegetation and Conservation

The City estimates that over 500 hectares of land has already been cleared within the NIA, with an additional 137 hectares of vegetated land subject to Clearing Permits. Land in the NIA has been cleared to date to facilitate industrial subdivision and development, as well as agricultural and resource extraction uses.

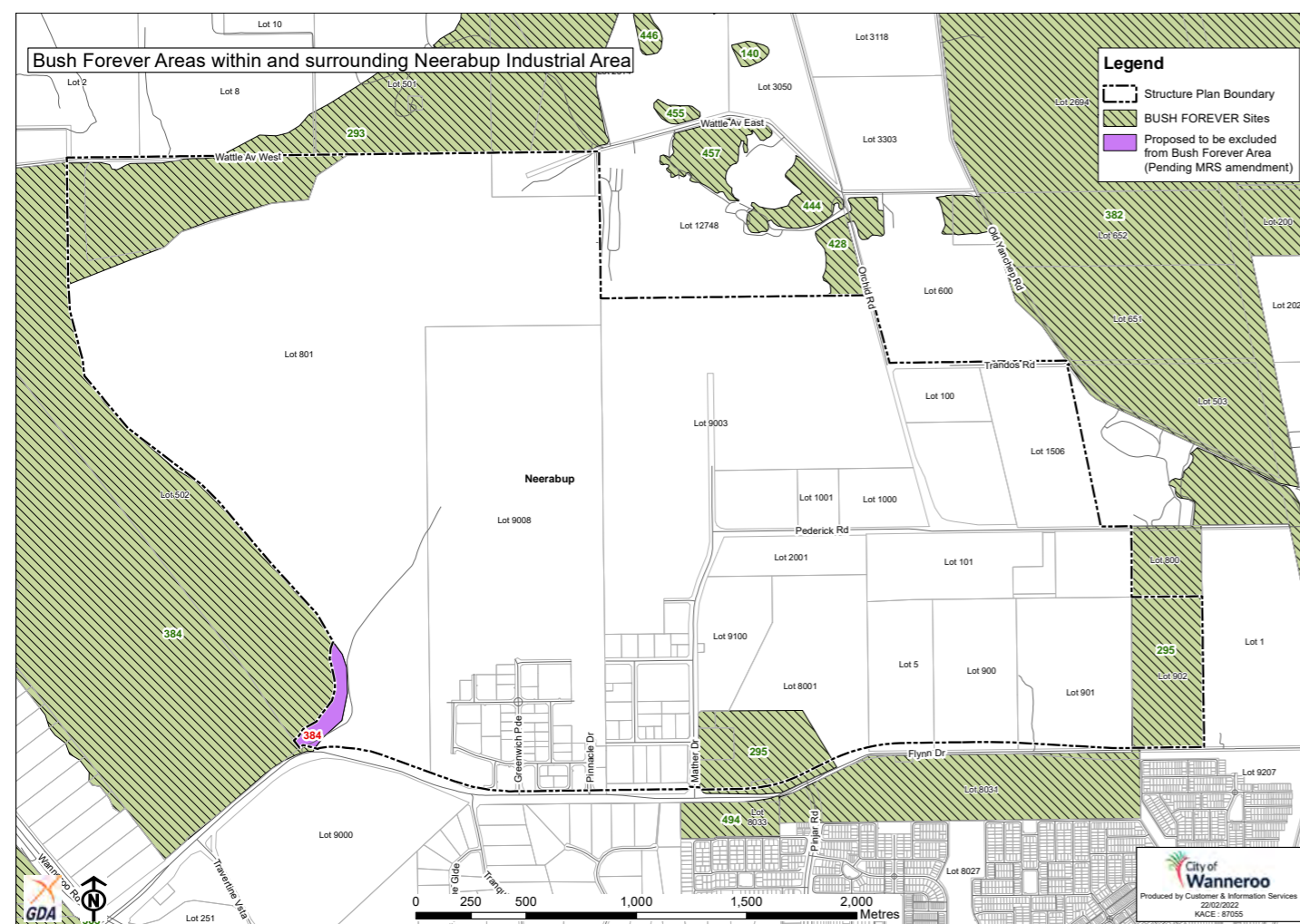


Figure 8: Extent of Bush Forever Areas
(Source: DPLH and City of Wanneroo)

There are two Bush Forever sites located within the NIA, as mapped in **Figure 8** and described as follows:

- Bush Forever site 293 – This site is located in the north-western corner of the NIA within portions of Lot 502 Wattle Avenue and Lot 801 Flynn Drive, Neerabup. The Bush Forever site also extends northward beyond the NIA. The extent of this Bush Forever site located in the NIA is approximately 39 hectares in area.

- Bush Forever site 295 – totals an area of this site is 51.6 hectares, and is spread across multiple sites as outlined below:
 - o A portion of Lot 8001 – as well as neighbouring Lot 40 and 41 Mather Drive and Lot 8002 Flynn Drive – totalling an area of 17.7 hectares; and
 - o The entire 22 hectares of Lot 902 Flynn Drive. The extent of Bush Forever designated over this land may be reduced, pending ongoing negotiations between the landowner, the WAPC and relevant government agencies (refer **Appendix 2**).

In addition, Bush Forever site 295 occupies land outside the NIA, including the entire 9.6 hectare land area of Lot 800 Pederick Road, which is reserved for the purpose of ‘Parks and Recreation’ under the MRS. Similarly, 2.3 hectares of land designated Bush Forever is located on the Flynn Drive road reserve, to the south of Lot 8001.

Bush Forever site 384 is also situated over the MRS Parks and Recreation reservation located to the west of the NIA. A small portion of this Bush Forever area also encroaches into the structure plan area onto the south-western corner of Lot 801. However, the Bush Forever designation over portion Lot 801 is subject to removal through MRS Amendment 1379/57.

Lot 8001 (Mather Reserve) encompasses 50 hectares, and has been set aside for conservation in perpetuity by the City of Wanneroo as an offset to obtain a Clearing Permit for other land. This land parcel is subject to Amendment No. 202 to DPS 2, which reclassifies the land from the Industrial Development zone to ‘Local Scheme Reserve – Conservation’.

The native vegetation still present within the NIA is categorised as two vegetation complexes, which have been identified by Hedde et al (1980), and outlined as follows:

- Cottesloe Complex – Central and South (as located in the central and western part of the NIA); and
- Karrakatta Complex – Central and South (as located in the eastern part of the NIA).

The Environmental Assessment Report also refers to the DBCA’s former NatureMap database, which indicates the presence of 84 native and invasive plant species within the NIA. The NatureMap database was taken offline during the revisions made to this structure plan. The database indicates two threatened species and three priority species, which were not identified through the environmental investigations discussed in the Environmental Assessment Report literature review.

2.1.2 Fauna

The Environmental Assessment Report also refers to fauna information that was indicated in DBCA’s former NatureMap. The NatureMap had identified 78 fauna species known to be present in the NIA.

The ‘Flora, Vegetation and Vertebrate Fauna Assessment’ (ATA Environmental, 2007) referred to in the Environmental Assessment Report literature review identified 25 vertebrate species (including reptiles, amphibians and mammals, 42 bird species and other species such as feral cats and foxes, Western Grey Kangaroos and bats. That assessment related to various land parcels located in the central part of the NIA.

The DBCA NatureMap had indicated the presence of the Graceful Sun Moth, which is a Priority 4 species under the *Biodiversity Conservation Act 2016*. The City has conducted surveys that were unsuccessful in confirming the presence of the Graceful Sun Moth.

The presence of the native bee *Hylaeus globuliferus* has also been identified by the City as being present in the Bush Forever site 295. This species was also indicated through NatureMap search results. The Bush Forever designation, as well as the designation of the respective habitat as 'Local Scheme Reserve- Conservation' through Amendment No. 202 to DPS 2, enables appropriate protection of this species of bee.

In addition to the species mentioned above, the Environmental Assessment Report identifies the following as 'conservation significant fauna' as having a habitat in the NIA:

- Carnaby's Black Cockatoo (endangered)
- Forest Red-tailed Black Cockatoo (vulnerable)
- Peregrine Falcon (other specially protected fauna)
- Southwestern Brown Bandicoot (Priority 4)
- Western Brush Wallaby (Priority 4)

The Carnaby's and Forest Red-tailed Black Cockatoo species are the most known threatened fauna species that the NIA provides habitat for. These cockatoo species are dependent on vegetation on the Swan Coastal Plain, and reduced habitat is a significant threat that requires management across an area well beyond that of the NIA.

There is the potential for communities of troglobitic fauna to be present within the cave system in the vicinity of the NIA. This includes the open caves immediately west of the NIA, as well as possible subterranean areas below the NIA itself.

A Native Fauna Management Plan (**NFMP**) should be completed to support subdivision and development proposals on land where fauna habitat remains significant. A NFMP should be prepared in consideration of the city's Local Planning Policy 3.3: Fauna Management and the relevant provisions of the local planning scheme. The preparation of a NFMP in the relevant circumstances is a requirement outlined in Part 1 of this structure plan.

2.2 Landform and Soils

The original version of this Report identified the presence of one borehole in the southern portion of the NIA and two at the northern edge. At the southern bore, karstic limestone was encountered at heights of 20-70 metres AHD and depths of 0-65 metres below ground level. Karsts were recorded at up to 35 metres above the water table.

Existing geological knowledge of the NIA is limited to surface geological mapping. In preparing this Report, the City has referred to Interactive Geological Map (**GeoVIEW.WA**) which is available through the Department of Mines, Industry Regulation and Safety (**DMIRS**). Geological data information extracted from the GeoVIEW.WA mapping, to the extent that it covers the NIA, is provided in **Figure 9**.

The GeoVIEW.WA geological data mapping identifies the following complexes as being present in the Neerabup Industrial Area:

- LS1: Limestone – pale yellow-brown fine-grained angular and medium-grained rounded quartz and calcite cross-bedding minor heavy minerals.
- LS2: Limestone – as LS1 abundant karstic phenomena including caves swallows dolines.
- S7: Sand – pale and olive-yellow medium to coarse-grained sub-angular quartz moderately sorted of residual origin modified by marine inundation.

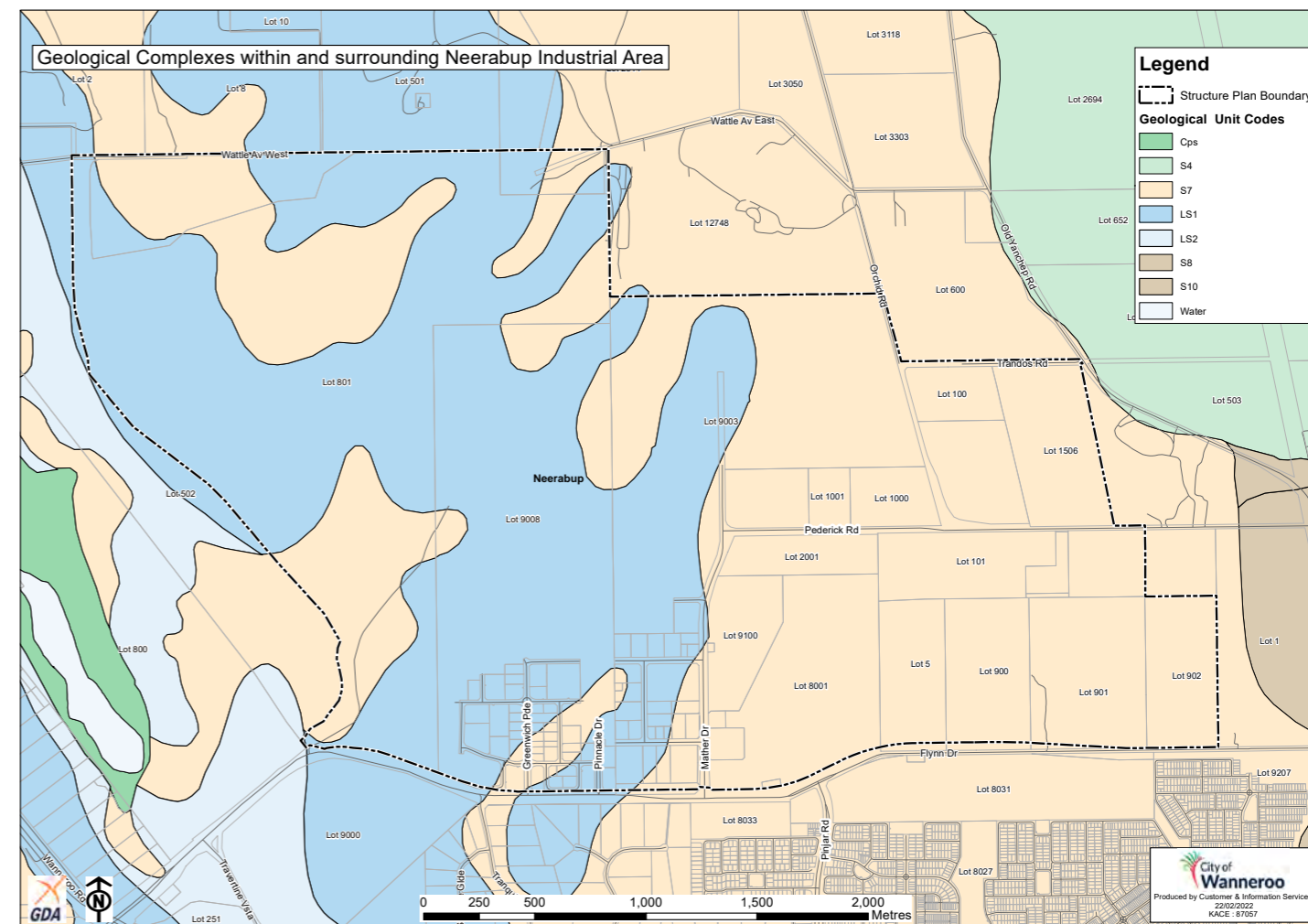


Figure 9: Extent from GeoVIEW.WA - Geological Data
(Source: DPLH and City of Wanneroo)

The Tamala limestone is a sandy limestone deposited in the Pleistocene and of Aeolian origin. It was probably laid down in dunes and resolution of shell fragments caused it to become variably cemented. Generally the surface above the Tamala limestone is characterised by a deeply leached sand from which the carbonate has been removed often to be deposited on the underlying limestone surface as a hard calcrete layer. In some cases the solution of carbonate may continue to depth creating karstic cavities particularly where the limestone has more carbonate cement. This effect is unpredictable.

The Tamala limestone is likely to develop karstic cavities and the most likely areas for these to have developed are where there are other cavities/caves in the local area.

2.3 Groundwater and Surface Water

2.3.1 Groundwater

The NIA is located within the Gngarara Groundwater System, and locally within the Wanneroo groundwater subarea. Groundwater in the NIA is detailed in the Local Water Management Strategy (**LWMS**) provided for as a Technical Appendix to this structure plan.

The predominant regional groundwater flow direction is westerly beneath the NIA, attributed to the high transmissivity of the soils and the relatively steep gradient in average annual maximum groundwater levels (Planwest *et al*, 1999). Groundwater in proximity to Lake Pinjar may also be locally influenced by the lake, which acts as a local basin that influences local groundwater flow. This is discussed in investigations undertaken by Coffey (2016) and Talis (2017), both of which are documents referenced in the LWMS.

Groundwater levels in the NIA vary from 45m AHD at the eastern boundary and in proximity to Lake Pinjar to 24m AHD in the west of the NIA near Lake Neerabup. This information is sourced from the Department of Water and Environmental Regulation (DWER) Perth Groundwater Map (2020), and supports Planwest *et al* investigations that groundwater has a westerly flow as identified above.

The NIA is not located within an Underground Water Pollution Control Area, as identified in State Planning Policy 2.2: Gngangara Groundwater Protection (SPP 2.2). It should be noted that the WAPC intends to rescind SPP 2.2 and integrate policy provisions into a revised State Planning Policy 2.9: Planning for Water (SPP 2.9), which was in draft at the time this Report was being prepared. Mapping associated with SPP 2.2 and draft revisions to SPP 2.9 identify Priority 1 Gngangara Underground Water Pollution Control Area to the east and north-east of the NIA.

2.3.2 Surface Water

No wetland features are situated within the NIA. The NIA is located within the Swan Avon, Lower Swan Catchment within the Swan Coastal river basin. Due to the high transmissivity of the soils, there are also no defined surface water drainage features.

Geomorphic wetland mapping identifies two wetlands adjacent the NIA, being Lake Neerabup to the west and Lake Pinjar to the north-east. Lake Neerabup is identified as a resource enhancement category wetland. Lake Pinjar is identified as a mixture of Conservation and Multiple use category wetland. Both Lake Neerabup and Lake Pinjar are sumplands, which are seasonally waterlogged and contain water usually only during the winter months. The wetlands form part of a regionally significant north-south aligned wetlands that occur within the City.

2.3.3 Leachate Plume and Other Nutrients Affecting Groundwater

Targeted groundwater investigations have been completed for land within and in proximity to the NIA, where elevated concentrations of nutrients and metals have been identified. Details of those investigations are provided below:

- The former putrescible landfill site at Lot 503 (1851) Old Yanchep Road, Pinjar, located to the north-east of the NIA. A groundwater delineation investigation of this former landfill site indicates a plume with elevated nutrients and metals beneath the former landfill site. This plume has spread westward; however as outlined by Coffey (2016) (refer to the LWMS), there is a significant decline in nutrient levels in down-gradient bores in the direction of the NIA boundary. The LWMS and Coffey (2016) both outline the unlikelihood that the nutrient-rich groundwater would extend beyond its sample location located down-gradient to the former landfill site.

Prior to its review, the original structure plan took a more cautious approach, and identified the extent of the plume potentially extending further west; into the NIA and affecting Lot 1506 and Lot 100 Trandos Road and Lot 9000 Pederick Road. Therefore, provision has been made in Part 1 requiring future subdividers of this land to inform purchasers of new lots to the prospect of being impacted by the plume

- Investigations by Yesertener (2010), as identified in the LWMS, report significantly elevated nitrate concentrations in the Lake Neerabup area, which have been attributed to the intensive irrigated horticultural area along the western boundary of the wetland.

It is also considered that the change of land use from horticulture to industrial in the eastern parts of the NIA has the potential to reduce leaching of nutrients and other agricultural chemicals (e.g. herbicides and pesticides) into sensitive groundwater and water dependent ecosystems.

2.4 Bushfire Hazard

With the exception of areas already cleared of vegetation for resource extraction, industrial or agricultural uses, the NIA has largely been designated as ‘bushfire prone’ by the Fire and Emergency Services Commissioner under the *Fire and Emergency Services Act 1998*. The extent of the bushfire prone areas within the structure plan area, as of 2021, is shown on the map shown in **Figure 10**.

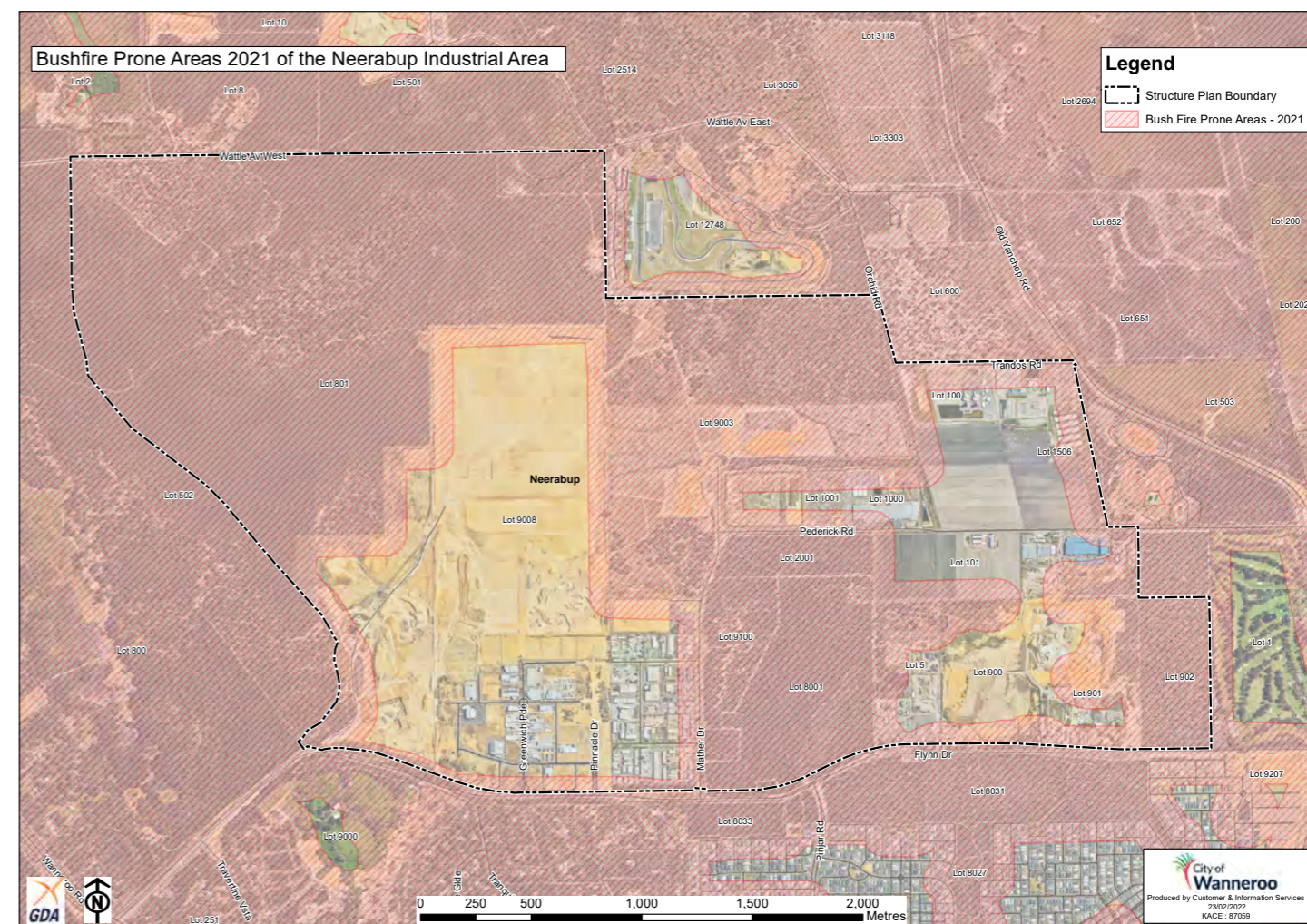


Figure 10: Extent of Declared Bushfire Prone Areas (2021)
(Source: Department of Fire and Emergency Services and City of Wanneroo)

As part of its planning framework review for the NIA, the City obtained a Bushfire Management Plan (BMP) prepared by Bushfire Prone Planning (2021). The BMP prepared by Bushfire Prone Planning is included as a Technical Appendix to this structure plan, and replaces a BMP prepared by Strategen dated June 2017.

The following vegetation classes are identified in the BMP as being situated within and in proximity to the NIA:

- Class A forest, located on most of the exterior peripheries of the NIA, as well as throughout the NIA where vegetated areas remain uncleared;
- Class B woodland, located within the NIA on Lot 9003 Mather Drive; as well as adjoining the NIA on Lot 600 Wattle Avenue to the northeast and the Wanneroo Golf Club site on Flynn Drive to the east; and
- Class G grassland on the unmanaged grass at Lot 2001 Pederick Road.

The non-vegetated areas (e.g. roads, buildings, existing and former basic raw material extraction areas) and/or low threat managed land are excluded from classification under Clause 2.2.3.2 (e) and (f) of AS3959:2018 – ‘Construction of Buildings in Bushfire Prone Areas’.

As outlined in the BMP, the vast majority of the NIA will be subject to a BAL-Low bushfire exposure, except on the structure plan peripheries and areas in proximity to the Conservation Area. The size of the NIA means that most lots created in the NIA through subdivision will eventually be greater than 100 metres from classified vegetation.

2.5 Heritage

2.5.1 Aboriginal Heritage

The Register of Aboriginal Sites lists one registered site as extending across a portion of the structure plan area – being Lake Neerabup (DAA 3693). This site is shown in **Figure 11**.

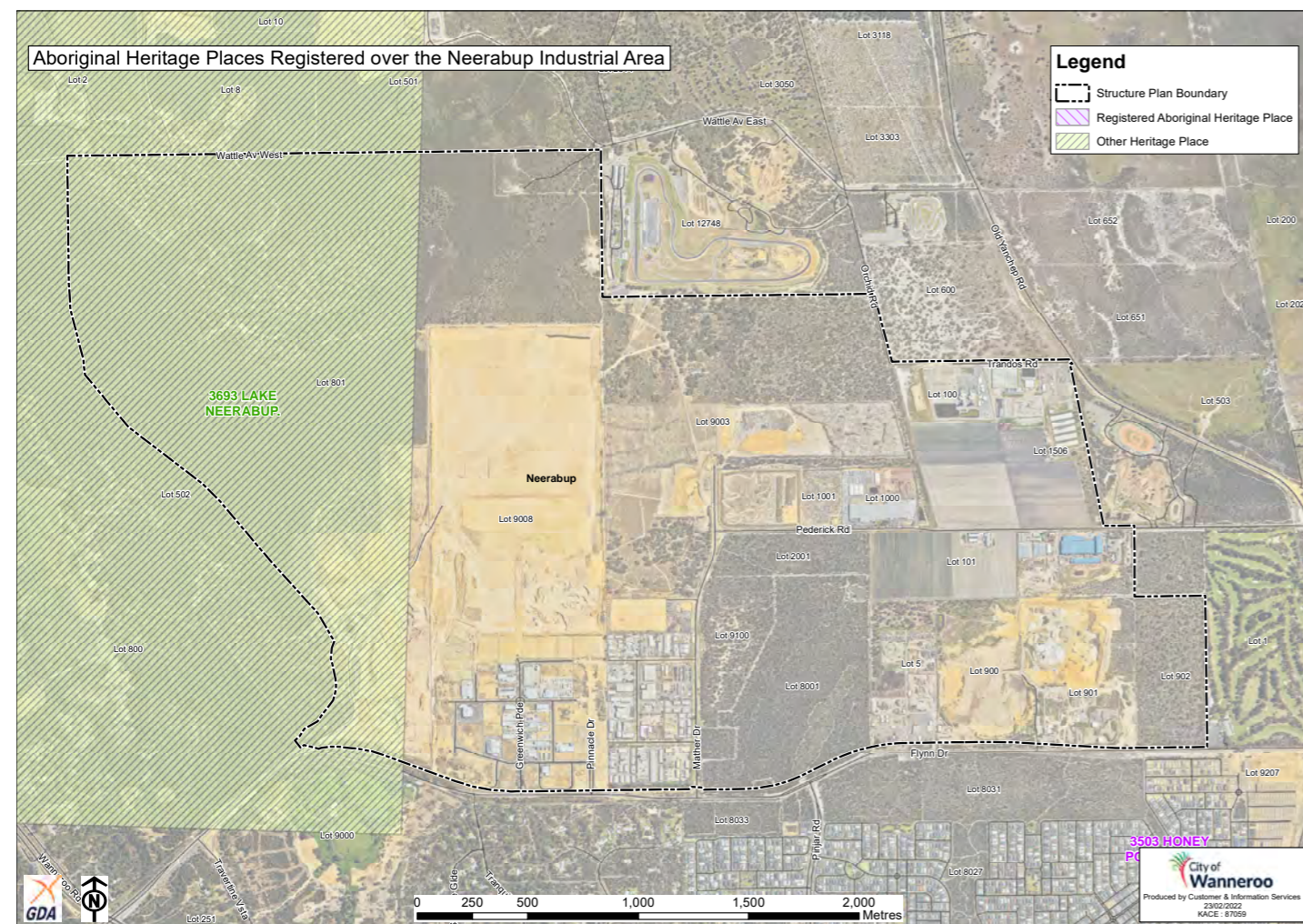


Figure 11: Registered Aboriginal Sites – Neerabup Industrial Area
(Source: DPLH and City of Wanneroo)

Landowners, occupiers of land and developers should refer to the *Aboriginal Heritage Due Diligence Guidelines* (Department of Aboriginal Affairs, 2013) to understand the potential adverse impacts that proposed activities may have on sites with Aboriginal heritage values.

Developers should also ensure that they are informed of the obligations under the *Aboriginal Heritage Act 1972*. If Aboriginal sites to which the *Aboriginal Heritage Act 1972* applies are planned to be impacted or damaged, an application under Section 18 of that Act should be submitted before development proceeds.

2.5.2 European Heritage

Commonwealth heritage lists, the Heritage Council of Western Australia’s State Heritage Register and the City’s Municipal Heritage Inventory do not identify any sites of European heritage located within the structure plan area.

2.6 Other Land Use Constraints and Activities

2.6.1 Concept Masterplanning

A Concept Masterplan for the NIA was prepared during the City’s planning framework review. This occurred in order to clearly establish, outline and map out the opportunities and constraints for further development; as well as to inform the completion of the reports contained in the Technical Reports. Some of the constraints are discussed in further detail in the following sub-sections.

The Concept Masterplan prepared is included as **Figure 12**. Through its formulation, the Concept Masterplan was subject to extensive review by the City, as well as significant input by DevelopmentWA staff.

In preparing this structure plan documentation, the City considered it appropriate to make some departures from what was shown on the Concept Masterplan. Departures include:

- Revising the location and number of Service Hubs. What ‘Service Hubs’ are, and their role in servicing the NIA, is discussed further in Section 3.1.3 below;
- The number of road crossings over the proposed rail corridor; and
- Realigning the major road configuration in the western part of the structure plan area.

It is anticipated that further departures to what is shown in the Concept Masterplan may be made as the NIA continues to be subdivided and developed – or if this structure plan is subject to amendments in the future. Such departures however should be appropriately justified and agreed to by the City.

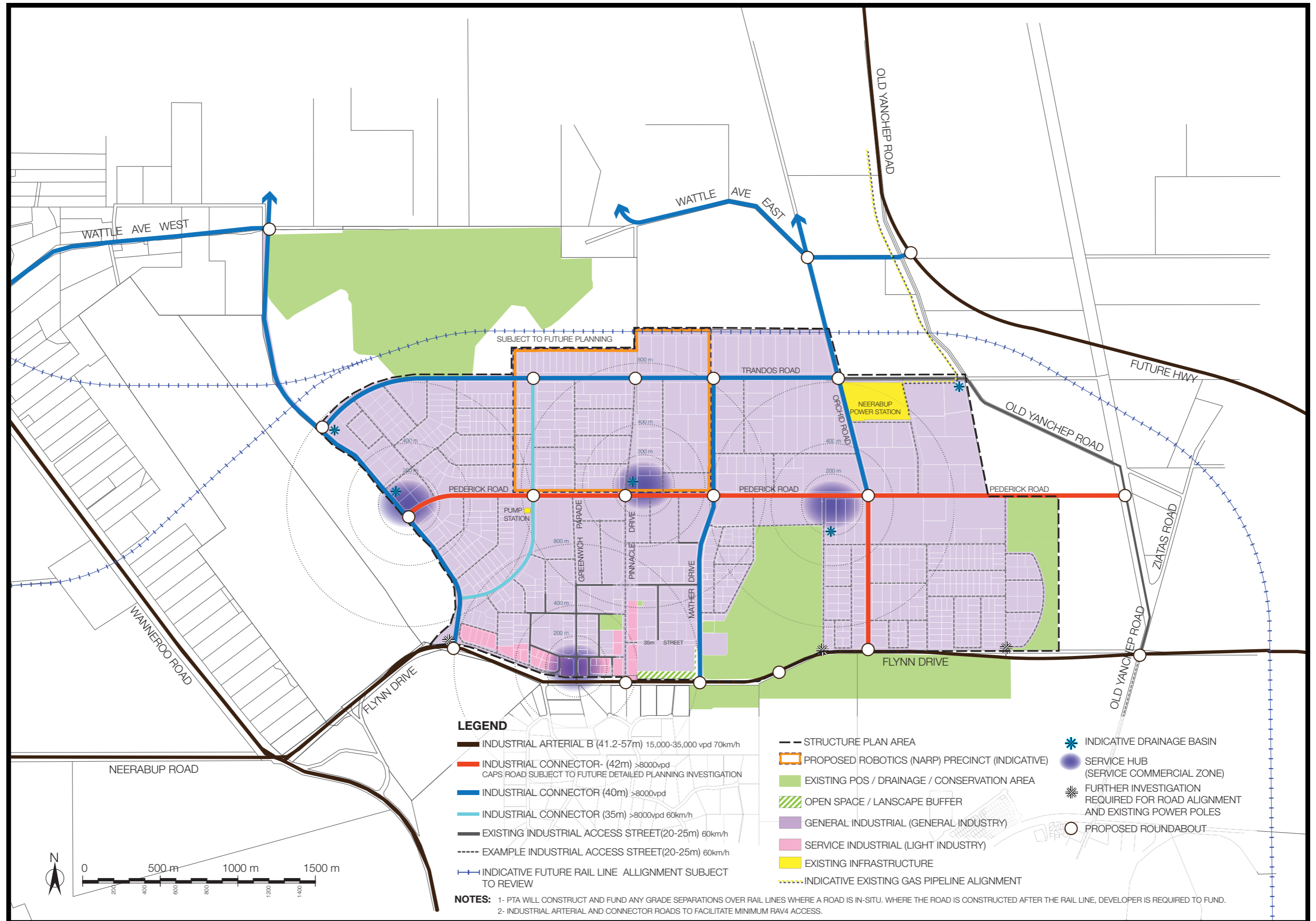


Figure 12: Concept Masterplan
(Source: GHD and City of Wanneroo)

2.6.2 Future Passenger Rail Alignment

Further investigation is required by the Public Transport Authority (PTA) for a potential rail link between the transit corridor shown in the WAPC's East Wanneroo District Structure Plan and the Joondalup rail line in the long-term. This link is currently planned to traverse through the northern extent of the NIA, as shown in the NWSRPF, with this proposed alignment identified in Part 1 (Plan 1) of this structure plan.

A final alignment for this rail line will be determined by the PTA (and other relevant State Government agencies) following further assessment of alignment options; however, any rail that may be constructed will be delivered beyond 2040. Further discussion is provided in Section 3.2.7 below.

2.6.3 Areas of Environmental Significance

There are two key areas in the NIA which contain significant environmental attributes; and as such, are not proposed to be subject to further subdivision and development in the immediate term. These areas are identified as 'subject to further structure planning in Part 1 (Plan 1), and located as follows:

- Lot 902 (130) Flynn Drive, Neerabup. Although this land is zoned Industrial under the MRS, it is currently designated Bush Forever by the WAPC. At the time this Report was being prepared, the landowners of Lot 902 were in the process of negotiations with the WAPC to have the extent of the Bush Forever designation reduced.

Although the Concept Masterplan in Figure 12 demonstrates how a portion of Lot 901 can be subdivided for industrial use, any further planning over Lot 902 is yet to occur pending the outcome of the negotiations referred to above.

- In preparing revisions to this structure plan, the City became aware that the north-western extent of the structure plan area may potentially have significant environmental values. The extent of these values will require further investigation, which will likely be instigated by DevelopmentWA as landowner. The potential environmental issues, and the alignment of passenger rail through this same area, present significant uncertainties.

In addition, a 50 hectare conservation reserve in the NIA, situated on Lot 8001 (240) Flynn Drive, Neerabup will be designated a local scheme reserve for the purpose of 'Conservation' through Amendment No. 202 to DPS 2.

2.6.4 Basic Raw Materials

The basic raw materials in the NIA present both opportunities and constraints in terms of economic development and subdivision prospects for land within the structure plan area.

There are landowners in the NIA that are exploiting the basic raw material resource available on their land parcels, by extracting it for commercial gain and to meet market demands. The extraction of basic raw materials also assists in the earthworking of land to the final contour levels as required in Part 1 (Plan 2) of this structure plan.

DMIRS provides GeoVIEW.WA mapping on its website, which is referenced in SPP 2.4. This mapping identifies SGS areas within the NIA, being the highest priority basic raw material extraction areas. These areas are currently being extracted, approved for extraction – or on vacant land, much of which is within the area that is 'subject to further structure planning'. There are currently no pressures that the City is aware of from NIA landowners to permanently sterilise access to SGS areas by way of other forms of land use and development.

The City is aware of sand resources on land (particularly in the eastern part of NIA) which are not on existing extraction sites – or mapped on GeoVIEW.WA as having SGS. In regard to the resources that exist on this land, the City acknowledges pressures on landowners to enter into a resource extraction enterprise which would benefit the wider building industry – but may provide less of a commercial gain compared to undertaking subdivision more immediately. The City advocates a realism approach should subdividers be faced with these multiple demand pressures. However notwithstanding those pressures, the City would still require works prior to subdivision to ensure final surface contour levels are set appropriately in accordance with Part 1 (Plan 2) of this structure plan.

2.6.5 Noise from Barbagallo Raceway

There is the issue of potential noise impacts from the Barbagallo Raceway, located to the north of the NIA. Under the *Environmental Protection (Noise) Regulations 1997*, noise levels considered tolerable for industrial land uses should not exceed 65 dB(A). The City has previously established through acoustic modelling of a major raceway event (Australian Touring Car Championships) placed the 65 dB(A) noise contour at approximately 1500m from the Raceway Boundary.

Land within 1,500 metres from the Raceway boundary was zoned General Industrial Zone through Amendment No. 202 of DPS 2. Amendment No. 172 will change the name of this zone to 'General Industry' Development that will locate within this zone is less likely to be adversely affected by noise from the Barbagallo Raceway, primarily for two reasons:

- Uses which typically establish in a General Industrial zone are generally not considered to be noise sensitive; and
- The main high noise generating events at the raceway occur on occasional weekends, when much of the industrial activities and associated uses may not be operational.

Adverse impacts from Raceway noise on particular proposals can be considered and mitigated at the development application stage if needed.

The southern peripheries of the NIA will be zoned to provide for lighter industries and the Service Hubs. Noise impacts from the Barbagallo Raceway should be minimal, considering there will be a separation distance of more than 1,500 metres.

3.0 LAND USE AND SUBDIVISION REQUIREMENTS

3.1 Land Use and Zoning

3.1.1 Amendment No. 172 to DPS 2

At the time this Report was prepared, the City was also (separately) processing Amendment No. 172 to DPS 2. Amendment No. 172 is a separate local planning scheme amendment to more closely align DPS 2 with the Model Provisions. Relevant to planning for the NIA, Amendment No. 172 proposes the following:

- The reclassification of the General Industrial zone to 'General Industry' zone, and a realignment of objectives to coincide with the Model Provisions;
- The reclassification of the Service Industrial zone to 'Light Industry' zone, and a realignment of objectives to coincide with the Model Provisions; and
- Significant changes to definitions of land uses likely to locate in the Neerabup Industrial Area; which includes the deletion, amendment or inclusion of land use definitions so that they align better with the Model Provisions.

Although Amendment No. 172 changes zoning names, it does not significantly modify the boundaries or land area of each zone. Pertaining to the NIA, Amendment No. 172 does not seek to modify the extent of the General Industry and Industrial Development Zone, or reserve land for Conservation.

3.1.2 Amendment No. 202 to DPS 2

Land in the operative parts of ASP 17 is proposed to predominantly have a General Industrial and Service Industrial zoning through Amendment No. 202 to DPS 2. It is expected that the zonings will change to the General Industry and Light Industry, should both Amendment No. 172 and Amendment No. 202 be approved.

Land that is identified as 'subject to further structure planning' in Part 1 of ASP 17 will remain zoned Industrial Development under Amendment No. 202. The zoning of the land in the structure plan area, imposed through Amendment No. 202 to DPS 2, is shown in Section 1.3.1.2 (**Figure 6**) of this Report.

The zoning configuration proposed in Amendment No. 202 takes in account the location of sensitive uses in the proximity of the NIA. Zoning for service or light industry will be provided along the southern periphery of the NIA, with zoning for general industry occupying the remainder of the industrial land in the NIA. The service or light industrial zoning will act as a buffer or transitional zone between residential and rural-residential development to the south of Flynn Drive – from land zoned for general industry to the north.

Zoning designations were previously provided for in ASP 17; however these have since been removed. Under the Deemed Provisions, the City and the WAPC are to have due regard to, but is not bound by, structure plans. By leaving zoning and land use permissibility controls in the structure plan, it increases the prospect of undesired land uses establishing within the NIA; eroding the industrial nature that the City is attempting to cater for through its local planning framework. Zoning and land use permissibility provisions in structure plans are also more likely to be subject to variation and discretion by decision makers such as a Development Assessment Panel or the State Administrative Tribunal.

3.1.3 Service Hubs

ASP 17 had originally made provision for one large centrally-located Business zone. The Business zone was

strategically located to have a maximised catchment, and to provide uses that would service the wider industrial area such as banks, shops and newsagents.

As a result of the planning framework review, it is still agreed that the framework make provision for uses that would service and be of convenience to business owners, employees and visitors to the NIA. Such uses would be expanded to include restaurants/take away food outlets, offices, medical and convenience-type stores.

However, it was considered that having provision in the planning framework for at least two smaller 'Service Hubs' (rather than one large core 'hub') would be more appropriate. Two Service Hubs would be located in the southern extent of the NIA, allowing Service Hub development to be undertaken at any time that they may be required.

Land use permissibility to support the development of 'Service Hubs' is enforced through the 'Additional Use' provisions of the local planning scheme, with conditions limiting activities to a scale that does not compromise or compete with activity centres located outside the NIA.

Additional Service Hub locations, should they be required, should be subject to further planning by way of an amendment to this structure plan and to the local planning scheme. The amendments required should be accompanied by (but not limited to) a retail sustainability assessment, as well as a planning justification that the surrounding industrial land uses will not have a detrimental impact on the development of a future Service Hub.

3.2 Movement Networks

3.2.1 Existing Road Network

The NIA is bound to the south by Flynn Drive. Flynn Drive provides a link to Wanneroo Road- and to the Mitchell Freeway via Neerabup Road. Both Wanneroo Road and the Mitchell Freeway are major north-south roads located to the west of the NIA.

To the east, Flynn Drive currently links to Old Yanchep Road, which then intersects with Neaves Road to the south. Neaves Road then provides a link to the east to Tonkin Highway at Bullsbrook. Old Yanchep Road to the east of the NIA provides three links into the NIA; being Flynn Drive, Pederick Road and Trandos Road. Wattle Avenue East and West are situated in proximity to the north-eastern and north-western corners of the NIA; however provide no road access into the existing structure plan area.

Within the NIA, part of the major road alignments required to traverse through the NIA are in place. These include parts of Mather Drive, Pinnacle Drive and Pederick Road. Much of these existing roads will require upgrades; and in some instances a widening of the road reserves (as outlined in Section 3.2.4).

3.2.2 Restricted Access Vehicle Network

A review of the Main Roads Western Australia (**MRWA**) restricted access vehicle (**RAV**) mapping tool shows the roads in and around the NIA are part of the RAV Network 4 (**RAV 4**) route. The RAV 4 route accommodates trucks of up to 27.5 metres in length. Detail extracted from MRWA Heavy Vehicle Services Network Mapping is found in **Figure 13**.

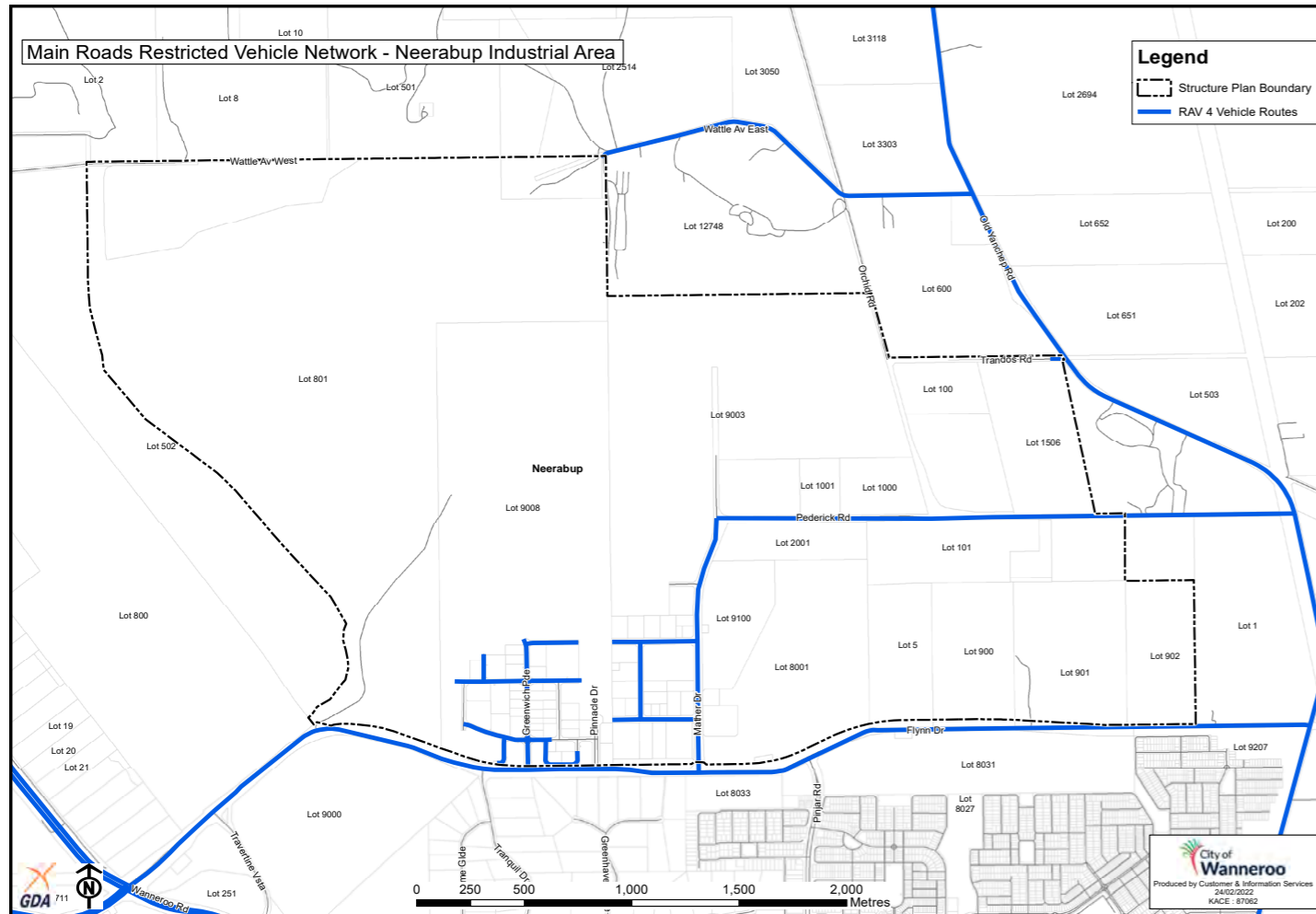


Figure 13: RAV Network Map Extract
(Source: MRWA and City of Wanneroo)

There is interest from stakeholders for a RAV Network 7 (**RAV 7**) vehicles route within the NIA, to support heavy vehicles up to 36.5 metres in length. The Traffic and Transport Study provided as a Technical Appendix to this structure plan identifies the potential for Flynn Drive, Pederick Road, Mather Drive and Orchid Road to cater for RAV 7 vehicles.

On further review by the City, it was considered that the RAV 7 network extending onto Flynn Drive along the southern boundary of the NIA was inappropriate, given the amenity impact that the largest of trucks using Flynn Drive would have on residential and rural-residential development immediately to the south.

Instead, and after liaison with stakeholders, the City considers that the most appropriate RAV 7 route through the NIA would be along Pederick Road, which is considered as the central east-west spine road for the NIA. Road upgrades to the east of the structure plan area are crucial for the RAV 7 route to provide access to the NIA. Via an upgraded road network, connectivity to the existing RAV 7 network (currently 19 kilometres to the east on Tonkin Highway) could be provided via an eastward extension of Pederick Road, which would connect to either an eastward extension of Flynn Drive (aligning with Neaves Road) or to the future Whiteman-Yanchep Highway. Refer to Section 3.2.3 below for further details on these potential future roads.

The Traffic and Transport Study considered the prospect of high wide load (**HWL**) access to the NIA, as there is no HWL route serving the NIA currently. The Traffic and Transport Study acknowledges that MRWA is not in favour of a HWL being developed to service the NIA. However, an oversize and over-mass (**OSOM**) route to the NIA could be developed, with provision for the appropriate clearances to access Tonkin Highway and Great Northern Highway,

via Neaves Road to the NIA. Although this will require further investigation of MRWA and other government agencies, the OSOM route could potentially follow the RAV 7 route as outlined above.

Although situated outside the structure plan area, the prospect of Wattle Avenue West and East providing RAV 7 heavy vehicle access should be explored before upgrades to these roads is undertaken. This could provide for additional heavy vehicle connectivity to both the NIA and the future Nowergup Industrial Investigation Area further to the north (identified in the NWSRPF).

3.2.3 Future Road Network Requirements

For the activities in the NIA to operate efficiently, good access to the wider road network is vital. The following major road connections and upgrades are what the City considers necessary to service the NIA, from the immediate to the very long term:

- Upgrades to Flynn Drive, to a four-lane dual carriageway. An upgrade will be coordinated by the City, and occur in stages from west to east. The MRS currently identifies Flynn Drive as an 'Other Regional Road' reserve; which may change to the 'Primary Regional Road' reservation in the future and after upgrade works are completed.
- Although not part of the upgrades currently being worked on by the City, Flynn Drive is mooted to be extended eastward to provide a seamless connection to a realigned Neaves Road. An eastward extension will also provide a route toward the 'Employment Area' in Jandabup identified in the East Wanneroo District Structure Plan.

An extension of Flynn Drive will also allow for more direct road transport from the NIA to the Great Northern Highway, Tonkin Highway; as well as to emerging industrial areas in Muchea, Bullsbrook and North Ellenbrook. The first stage of the Whiteman-Yanchep Highway is proposed by MRWA, forecast to be needed by 2031, will terminate at an extended Flynn Drive.

- Further duplication of Wanneroo Road (north of Wattle Avenue West) and northward extensions of the Mitchell Freeway (past Hester Avenue) would contribute to providing access to the NIA from the growing urban corridor.
- ASP 17 identifies Pederick Road as a major road traversing through the NIA. Pederick Road is currently a single carriageway road, which will require upgrading in the future when traffic demand requires it, or when subdivision of adjoining land is occurring. The Pederick Road road reserve will require widening to support the required upgrades.
- Mather Drive is currently a single carriageway road. The Mather Drive road reserve between Flynn Drive and Pederick Road should be sufficient to accommodate upgrades to Mather Drive to a dual carriageway, when traffic volumes warrant it. Mather Drive designed to a dual carriageway will require a widening of the existing road reserve north of Pederick Road.
- An east-west link to the north of the NIA is critical in the long term for road connectivity into the NIA – as well as connectivity with the future Nowergup Industrial Investigation Area. This connection could be provided by joining Wattle Avenue East and West if the environmental constraints do not prevent it. The existing parts of Wattle Avenue will also need to be upgraded and widened to accommodate industrial traffic, and extended eastward to connect to the second stage of the future Whiteman-Yanchep Highway.
- Three major north-south roads providing north-south connection from Flynn Drive, a grade separated crossing over the future rail alignment, and connections from the NIA into the Nowergup Industrial Investigation Area.

- Consideration of an upgraded Wesco Road, Nowergup connecting to the Mitchell Freeway to the west via an extension Lukin Drive. Although this road would be northernmost extent of the Nowergup Industrial Investigation Area and connect to Whiteman-Yanchep Highway, an upgraded Wesco Road could provide the northernmost extent of the major north-south roads that will feed through the NIA.
- Connections to industrial investigation areas to the east of the NIA in Pinjar, as identified in the NWSRPF. These could be provided as eastward extensions of Pederick Road.

A plan visualising the above is provided on the plan included in **Figure 14**.

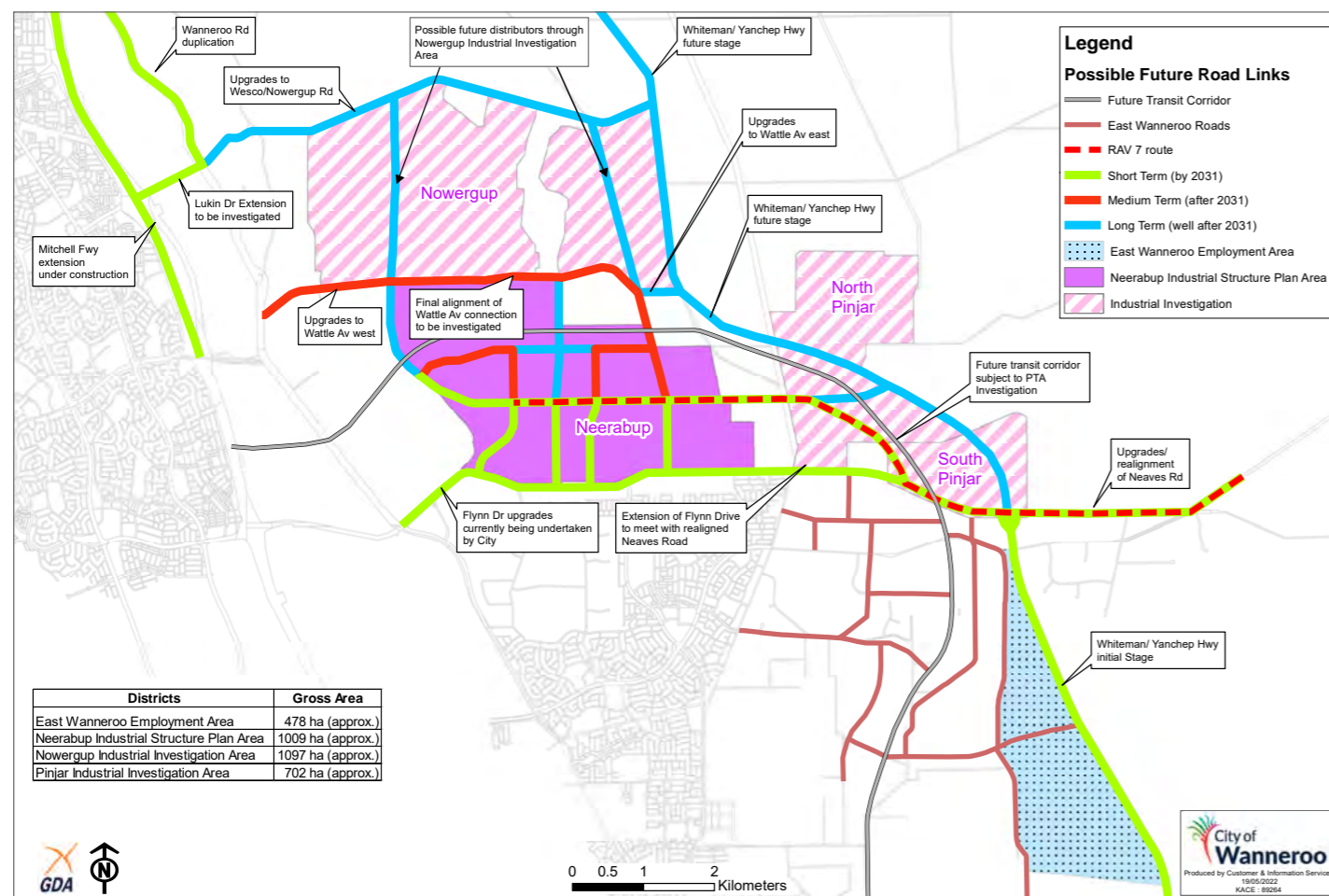


Figure 14: Concept Plan – Possible Major Transport Links Required for Neerabup, Nowergup, Pinjar and East Wanneroo
(Source: City of Wanneroo)

3.2.4 Road Network and Widening Design

All roads within the NIA, major and minor, should be provided on road reserves of sufficient width. Road reserve width should accommodate carriageways suitable in carrying projected traffic volumes; as well as verges of sufficient width to accommodate services, footpaths and on-street parking.

Detailed intersection design, intersection control and street spacing considerations will be made when needed, depending on MRWA advice and projected traffic volumes better understood at that time. Recommended intersection treatments are however nominated in the Traffic and Transport Study, with particular guidance from MRWA's 'Roundabouts and Traffic Signals Guidelines for the Selection of Intersection Control' (MRWA, 2015).

The Traffic and Transport Study included as a Technical Appendix to this structure plan provides suggested road reserve widths and cross-sections for the various road hierarchy types. This information could be used at a later

stage when designing for new road reserves within the NIA, as well as considering the extent of widening for Pederick Road, Mather Drive and Orchid Road, as required under this structure plan.

The structure plan makes provision for a road and infrastructure corridor along Pederick Road. This corridor will provide an upgraded road through the NIA – and to support services, such as the 132kV power lines and poles situated on both sides of the existing road. This corridor is to be provided as a road reserve, which will need to be widened significantly to cater for both road infrastructure capable of supporting RAV 7 vehicles and utility infrastructure.

Further road reserve widening needs to occur to support ultimate road and intersection design for Mather Drive and Orchid Road, north of Pederick Road. In the case of the Orchid Road, road widening will need to factor in an existing 132kV power line and power poles that currently exists on the unconstructed road reserve.

The design of the road widening could be established either through the preparation of a DCP, or by developers of adjoining land at the subdivision stage of planning.

The City and other relevant agencies will also need to consider the widening of Pederick Road beyond the eastern extent of the NIA (toward Old Yanchep Road), at the appropriate time in the future. Considerations to acquire land for road widening outside the structure plan area would be made in consideration of existing land uses and environmental constraints.

Upgrades to Flynn Drive will generally occur on the land that is reserved for the purpose of 'Other Regional Road' under the MRS. The existing Flynn Drive road reserve will need to be widened to support the upgrades. This however is a consideration for the City separate to this structure plan.

3.2.5 Traffic Volumes on Major Roads

The Traffic and Transport Study, prepared by GHD and included as a Technical Appendix to this structure plan, provides GHD's predictions for the ultimate traffic volumes for full development of the NIA.

The outcome of the GHD's modelling is shown on **Figure 15**. In summary, the Traffic and Transport Study projects very high traffic volumes on all major roads, especially Flynn Drive. The volumes shown in **Figure 15** are traffic volumes which are unlikely to be achieved until ultimate development of the NIA (after 2060) – if at all. These volumes are not expected to be achieved during the ten-year approval period of this structure plan.

Given the very high traffic projections in GHD's Traffic and Transport Study, the City sought advice from MRWA to confirm whether GHD's projections could be realistic. MRWA have indicated that the traffic volumes projected in GHD's Traffic and Transport Study demonstrate 290 vehicle movements per hectare of industrial development per day. This is very high compared to traffic movements in other industrial areas, such as in Welshpool which is at 110 vehicle movements per hectare per day.

Further modelling by MRWA should provide a more complete understanding of what projected traffic volumes within and surrounding the NIA will be in the long term.

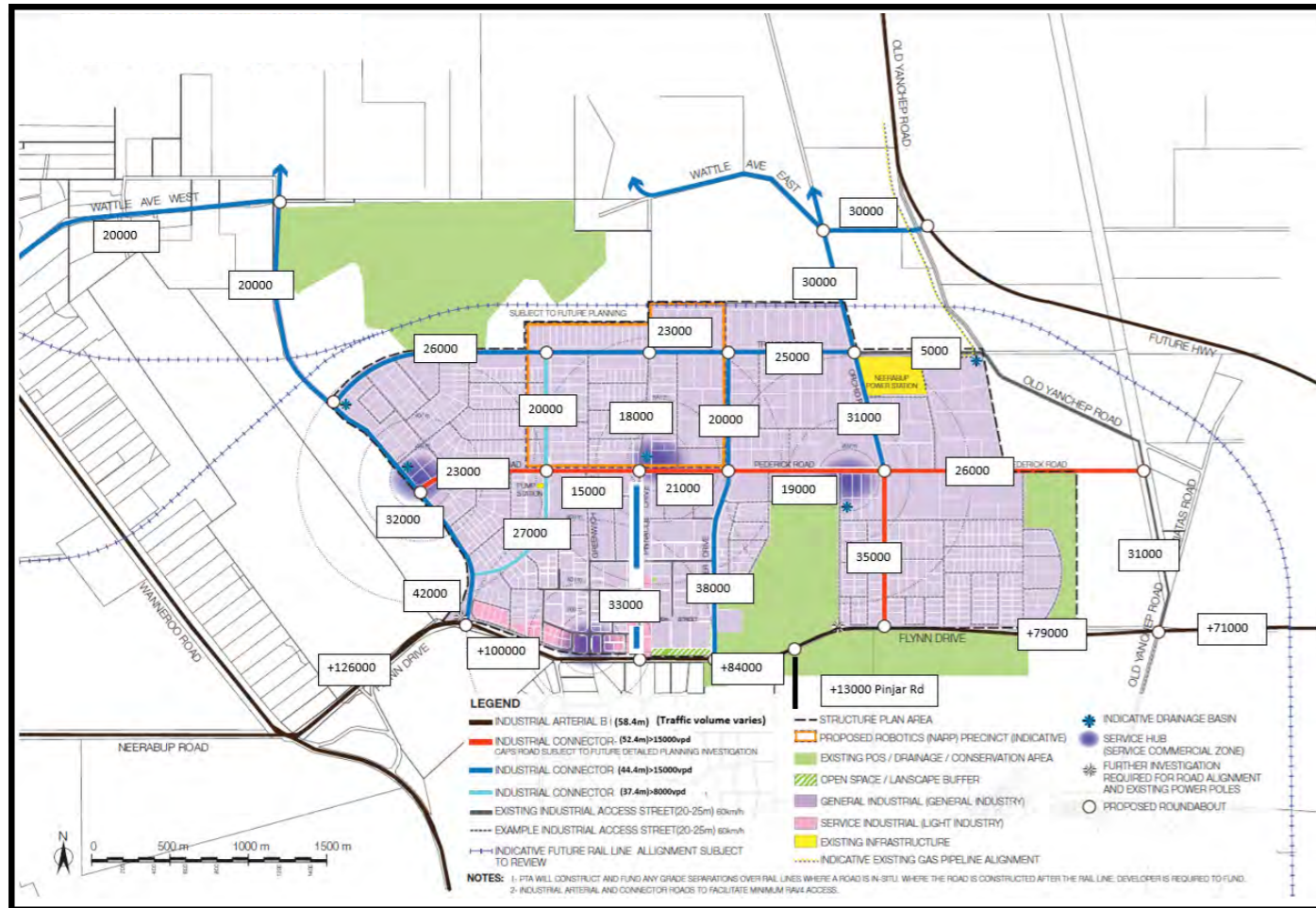


Figure 15: Projected Traffic Volumes in the NIA from Traffic and Transport Study
(Source: GHD and City of Wanneroo)

3.2.6 Minor road network

In regard to the content of the WAPC’s endorsed Structure Plan Framework, the location of minor roads are not identified in **Plan 1** (in Part 1) of the structure plan. Minor road alignments should be considered at the subdivisional stage of planning, in consideration of the final surface contours mapped out in **Plan 2** (in Part 1).

3.2.7 Passenger Rail

As outlined in Section 2.6.2 above, further investigation is required by the PTA and other relevant State Government agencies on whether a future passenger railway line will traverse through the northern extent of the NIA, as shown in the NWSRPF. This structure plan has been prepared on the assumption that passenger railway line will be provided.

Development of a railway station within or adjacent to the NIA area would only be considered by the PTA if it coincided with the development of high intensity land uses with high staff to floor space ratio. Given that industrial development provides for low intensity land use, the feasibility of a station within the NIA would be unlikely.

Grade separated crossings should be subject to further investigation by the PTA as to their need, feasibility and funding arrangements. In the Traffic and Transport Study provided as a Technical Appendix to this structure plan, it is expressed that the City had agreed that planning be undertaken noting two grade separated crossings – on the road which will be on the western extent of the NIA and Orchid Road. However, the City has since considered

that a third grade separated crossing is required at Pinnacle Drive; for the purpose of providing improved access to Barbagallo Raceway as well as improved connectivity from the NIA and the future Nowergup Industrial Investigation Area to the north.

3.2.8 Bus Servicing

At the time this Report was prepared, there were no bus routes that service the NIA. However as indicated in the Traffic and Transport Study provided as a Technical Appendix to this structure plan, Transperth could consider the following bus services to the NIA in the future:

- An extension of the 391 bus route, which currently terminates in Banksia Grove. This route would be extended along Flynn Drive toward Clarkson Station. The Traffic and Transport Study also identifies a possible deviation route through the NIA that could be explored by Transperth.
- A future bus route 478, as a feeder from Clarkson Train Station to the NIA via Neerabup Road and Flynn Drive.

Both the extensions of route 391 and new route 478 are low priority projects. Transperth has advised that it is difficult to provide bus routes through existing industrial areas, when patronage generally performs so poorly.

3.2.9 Pedestrian and Cyclist Movements

The Traffic and Transport Study provided as a Technical Appendix to this structure plan states that every local access street within the NIA should be equipped with a standard three-metre-wide concrete footpath on at least one side to facilitate walking. However, this is inconsistent with the City’s Pathways Policy, which prescribes that a pedestrian path of only 1.5 metres in width is required.

The Traffic and Transport Study also states that a footpath or shared path be provided on both sides of integrator arterials.

Figure 1 of the City’s Pathways Policy, in the form of a table, makes provision for pedestrian and cyclist facilities, depending on road type and characteristics. Minor adaptations to that table, adapted for an industrial setting, is provided as **Table 2**.

Additional provision for pedestrian and shared paths to what is outlined in the City’s Pathways Policy should only be considered where pedestrian and cyclist activity is high, such as near the service hubs. Confirmation and refinement for the provision of pedestrian facilities should be made as part of further planning at subdivision.

Delivery of active transport infrastructure through the NIA should also consider the Department of Transport’s Perth Long Term Cycle Network, as well as the City of Wanneroo Active Transport Plan 2022/23 to 2025/26.

Road	Characteristics		Facility Required	
	Speed	Indicative Volume (VPD)	Pedestrian/Cyclist	DoT or CoW Identified Bicycle Routes
Access Street	<50km/h	3000	1.5m pedestrian path	No bicycle facilities required
Access Street (near Service Hubs)	<50km/h	3000	2-2.5m shared path	2-2.5m shared path
Local Distributor	50km/h – 60km/h	7000	2-2.5m concrete shared path one side and 1.5m pedestrian path	<ul style="list-style-type: none"> 1.5m red asphalt cycle lanes (kerb separated); or 3m red asphalt shared path (in place of concrete shared path)
District Distributor B, Integrator B	50km/h – 60km/h	7,000 - 10,000	2-2.5m concrete shared path one side and 1.5m pedestrian path	<ul style="list-style-type: none"> 3m red asphalt shared path (in place of concrete shared path) Minimum 1.8m
District Distributor A, Integrator A	70km/h or greater	10,000 - 35,000	2-2.5m concrete shared path one side and 1.5m pedestrian path	<ul style="list-style-type: none"> 3m red asphalt shared path (in place of concrete shared path) Minimum 2m cycle lane
Primary Distributor	80km/h or greater	>20,000	2-2.5m concrete shared path one side and 1.5m pedestrian path	3m red asphalt shared path (in place of concrete shared path)

Table 2: Pathway Requirement Detail

3.3 Environmental Management

3.3.1 Dieback Prevention

ASP 17 retains a requirement that has been in place since its initial adoption for a Dieback Management Plan to be provided (where required) as a condition of subdivision. Appropriate provision is included in ASP 17 to ensure that hygiene management practices are implemented (where necessary) in order to avoid potentially devastating impacts on biodiversity.

This provision was initially put in place on advice from the (former) Conservation and Land Management (now DBCA), and maintained with regard to advice in the Environmental Assessment Report included as a Technical Appendix to this structure plan.

3.3.2 Karstic Features and Geotechnical Requirements

Karstic geology is extremely complex, difficult if not impossible to model and thus prediction of the location of cavities is not an exact process.

Typically at the structure planning stage, a Desktop Karst Survey will be prepared as a technical report to support a structure plan, pursuant to LPP 4.13. Regardless of whether a site has a ‘low’, ‘medium’ or ‘high’ karst risk, LPP 4.13 prescribes the following in terms of what is required at local structure planning stage:

A “Desktop Karst Survey” shall be prepared and included in Part 3 of the Local Structure Plan. The outcome and recommendations of the Survey will determine whether a “Geotechnical Report” and/ or “Karstic Features Management Plan” is required as a condition of Subdivision.

In addition to the complexity of natural karstic features, there is a risk to the instability of the ground that could be caused by basic raw material extraction and intensive agriculture. This is particularly the case if remedial works are not undertaken properly following the conclusion of those activities, and prior to subdivision.

This structure plan circumvents the preparation of a Desktop Karst Survey to determine whether a geotechnical report is required or not – and assumes that a geotechnical report should be typically required as a condition of subdivision in any event. This consideration was made in response to potential risks, given past and current land uses within the NIA.

Provisions have been included in Part 1 to reflect the requirement for a geotechnical report to be prepared as a condition of subdivision. A geotechnical investigation should certify that the land is physically capable of development or to advise how the land is to be remediated and compacted for further development. The wording of the subdivision condition should be consistent with that provided in the WAPC’s Model Subdivision Conditions Schedule (2021).

In respect to a ‘Karstic Features Management Plan’, LPP 4.13 makes provision for the following in relation to all karst risks:

The requirement for a “Karstic Features Management Plan” shall be recommended by the City as a condition of Subdivision where a provision has been included in Part 1 of the Local Structure Plan requiring one to be prepared.

Karst topography (caves in particular) located in and around the NIA may be of conservation significance due to the presence of rare fauna and to the recreational, ethnographic and palaeontological attributes they might possess. As a result, Part 1 of the structure plan requires the preparation of a karstic features management plan in areas of medium or high karst risk, given it is less likely that karstic features exist in low risk areas.

3.3.3 Interface with Surrounding Uses

3.3.3.1 Interface with Lake Neerabup

The western boundary of the NIA is defined by the existing Industrial zoning under the MRS, and the adjustments to that zoning boundary proposed under MRS Amendment 1379/57 (refer Section 1.3.1.1 above). The structure plan abuts the MRS Parks and Recreation reservation containing Lake Neerabup, which adequately accommodates the lake and associated wetland buffer.

To delineate the reservation and industrial development, a road edge is proposed as shown on the structure plan map provided in Part 1 (as shown on **Plan 1**). Batters between industrial development and the MRS reservation are required (as shown in Part 1, **Plan 2**), given that the final levels proposed for industrial development (post extraction) could differ from natural ground level at the reserve boundary.

A Landscape Master Plan could be prepared as a condition of subdivision to ensure sensitive treatments are incorporated into development adjacent to the MRS Parks and Recreation reservation.

3.3.3.2 Separation to Sensitive Land Uses

With regard to the impacts of specific industries on sensitive land uses, the EPA has prepared ‘Guidance for the Assessment of Environmental Factors: Separation Distances between Industrial and Sensitive Land Uses’ (2005). This Guidance Statement provides advice on generic separation distances between specific industry and sensitive land uses to avoid or minimise the potential for land use conflict.

The Guidance provided by the EPA was taken into account when setting out the extent of the Service Industrial Zone land through Amendment No. 202 to DPS 2. The EPA guidance has informed the separation between the General Industrial Zone to the north and sensitive residential and rural-residential land uses to the south of Flynn Drive.

3.3.4 Contaminated Sites

A search of DWER's Contaminated Sites Database identified one registered contaminated site affecting the NIA. That contaminated site is an abandoned putrescible landfill site located at Lot 503 (1851) Old Yanchep Road, Pinjar. The landfill was previously operated by the City and has been closed since the mid-1980's. Since the closure of the landfill, a plume of leachate has spread west and is being monitored (refer Section 2.3.3 above).

The presence of the plume should not prevent most industries from operating within the NIA; however, it does present an issue of future liability for the future industries. This liability will need to be fully disclosed by way of notifications on Certificates of Title.

The eastern part of the NIA does contain active and former market garden sites. Current and historic intensive agricultural activities within the NIA have the potential to result in contamination. Subdivision and development of land potentially impacted by prior contaminating activities should prompt the requirement for a Preliminary Site Investigation (PSI) being undertaken.

3.4 Water Management

The LWMS contained as a Technical Appendix to this structure plan provides detail on the approach for management of stormwater runoff and water resources across the NIA. The urban water management measures outlined in the LWMS are in accordance with the existing SPP 2.9 (WAPC, 2006) and 'Better Urban Water Management' (WAPC, 2008).

3.4.1 Stormwater Management

Management of stormwater in the NIA should occur in a manner consistent with DWER water sensitive urban design practices outlined in the following:

- *Decision process for Stormwater Management in WA* (DWER 2017);
- *Stormwater Management Manual for Western Australia* (Department of Water 2004-2007);
- *Development Design Specification WD5: Stormwater drainage design* (City of Wanneroo 2019); and
- *City of Wanneroo Local Planning Policy 4.4: Urban Water Management* (City of Wanneroo 2020).

There are three drainage basins within the areas that are already developed. The drainage infrastructure in the existing developed portions of the NIA will not impact on the provision of future drainage infrastructure required as the NIA further develops.

Industrial lots should also retain and treat stormwater onsite using rainwater tanks and/or biofiltration.

For small events, impervious road catchment runoff could be managed in the road reserve through the treatment and infiltration via suitable bioretention elements. For example, tree pits sited in the road reserve could be used to capture and retain stormwater runoff from small events.

For major events, road catchment flows at or exceeding the 10% Annual Exceedance Probability storage will be conveyed via roads, roadside swales, as well as via the pit and pipe network to flood storage basins.

The LWMS identifies the prospect of an additional eight drainage basins required to service the NIA. The basin sizing required as modelled in the LWMS is based on a hydraulic conductivity of five metres per day, which is a

conservative value based on 5.9m/day from Perth Geotechnics (2019). The number, location and sizing required of drainage basins will be better established as the NIA is further subdivided and developed, and Urban Water Management Plans (UWMP) are formulated to support that development.

3.4.2 Water Supply, Conservation and Management

Although water demands can vary significantly depending on industry type, the LWMS still estimates industrial water demand for the NIA as it develops.

In order to service the NIA, there will be a demand for a combination of drinking and non-drinking water. Lighter industries will demand more drinking water than non-drinking water, whereas the opposite is projected for heavier industries. By the time of ultimate development in the NIA, the LWMS projects a total demand of 7,020ML of water per annum, split between drinking water demand (2,106ML) non-drinking water demand (4,914ML).

Scheme water will be utilised for all potable water uses in the NIA; and for some non-potable uses within buildings where potable water sources are not available or viable. The infrastructure needed to deliver scheme water to development in the NIA is discussed further in Section 3.5.1.

Non-potable water sources could include:

- Rainwater harvesting (i.e. the use of rainwater tanks and underground storage systems). The provision of rainwater harvesting structures to support industrial development could be implemented through guidelines that the City and/or a developer could formulate; and
- Utilising the multiple registered groundwater licences. Many of these licences have large groundwater allocations, which could potentially be redistributed following a change of land use in the future. Detail of any groundwater licence transfers can be provided in future UWMP's.

The LWMS also provides discussion on alternative or innovative water sources; such as recycled water or treated wastewater from the Beenyup or Alkimos Wastewater Treatment Plants. These water sources could provide additional non-potable water to the NIA, which could be explored and implemented by landowners or developers.

Landscaped public open space (POS) areas in the NIA should incorporate native species that require establishment irrigation only. Turfed areas may be provided in POS areas close to high amenity, and will need to be permanently irrigated.

UWMP's will be formulated at the subdivision stage of planning, which will outline the amount of water that POS areas will need. POS water demands should be in line with the North West Corridor Water Supply Strategy (City of Wanneroo and Department of Water 2014), which recommends an establishment irrigation rate of 6,750 kL/ha/year.

3.4.3 Groundwater Monitoring

As outlined in the LWMS (provided as a Technical Appendix to this structure plan) pre-development groundwater monitoring should be completed for an 18-month period immediately preceding development. Results from the pre-development groundwater monitoring should be reported in the UWMP prepared at subdivision stage. Further details on conducting pre-development groundwater monitoring is provided for in the LWMS or through DWER.

3.4.4 Groundwater Management

As outlined in the LWMS (provided as a Technical Appendix to this structure plan), DWER has provided its Perth Region Aquifer Model (PRAMS) outputs. The PRAMS model outputs are provided for the purposes of assessing change in groundwater levels, and to provide a conservative estimate of future groundwater levels. The PRAMS model shows that across the majority of the NIA, the groundwater levels in the superficial aquifer are estimated to increase by three to four metres from current levels. Despite the predicted depths to groundwater and changes in groundwater allocation in the Wanneroo area, adequate clearance from development in the NIA to groundwater can still be achieved.

Based on the stormwater quality measures, infiltration of stormwater drainage within the structure plan area is not expected to pose a significant risk to groundwater resources or associated water dependent ecosystems. Based on the clearance of more than five metres from finished surface levels to predicted groundwater levels, no groundwater level management is proposed.

Discussion on contaminated sites, which also affects groundwater and its management, is provided for in Section 3.3.4 above.

3.5 Utility Service Provision

3.5.1 Water Supply Infrastructure

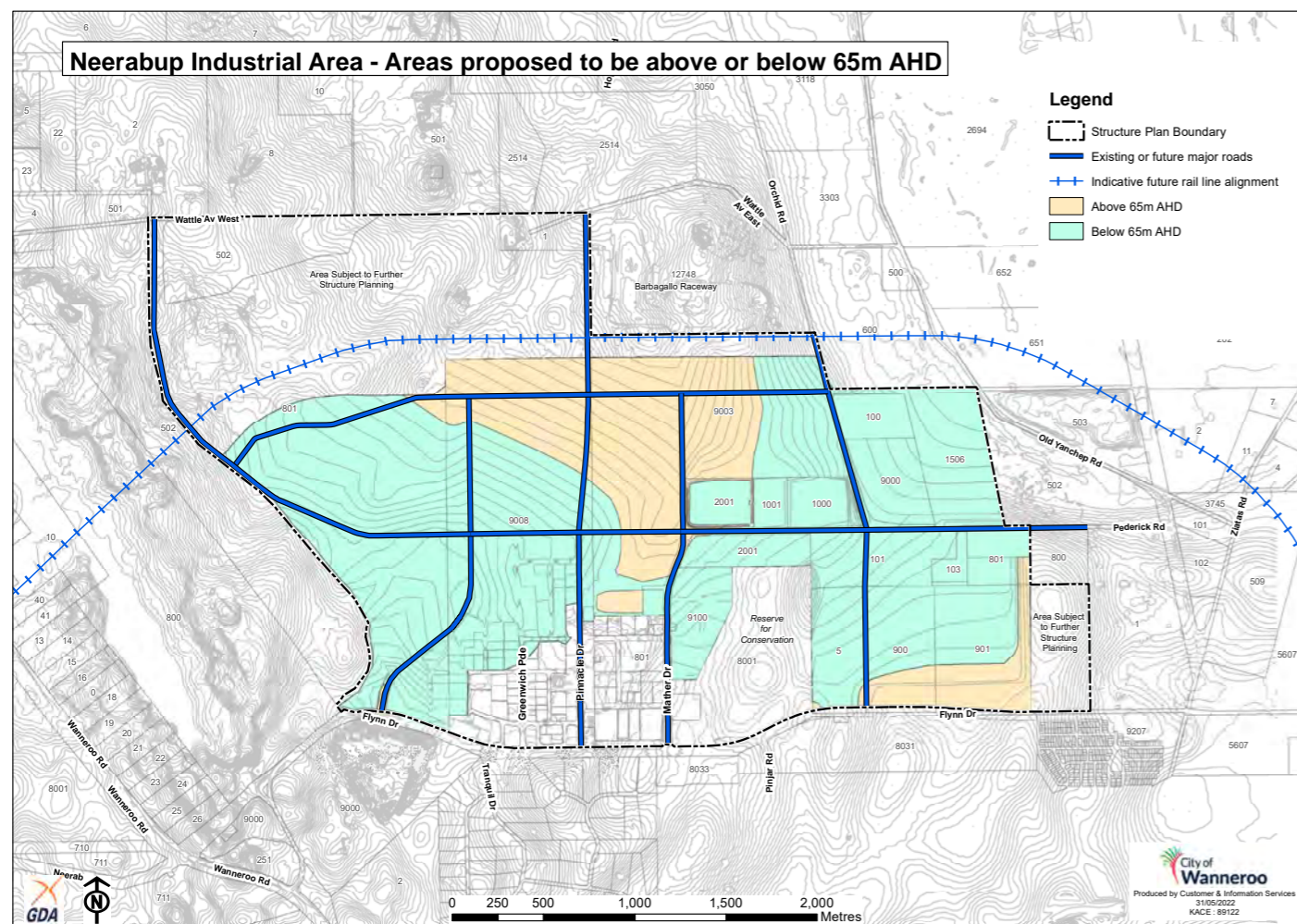


Figure 16: Levels Above or Below 65m AHD as shown on the Final Surface Contour Plan
(Source: City of Wanneroo)

The NIA is primarily fed by a water main extending along Flynn Drive, from Old Yanchep Road to Mather Drive. The Flynn Drive main also branches off at Pinjar Road, servicing development south of Flynn Drive. The water main then runs along Mather Drive, with branch mains running along Warman Street and Avery Street, servicing all industrial development to the west of Mather Drive. No Water Corporation infrastructure exists north of Peak Road.

The Water Corporation has advised of their preference for subdivision and development to occur where the levels will be below 65m AHD first, so that development can be adequately serviced via extensions to the existing network mains. **Figure 16** below indicates the extent of the NIA that the Final Surface Contour Plan shows as having a level at or below 65m AHD.

Water servicing of areas developed to levels above 65m AHD will require additional Water Corporation Infrastructure, such as pressure booster stations and high-level water tanks. The Water Corporation has identified the possibility of a local booster station near the corner of Flynn Drive and Mather Drive. This booster station would supply higher ground levels that would be determined through a design and feasibility exercise. It is likely that this infrastructure will allow water to service lots to 80 metres AHD, and be constructed by 2028.

The Water Corporation also own Lot 10 Wattle Ave West, Nowergup, located to the north of the NIA. Water Corporation are proposing to accommodate a storage tank, if and when they need to develop a future Nowergup water supply scheme. Water Corporation's long term planning indicates that these works may be required around 2040 or beyond.

3.5.2 Wastewater

Wastewater from existing development west of Mather Drive currently discharges to the Redheart Road Wastewater Pump Station; located in Carramar. The City's subdivision of Lot 9100 will also discharge wastewater toward this pump station.

Wastewater from DevelopmentWA's Meridian Park subdivision, such as development on either side of Greenwich Parade, is discharging to a temporary tankering arrangement at the end of Horizon Terrace. A new wastewater pump station to the northwest on Altitude Drive will be completed and will result in the removal of the temporary arrangement on Horizon Terrace.

Water Corporation planning has identified the need for three further wastewater pump stations for industrial development to be serviced – two in the western part of the NIA and one in the east. More detail is provided in the Servicing Study, provided as a Technical Appendix to this structure plan.

3.5.3 Electricity

The existing power network in the NIA consists of generation, transmission and distribution infrastructure.

The NewGen Neerabup 330MW gas fired power station is connected to the Western Power Network Terminal, located on Ziatas Road, Pinjar. Connection to the Terminal is via a 330kV transmission line that runs along Trandos Road and Old Yanchep Road.

There are also two 132kV transmission lines that feed off the terminal and traverse through the NIA. The first runs along Old Yanchep Road, the southern side of Pederick Road, Mather Drive and Flynn Drive. The second runs along Old Yanchep Road, the northern side of Pederick Road and the future Orchid Road alignment. Ideally, the transmission lines should be protected within a widened road reserve, as relocation would be costly for stakeholders to undertake.

The existing Western Power 22kV distribution network within the NIA comprises of a combination of overhead and underground cables.

Given the expected future demand for electricity, the NIA would require a minimum of one new Western Power substation; the timing of which will depend on electricity demand. Western Power already own a 2.2 hectare site on Mather Drive; however this site is constrained by a Bush Forever designation. Western Power would need to consider whether they pursue the development of a sub-station on their Mather Drive site, or acquire another site (or sites) elsewhere to facilitate the necessary substation infrastructure.

Alternative electricity supply arrangements, such as solar PV generation (ground mounted arrays and roof top installations), supplemented by battery storage to create a grid-connected microgrid, could also be further explored. Further discussion on this is provided in Appendix H of the Servicing Report provided as a Technical Appendix to this structure plan.

Prior to subdivision, developers may need to consider engaging Western Power to perform a feasibility study, that would provide a better understanding of the timing, extent and projected costs for network reinforcement that may be required. Information on seeking a feasibility study can be found in the Servicing Report.

3.5.4 Gas

An ATCO high-pressure gas pipeline (1900kPa) runs east-west along Flynn Drive. An additional high-pressure gas pipeline (350 kPa) feeds off the Flynn Drive pipeline, and runs along Mather Drive and Pederick Road. The NewGen Neerabup Power Station on Trandos Road is also serviced by a private gas pipeline, which spurs off the Dampier to Bunbury gas pipeline.

Development immediately west of Mather Drive is not serviced by gas infrastructure at this stage. Development WA's Meridian Park subdivision further west is supplied by gas via the main running along Flynn Drive.

Based on current expected development in the NIA, only a 600kPa high-pressure mains extension along Avery Street will be needed at this stage, from Mather Drive to Development WA's subdivision to the west. No other high-pressure gas mains in the NIA are expected to be required or are planned for at this stage.

Further subdivision and development in the NIA can obtain gas connection via the existing (or planned) high-pressure gas mains, or an extension of the existing lower-pressure mains.

3.5.5 Telecommunications

Optus, Telstra, TPG and nbn all have communications infrastructure in the NIA. Future developers and subdividers can make arrangements with nbn or other providers to provide fibre infrastructure, as per the standard processes.

The cabled telecommunications network is supplemented by wireless technology, through multiple cellular telecommunications infrastructure installations located within and near the NIA. Concerning the planning for additional wireless telecommunications infrastructure through the structure plan, the provisions of Section 6.2 of State Planning Policy 5.2: Telecommunications Infrastructure has been considered. Section 6.2 states as follows:

In the preparation and assessment of structure plans at the local level, consideration should be given to the need for telecommunications services in supporting documentation. Early consideration of wireless and mobile phone telecommunication system requirements allows for them to be incorporated into the design process and mitigate any potential visual impacts to the community.

Mobile phone towers and other cellular technology instalments (telecommunications infrastructure) can be compatible with industrial development. DPS 2 deals with telecommunications infrastructure as a discretionary

(or 'D') use in the local planning scheme's industrial zones. Telecommunications infrastructure installations in an industrial setting does not warrant an extensive consideration of visual impacts, compared to similar installations in other zones.

Given the land use permissibility of telecommunications infrastructure, and the limited detrimental visual impacts telecommunications infrastructure can pose in an industrial area, there is flexibility on where future mobile phone towers could locate in the NIA. It should therefore be left up to service providers to identify sites for new infrastructure, based on the provision of an optimal service for users.

3.6 Built Form and Landscaping

3.6.1 Subdivision and Built Form Considerations

Enclosed as a Technical Appendix to support this structure plan is a Subdivision and Built Form Report. That Report provides recommendations on achieving a high-quality subdivision layout and built form outcomes for the NIA in order to deliver:

- A streetscape that is inviting and attractive; with street trees, verge treatments and infrastructure suitable in minimising negative visual impacts that are inevitably caused by industrial development and onsite car parking areas;
- Subdivision layout and lot size appropriate for an industrial area like Neerabup – which invites the establishment of desirable industrial uses; and
- A built form that is attractive and suitable for an industrial area that is seeking to attract conventional and innovative industries.

ASP 17 is a 'standard structure plan' in the context of the Deemed Provisions, meaning "a plan for the coordination of future subdivision and zoning of an area of land". This is further supported by what is prescribed in the Structure Plan Framework (WAPC, 2015), which states that structure plans are not intended to determine built form; and that if guidelines on built form are required for specific sites within the structure plan area, local planning policies or local development plans are to be prepared.

Guidance to deliver the desired built form outcomes should therefore be provided through other planning instruments available to the City, such as a local development plan. Part 1 of this structure requires the formulation of local development plans where specific design outcomes are the most warranted, such as in the following instances:

- Within the Service Hubs;
- Sharing boundaries with POS areas;
- Abutting the proposed rail corridor; and
- Accessed by Controlled Access Places (CAPS) roads.

The Subdivision and Built Form Report encourages the expansion of the use of design guidelines to achieve built form outcomes. This could occur by means of guidelines by the City (in the future) implemented through a local planning policy – or as guidelines that could exist outside the formal planning framework, implemented by developers and subdividers.

The Subdivision and Built Form Report details the existing design guidelines Development WA applies in its Meridian Park Industrial Estate. These guidelines were referenced as an example of how design outcomes can be implemented outside the City's planning framework.

3.6.2 Lot Sizes, Shape and Frontage

DC 4.1 makes provision for industrial lot sizes and shapes. Although DC 4.1 does not set a minimum lot size for industrial areas, it does encourage the creation of lots that consider maximum utility for building space and accessibility. DC 4.1 also encourages a variety of lot sizes to cater for different types of industrial activities, varying according to function and purpose.

Consistent with DC 4.1, the planning framework affecting the NIA does not set a minimum lot size for industrial land. However, as indicated in the Subdivision and Built Form Report, a diversity of lot product should be provided for in the NIA, ranging from 1,000m² to 10 hectares (or larger). Smaller freehold lots would broaden the appeal of the NIA and respond to the owner-occupier and investor market. Larger lots (of five or more hectares) would attract and support large-scale industries.

A road network supporting rectangular lots should be created where possible, so as to avoid 'dead spaces' which can occur on oddly shaped lots. Industrial lot frontages of at least 30 metres should be provided, to provide sufficient usability of land as well as sufficient spacing between crossovers.

The Concept Masterplan (included in Section 2.6.1 as **Figure 12**) was developed in a manner that demonstrates that a flexibility of lot sizes can be created (depending on market demand); and which can be appropriately shaped.

3.6.3 Car Parking

Car parking ratios for most forms of industrial land uses expected to be developed in the NIA are prescribed in the local planning scheme.

Maintaining effective car parking ratios in the local planning scheme will ensure that undesirable and unsightly car parking outcomes are minimised as much as is practicable. Further actions encouraged through the Subdivision and Built Form Report include the provision of on-street parking on minor roads in the appropriate circumstances, which will provide an ordered method of off-site car parking. Although the Subdivision and Built Form Report shows cross-sections of on-street parking for minor roads with a 25m-wide road reserve, the provision of on-street bays could be supported (where practicable) for minor roads with a lesser road reserve width.

A Car Parking Strategy, prepared as part of the planning framework review for the NIA is included as a Technical Appendix to this structure plan. This Strategy identified that car parking standards prescribed in the local planning scheme for many industrial uses may need to be higher, noting the uncontrolled parking overflow into the public domain occurring in the Wangara Industrial Area.

The City did not consider it appropriate for Amendment No. 202 to broadly respond to the recommendations of the Car Parking Strategy. However, the recommendations contained in the Car Parking Strategy should be considered by the City as part of the review and formulation of Local Planning Scheme No. 3.

3.6.4 Public Open Space

As outlined in DC 4.1, the WAPC has no general requirement for the provision of POS in industrial areas. However, DC 4.1 does recognise that POS may be made available in industrial areas to provide adequate facilities for both passive and active recreation during workers' leisure periods.

The City in its Local Planning Policy 4.3: Public Open Space (**LPP 4.3**) makes provision in respect to POS in industrial areas. Under LPP 4.3, POS in industrial areas should constitute between 2% and 5% of the gross subdivisible area. In the case of development in the NIA, and pursuant to LPP 4.3, the City considers that 2% POS within the

remaining gross subdivisible area is sufficient, given that such spaces perform the following functions:

- Contribute to improved stormwater quality through water sensitive urban design;
- Provide an opportunity for unstructured recreation during working hours (lunch breaks etc.) and to improve amenity within a built environment;
- Be located where walkable catchment can be maximised and of appropriate size to provide an area protected where possible from the impacts of surrounding industry; and
- Retain natural assets where possible.

POS could also be designed and located to provide entry statements or to serve as a separation between major roads and industrial development.

LPP 4.3 does make exceptions for POS to not be required in industrial areas; however, those exceptions are not considered to apply to industrial development of the NIA.

Part 1 of the structure plan (**Plan 3**) divides the remaining gross subdivisible area into four sectors in order to guide POS provision. The sectors are set out or grouped based on land ownership at the time the sectors were set. The provisions of Part 1 prescribe a POS minimum area (in hectares) for each sector, equating to 2% of the total area of the sector.

Conservation areas, subdivided land immediately west of Mather Drive and land that is subject to further structure planning are not included into any sector, given the inappropriateness to prescribe additional POS for these areas.

The sectors were established in consultation with major landowners. For example, the extent of Sector 1 was established in consultation with DevelopmentWA; and at their request, incorporates land that was already subdivided in the Meridian Park Industrial Estate at the time the sectors were set. This was to ensure POS provision affecting DevelopmentWA factored in a four hectare POS area located at the south-western corner of Pederick Road and Altitude Drive.

This method of using sectors is considered to provide a more flexible approach, compared to the more conventional way of showing POS areas on a structure plan. The sector method also provides more flexibility for a developer to nominate how and where they wish for POS to be located, based on design outcomes they are seeking to achieve.

3.6.5 Final Surface Contour Levels

The contours on the Final Surface Contour Plan, provided in Part 1 (**Plan 2**) were derived following consideration of resource extraction objectives, quarrying, current developments and the need to achieve optimum grades for industrial development. In preparing Amendment No. 7 to this structure plan, the City factored in DevelopmentWA desired design levels for the southern extent of Lot 801 Flynn Drive.

The final surface contour levels discourage excessive extraction which may otherwise slow the rate of land release for industrial uses. The levels have also been set to facilitate efficient design as well as the construction of stormwater drainage and gravity sewer systems.

The Final Surface Contour Plan also recognises further considerations for final contours are needed in vicinity of the proposed rail alignment through the northern part of the NIA. This structure plan recognises that the final levels of this railway may not be known for some time – if the railway is delivered at all.

Where it is necessary to fill particular areas in order to comply with the Final Surface Contour Plan, only clean fill material should be used. The importation and transportation of fill should occur in a manner suitable for industrial development to the satisfaction of the City and other relevant government agencies.

Landowners may pursue a review of the Final Surface Contour Plan if:

- Resource extraction rates are not enabling the timely supply of industrial land; or
- In the event that land supply is required to be brought forward to support specific industrial proposals of strategic significance.

The following is a summary of the considerations that apply when setting contours at subdivision stage:

- First and foremost – subdivision should be carried out in a manner that achieves levels that are consistent with those found on the Final Surface Contour Plan (contained in Part 1, as **Plan 2**).
- Minor variances to the Final Surface Contour Plan and/or the criteria set out below can be considered at subdivision stage.
- Final levels should attain an optimum balance between:
 - o Maximising resource extraction potential for individual landowners;
 - o Ensuring that the level of resource extraction proposed does not compromise the ultimate industrial development; and
 - o Maintaining an integrated approach to the planning of final levels across the structure plan area.
- The desirable gradient for the provision of optimum industrial land is 1% with a maximum acceptable gradient (without benching) of 2.5%.
- Benching results in increased development costs and reduced effective land area and should be avoided where possible. Benching may be used where necessary to meet existing base levels, to achieve higher value industrial land, or for other reasons which will add value to, or not compromise, industrial development objectives.
- Design levels should ensure that the land can be efficiently serviced and staged for subdivision, sale and development for industrial use after extraction is complete. In setting design levels, subdividers and/or developers should have regard for the principal road, zoning and land use detail contained within Part 1 of the structure plan and the local planning scheme.
- The management of any environmental impediments that may exist.
- The design levels provide for adequate groundwater separation, to the requirements of DWER or any other government agency.

The relevant principles listed above should also be applied when undertaking resource extraction or earthworking pursuant to a development approval.

Significant variances to design levels outlined in the Final Surface Contour Plan should be considered through a formal amendment to this structure plan, lodged and determined prior to subdivision of the affected land. A structure plan amendment proposal should demonstrate that revised levels can coordinate with existing or proposed levels of adjoining land, and not compromise the delivery or effectiveness of drainage, road or other infrastructure.

3.6.6 Staging

The structure plan is not accompanied by a staging plan for the reasons as outlined in Part 1. At this stage in the planning process, a staging program will be highly speculative as it will be based on very generalised assumptions about resource extraction rates, landowner intentions, and industrial land demand.

3.7 Bushfire Management

Only land in proximity to the structure plan boundaries, or adjacent to significant areas of remnant vegetation to be retained, will be subject to bushfire exposure once the NIA is fully developed. This is indicated by the BAL contour map contained in the BMP and provided as **Figure 17** below. Bushfire risk exposure can be mitigated by wider road reserves, increasing separation distances, the position of buildings on lots, and the use of Asset Protection Zones (**APZ**).

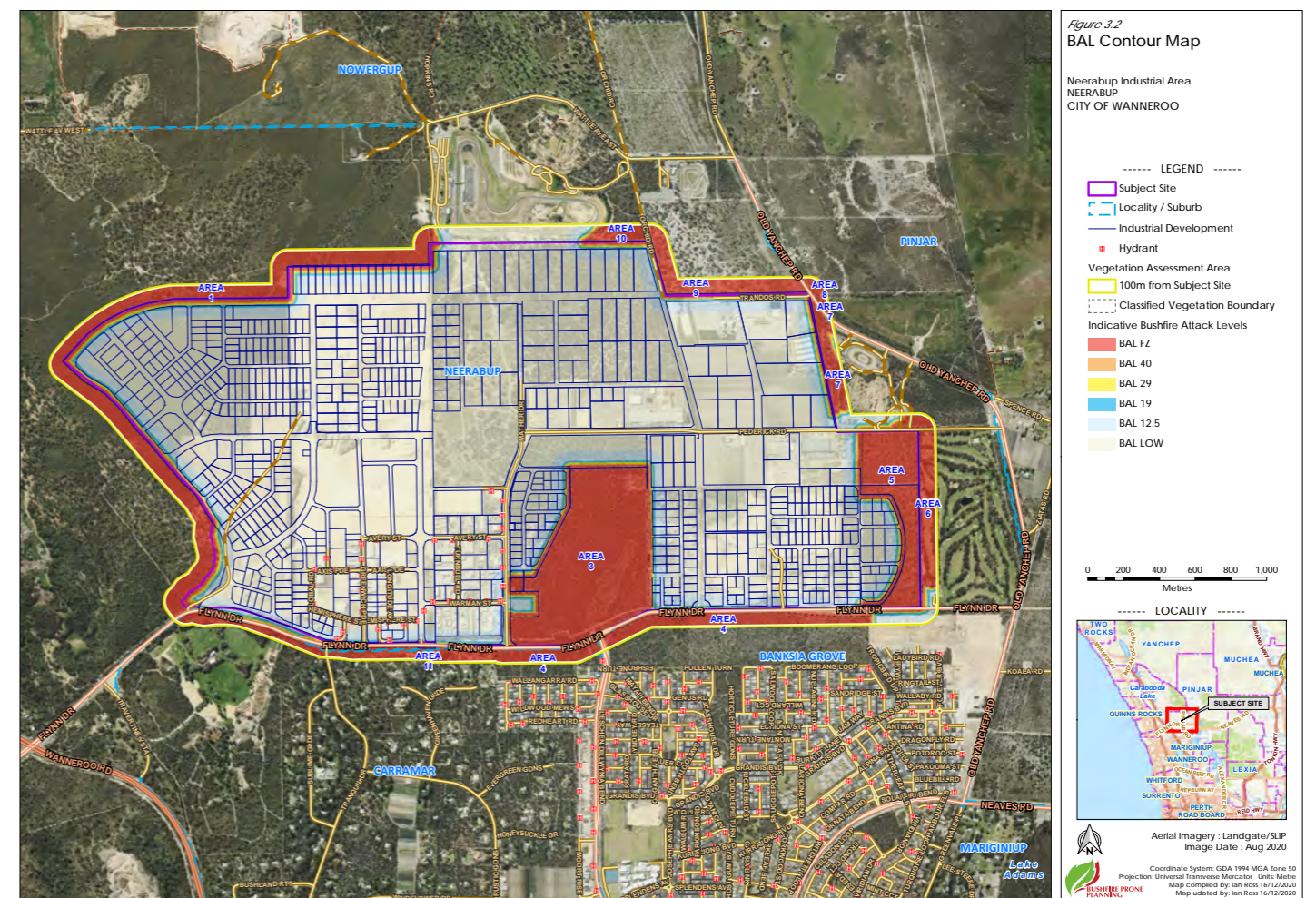


Figure 17: Bushfire Management Plan Extract – BAL Contour Map
(Source: Bushfire Prone Planning and City of Wanneroo)

The BMP, which is provided as a Technical Appendix, recommends that more detailed assessment of bushfire risk should be undertaken at future planning stages. This is reflected in Part 1, which requires a further BMP to be prepared to support subdivision of land in the bushfire prone areas identified by the Fire and Emergency Services Commissioner under the *Fire and Emergency Services Act 1998*.

The City may recommend subdivision conditions to the WAPC for a notification to be placed on the Certificate of Title for proposed lots that have a bushfire attack level (BAL) rating of 12.5 or higher. This is a recommendation of the BMP and is consistent with the provisions contained in SPP 3.7.

High-risk land uses such as service stations, fuel depots and some transport operations are likely to locate in the NIA. Proposals for such uses should address bushfire risk and/or be avoided on lots that abut bushfire prone vegetation.

3.8 Development Contribution Arrangements

Development contributions can be sought by a local government for infrastructure items required to support development of an area.

A DCP will need to be prepared to outline the development contribution arrangements for the NIA. The City will arrange the preparation of this DCP, which will later be formalised through an amendment to the local planning scheme, guided by the provisions of SPP 3.6.

Once that local planning scheme amendment is approved, development contributions will be enforceable through the scheme, thereby ensuring statutory compliance. The City will thereafter be the custodian and administrator of the development contribution plan, including the formal collection of contributions collected.

ACRONYMS AND ABBREVIATIONS

AARP	Australian Automation and Robotics Precinct
Act	<i>Planning and Development Act 2005</i>
AHD	Australian Height Datum
APZ	Asset Protection Zone
ASP 17	City of Wanneroo's Neerabup Industrial Area Agreed Local Structure Plan No. 17
ASP 21A	City of Wanneroo's Banksia Grove Local Structure Plan No. 21A
ASP 61	City of Wanneroo's Lot 1 & 2 Flynn Drive, Carramar Local Structure Plan No. 61
BAL	Bushfire Attack Level
BMP	Bushfire Management Plan
BRM	Basic Raw Materials
CAPS	Controlled Access Places roads
City	City of Wanneroo
dB(A)	A-weighted decibels
DC 4.1	Development Control Policy 4.1: Industrial Subdivision
DCP	Development Contribution Plan
Deemed Provisions	Deemed provisions for local planning schemes contained in Schedule 2 of the <i>Planning and Development (Local Planning Schemes) Regulations 2015</i>
DMIRS	Department of Mines, Industry Regulation and Safety
DPLH	Department of Planning, Lands and Heritage
DPS 2	City of Wanneroo District Planning Scheme No. 2
DWER	Department of Water and Environmental Regulation
Economic Strategy	City of Wanneroo Economic Development Strategy and Action Plan 2016-2021
ES	Extraction Sites
GeoVIEW.WA	Interactive Geological Map, managed by DMIRS
GHD	GHD Pty Ltd
HWL	High wide load
LBP	City of Wanneroo Local Biodiversity Plan 2018/19-2023/24
LPP 1.1	Local Planning Policy 1.1: Conservation Reserves
LPP 2.5	Local Planning Policy 2.5: Telecommunications Infrastructure
LPP 4.3	Local Planning Policy 4.3: Public Open Space

LPP 4.4	Local Planning Policy 4.4: Urban Water Management
LPP 4.13	Local Planning Policy 4.13: Caves and Karstic Features
LWMS	Local Water Management Strategy
Model Provisions	Model Provisions for local planning schemes found in Schedule 1 of the <i>Planning and Development (Local Planning Schemes) Regulations 2015</i>
MRS	Metropolitan Region Scheme
MRWA	Main Roads Western Australia
NFMP	Native Fauna Management Plan
NIA	Neerabup Industrial Area
NWSRPF	Perth and Peel @3.5million – North-West Sub-regional Planning Framework
OSOM	Oversize and Over-Mass
POS	Public Open Space
PRAMS	Perth Region Aquifer Model
PSI	Preliminary Site Investigation
PTA	Public Transport Authority
RAV 4	Restricted Access Vehicle Class 4 route
RAV 7	Restricted Access Vehicle Class 7 route
Regulations	<i>Planning and Development (Local Planning Schemes) Regulations 2015</i>
SGS	Significant Geological Supplies
SPP 1	State Planning Policy 1: State Planning Framework
SPP 2.2	State Planning Policy 2.2: Gnamara Groundwater Protection
SPP 2.4	State Planning Policy 2.4: Planning for Basic Raw Materials
SPP 2.9	State Planning Policy 2.9: Water Resources
SPP 3.6	State Planning Policy 3.6: Infrastructure Contributions
SPP 3.7	State Planning Policy 3.7: Planning in Bushfire Prone Areas
SPP 5.2	State Planning Policy 5.2: Telecommunications Infrastructure
Sub-Region	North-western sub-region of the Perth Metropolitan Area
UWMP	Urban Water Management Plan
WAPC	Western Australian Planning Commission

APPENDIX 1 – PLANNING POLICY DETAIL

State Planning Policies

State Planning Policy 1: State Planning Framework Variation 3 (WAPC, 2017)

As outlined in State Planning Policy 1: State Planning Framework (**SPP 1**), its key purposes include:

- Bringing together existing State and regional policies, strategies, and guidelines within a central State Planning Framework which provides a context for decision-making on land use and development in Western Australia;
- Informing the WAPC, local government and others involved in the planning process on State level planning policy; and
- Informing what is to be taken into consideration, and given effect to, in order to ensure integrated decision-making across all ‘spheres’ of planning.

This structure plan is not directly part of the State Planning Framework. However, it is recognised that local structure plans are within the ‘sphere’ of planning referred to above, and that various planning instruments within the State Planning Framework have influenced the preparation of this structure plan.

State Planning Policy 2.4: Planning for Basic Raw Materials (WAPC, 2021)

The intention of State Planning Policy 2.4: Planning for Basic Raw Materials (**SPP 2.4**) is to ensure basic raw materials (**BRM**) and extractive industry matters are considered during planning and development decision-making, and to facilitate the responsible extraction and use of the State’s BRM resources.

SPP 2.4 lists the categories of ‘Significant Geological Supplies’ (**SGS**) being highest priority areas for BRM extraction, ‘Extraction Sites’ (**ES**) where BRM is being extracted as well as Exclusion Areas. All three of these categories are identified as being located within and in proximity to the NIA on Department of Mines, Industry Regulation and Safety (**DMIRS**) Interactive Geological Map (**GeoVIEW.WA**). Information extracted from the GeoVIEW.WA mapping affecting the NIA and surrounding areas is provided as **Figure A1**.

This structure plan is a ‘local planning instrument’ in the context of SPP 2.4. Under SPP 2.4, local planning instruments should (where appropriate):

- identify SGS areas, their separation distances and establish transitional land uses and interface areas to:

 - protect known BRM SGS areas and ES from encroachment by incompatible land uses;*
 - avoid any health risks or amenity implications for adjacent land uses;**
- not compromise the extraction of resources on SGS areas and ES;*
- require an approved structure plan where future urban or industrial land is proposed for BRM extraction areas and sequential land use that demonstrates land staging and site remediation including identification of finished ground levels;*
- seek to locate new urban and industrial areas on land where the need for additional imported fill is minimised; and*
- require proposals for subdivision to minimise imported BRM for new urban and industrial areas.*

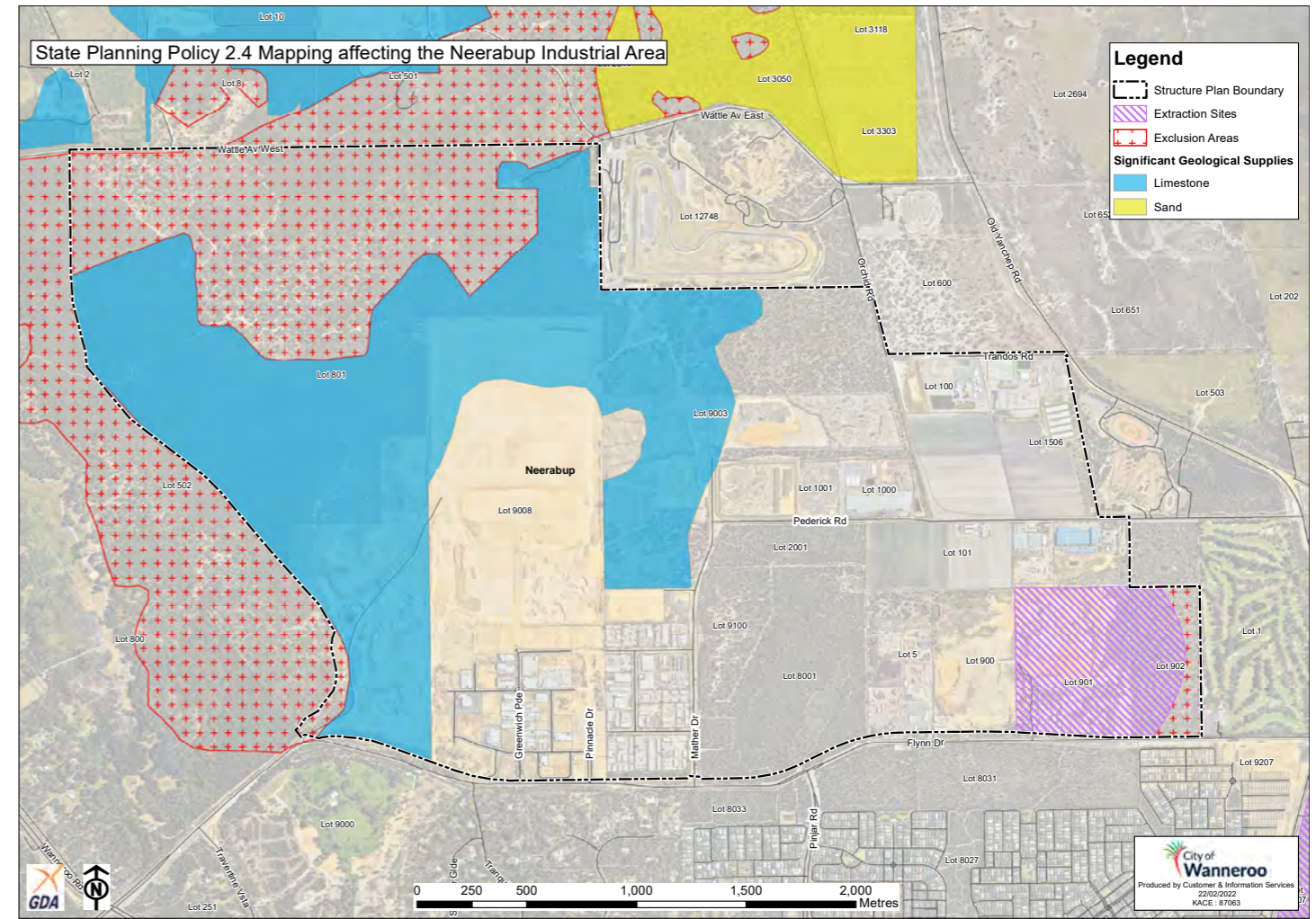


Figure A1 Information Extracted from GeoVIEW.WA - SPP 2.4 Mapping

(Source: DMIRS)

Supplementary information to that provided in SPP 2.4 is also contained in the State Planning Policy 2.4: Planning for Basic Raw Materials Guidelines.

Further discussion on how this structure plan attempts to address the co-existence and timing of industrial development and BRM extraction is provided in Section 2.6.4 of the Report.

State Planning Policy 3.6: Infrastructure Contributions (WAPC, 2021)

Future development of public open space, major roads, drainage and other infrastructure works in the NIA would benefit from a Development Contribution Plan (**DCP**) being prepared. This structure plan would inform the basis of a DCP, which could be prepared by the City.

State Planning Policy 3.6: Infrastructure Contributions (**SPP 3.6**) also provides the following policy objectives:

- *Facilitate the efficient and effective provision of infrastructure and facilities that are essential to meet the demands arising from population growth and development;*
- *Provide a system for the coordinated delivery of infrastructure necessary to facilitate new urban growth opportunities to achieve compact, consolidated towns and cities;*
- *Provide clarity on the acceptable methods of collecting and coordinating contributions for infrastructure;*

- *Establish a system for apportioning, collecting and spending contributions for infrastructure that is transparent, equitable, accountable and consistent; and*
- *Guide an efficient dispute resolution and arbitration process.*

SPP 3.6 provides eight measures and principles underlying infrastructure contributions – being ‘need and the nexus’, ‘transparency’, ‘equity’, ‘certainty’, ‘efficiency’, ‘consistency’, ‘accountable’ and ‘right to consultation and review’. SPP 3.6 also prescribes that development contributions are for the initial capital requirements only and not for ongoing maintenance or operating costs of the infrastructure, beyond that required of developers through the subdivision and development process.

State Planning Policy 3.7: Planning in Bushfire Prone Areas (WAPC, 2015)

State Planning Policy 3.7: Planning in Bushfire Prone Areas (**SPP 3.7**) provides the foundation for land use planning to address bushfire risk management in Western Australia. SPP 3.7 is used to inform and guide decision-makers, referral agencies and landowners/proponents to help achieve acceptable bushfire protection outcomes. It applies to various planning proposal types, including what SPP 3.7 defines as ‘strategic planning proposals’ which includes structure plans. SPP 3.7 is also informed by the Guidelines for Planning in Bushfire Prone Areas.

SPP 3.7 refers to ‘Bushfire Prone Areas’, which are designated areas identified by the Fire and Emergency Services Commissioner under the *Fire and Emergency Services Act 1998*. The extent of Bushfire Prone Areas in the NIA, as identified by the Fire and Emergency Services Commissioner as of 2021, is mapped in Section 2.4 (**Figure 10**) of this Report.

SPP 3.7 states that strategic planning proposals located within Bushfire Prone Areas are to be accompanied by supporting information, which can be in the form of a Bushfire Management Plan (**BMP**). A BMP has been prepared for this structure plan in response to the SPP 3.7 provisions, and is provided as a Technical Appendix.

Development Control Policy 4.1: Industrial Subdivision (WAPC, 1988)

Development Control Policy 4.1: Industrial Subdivision (**DC 4.1**) provides guidance on the matters considered by the WAPC when determining applications for industrial subdivision throughout the State. DC 4.1 covers matters such as the design and shape of industrial lots, road layout, servicing and open space requirements.

Although DC 4.1 is mostly applied at the subdivision stage of planning, the City has ensured that the structure plan allows subdivision to be carried out in compliance with DC 4.1.

Local Planning Policies

Local Planning Policy 1.1: Conservation Reserves (City of Wanneroo, 2020)

The objective of Local Planning Policy 1.1: Conservation Reserves (**LPP 1.1**) is to provide guidance on classifying land as ‘Conservation’ under DPS 2. LPP 1.1 then makes provision that local structure plans shall identify areas of public open space to be reserved as ‘Conservation’ under DPS 2.

The structure plan identifies areas as ‘subject to further structure planning’. Part of the reason for this designation is the unknown extent of future conservation reserves likely to be set aside in these areas in the future.

Local Planning Policy 2.5: Telecommunications Infrastructure (City of Wanneroo, 2017)

The City’s Local Planning Policy 2.5: Telecommunications Infrastructure (**LPP 2.5**) generally establishes the City’s standards for the development assessment of telecommunications infrastructure proposals. However, in respect to structure planning, LPP 2.5 reiterates a position of State Planning Policy 5.2: Telecommunications Infrastructure, by stating that the City should consider demand and/or future need for telecommunications services in its preparation and assessment of structure planning proposals. Such considerations are made in Section 3.5.5 of this Report.

Local Planning Policy 4.3: Public Open Space (City of Wanneroo, 2021)

Local Planning Policy 4.3: Public Open Space (**LPP 4.3**) articulates Council’s position on the planning, provision, location, design, development and interim maintenance of public open space. The content of LPP 4.3 is to be considered by applicants and the City in the design, assessment, and determination of:

- Scheme amendments;
- Structure plans;
- Local Development Plans;
- Subdivision applications; and
- Development applications.

A key purpose of LPP 4.3 is to guide Council, its officers and applicants in the planning for POS in urban and industrial areas.

Part 2, Section 7 of LPP 4.3 sets out specific provision for POS in industrial areas. In particular, Section 7.2 stipulates that POS in industrial areas should constitute between 2% and 5% of the gross subdivisible area; with the City accepting an amount of 2% provided that POS provides the functions as listed in LPP 4.3.

Local Planning Policy 4.4: Urban Water Management (City of Wanneroo, 2020)

Local Planning Policy 4.4: Urban Water Management (**LPP 4.4**) provides the water management measures to be satisfied at each stage in the planning process. In respect to structure planning, LPP 4.4 requires the preparation of a Local Water Management Strategy (**LWMS**), which has been prepared to support this structure plan and is provided as a Technical Appendix.

Part 1 of the structure plan requires an Urban Water Management Plan to be prepared to support future subdivision proposals, in accordance with LPP 4.4 and the LWMS.

Local Planning Policy 4.13: Caves and Karstic Features (City of Wanneroo, 2018)

Local Planning Policy 4.13: Caves and Karstic Features (**LPP 4.13**) sets out the City’s information requirements for the investigation and management of caves and karstic features to assist in design, assessment and determination of structure plans, subdivision applications and development applications.

LPP 4.13 also refers to the varying degrees of karst risk levels as developed by the Western Australian Speleological Group, and provides a map of where these risk levels are located within the City of Wanneroo (refer to **Figure A2**).

Further information of the karst risks as they relate to land in the NIA, and the structure plan response to those risks, is provided for in Section 2.2 and Section 3.3.2 of the Report.

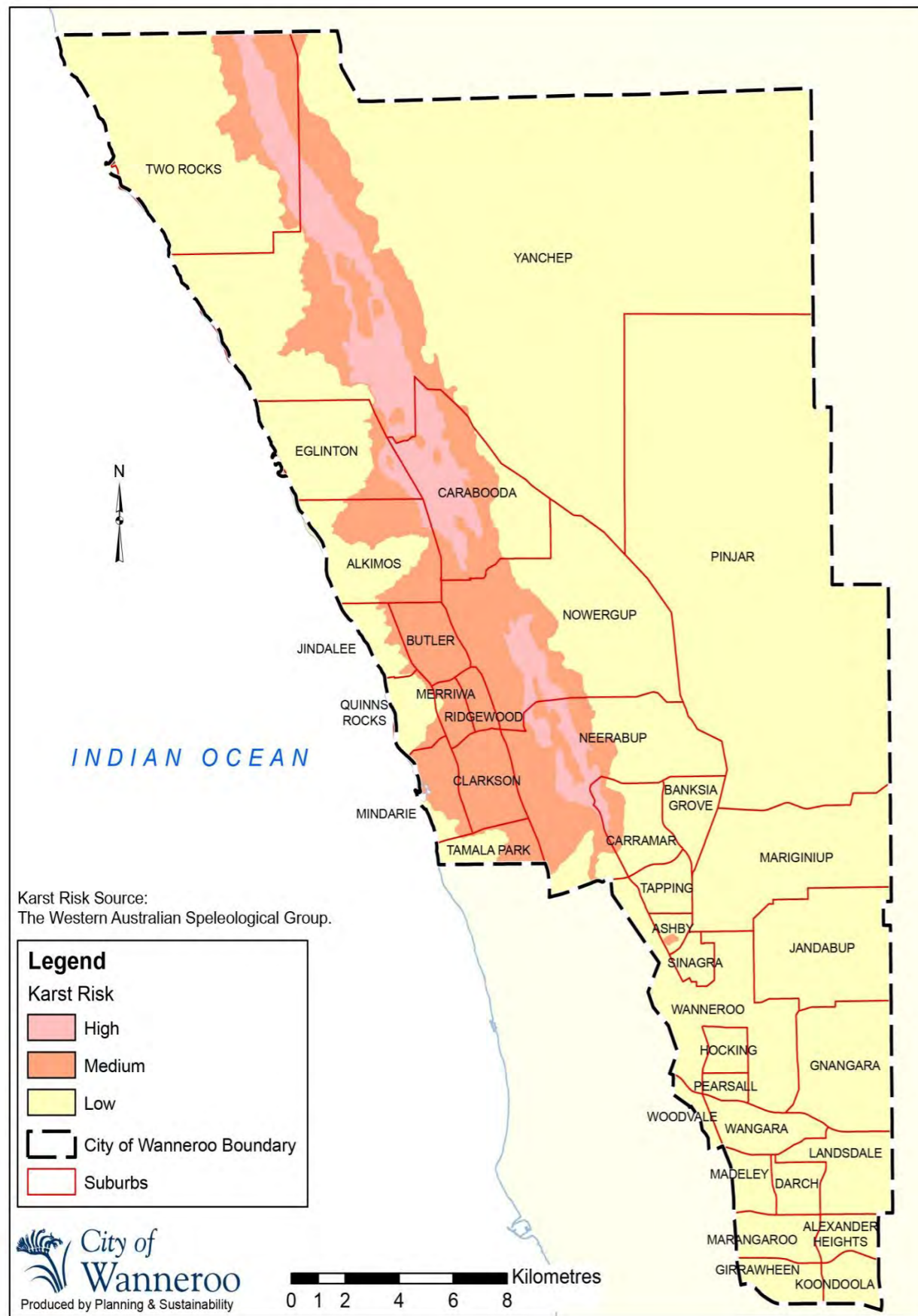


Figure A2: Karst Risk Map
(Source: City of Wanneroo)

APPENDIX 2 - OTHER APPROVALS AND DECISIONS

Planning decisions that have informed and shaped the information contained in this structure plan are discussed in detail below:

Development Approvals

- **AARP facility** – The City has granted development approvals for a ‘Research and Development Centre’, on land adjoining the future Pederick Road alignment, to facilitate the AARP. The City granted approval for the establishment of test beds and internal access routes – as well as a common user facility which contains shared use facilities, office space, laboratories small-scale fabrication, and educational facilities linked to universities and other research organisations.

This proposal has prompted the City to:

- o Identify this facility on **Plan 1** (found in Part 1), as it has an effect on the subdivision and development on land in the NIA; and
- o Consider how land use permissibility for research and development centres in the NIA should be outlined in DPS 2. This occurred through the preparation of Amendment No. 202 to DPS 2.
- **Extractive Industries** – The City has granted the following development approvals for extractive industries affecting land in the NIA. Each of the following extractive industries are assisting with the re-contouring of the land as required under this structure plan and discussed further in Section 3.6.5.
 - o On Lot 801 (410) Flynn Drive, Neerabup – DevelopmentWA have development approval to extract limestone and sand from Lot 801. Initial limestone extracted from Lot 801 is being transported to the Ocean Reef Marina in order to construct breakwaters. Development approval is in place until March 2029 unless extended.
 - o Lot 9003 (85) Mather Drive, Neerabup – the City owns Lot 9003 in freehold, and has granted development approval for its contractor to undertake limestone and sand extraction, as well as to earthwork the site in readiness for future industrial subdivision. The City has granted development approval until December 2030, which can be extended subject to further approval.
 - o Lot 901 (150) Flynn Drive, Neerabup – The City has granted development approval for sand extraction from this site. The proposal involves removing the sand resource, then refilling to the land contours required under this structure plan. Development approval is in place until July 2025 unless extended.

Each of the approvals referred to above were accompanied by supporting information, which was referred to in the preparation of the structure plan.

Subdivision Approvals

The preparation of the content of this structure plan, including the Concept Masterplan (refer to Section 2.6.1, **Figure 12**), were heavily influenced by various subdivision proposals including those listed below:

- Subdivision approvals that create additional industrial lots on DevelopmentWA land, and grant road access and servicing to the AARP site. These approvals have a WAPC reference of 160325 and 160977,

and were granted by the WAPC in March 2021 and September 2021 respectively. The approvals permit the commencement of construction of parts of the future major roads that will provide access through the NIA; including Pinnacle Drive, Pederick Road and Altitude Drive.

- Subdivision of Lot 9100 Mather Drive, which the City owns in Freehold (WAPC ref. 161116, approved in October 2021). That subdivision seeks to create 41 industrial lots from Lot 9100. Concept subdivision drawings were available at the time the Concept Masterplan was prepared during 2020, and these informed the development of the Concept Masterplan.
- The City was aware of the landowners intentions to subdivide Lot 902 (130) Flynn Drive, Neerabup into two lots. Lot 902 is currently a Bush Forever site. The subdivision would excise off a 14 hectare parcel, which would then be subject to further industrial subdivision should the environmental limitations imposed were lifted.

As it is unclear when or if portions of Lot 902 will be capable of supporting industrial subdivision, this land parcel will remain zoned Industrial Development under DPS 2, and identified in this structure plan as ‘subject to further structure planning’. If environmental limitations imposed over Lot 902 are lifted, a further amendment to DPS 2 and this structure plan will be needed to facilitate industrial development.

Planning Decisions Relating to Land in Surrounding Areas

Key planning decisions that relate to land immediately outside the NIA, but have influenced the NIA planning framework review, are identified and discussed below. The land subject to the discussion below is identified on **Figure A3**:

- **Lot 600 (570) Wattle Avenue, Neerabup.** Lot 600 is a Freehold lot in the ownership of the City of Wanneroo, and sits immediately outside the ASP 17 area. Lot 600 is largely reserved for Public Purposes (Special Use) under the MRS, with the ‘Special Use’ intended being power generation. Future development on Lot 600 would therefore likely have synergies with activities occurring within the ASP 17 area.
- **Lot 1 (569) Flynn Drive, Carramar.** The WAPC approved Lot 1 and 2 Flynn Drive, Carramar Agreed Structure Plan No. 61 (**ASP 61**) in November 2009, to facilitate and guide residential subdivision on Lot 1.

Subdivision approval of Lot 1, close to Flynn Drive, was also subsequently granted by the WAPC in August 2017 (WAPC reference 152176). Access into that subdivision is proposed via Flynn Drive, which has an impact on transport planning, intersection design and vehicle entry points into the NIA.

- **Subdivision and development in the Banksia Grove locality** (located to the southeast of the NIA) is facilitated and guided by the Banksia Grove Agreed Local Structure Plan No. 21A (**ASP 21A**). ASP 21A was approved by the WAPC in January 2008. The development front in Banksia Grove has progressed northward toward Flynn Drive. ASP 21A and relevant subdivision approvals within that structure plan area have been considered, as Flynn Drive provides road connections into both the NIA and Banksia Grove.
- **Lot 8 (259) Wattle Avenue, Nowergup.** The City has granted development approval for extractive industry on Lot 8 under DPS 2 – and similarly, the WAPC granted its approval under the MRS for the same activity. This development approval will expire in January 2024, but could be extended subject to further approval. The development approval required an extension of Wattle Avenue West to provide road connection to Lot 8. The landowners of Lot 8 then facilitated construction of this road extension in 2020. Part of the Wattle Avenue West extension runs alongside the north-western boundary of the defined NIA, and could potentially provide road access into the NIA in the future.

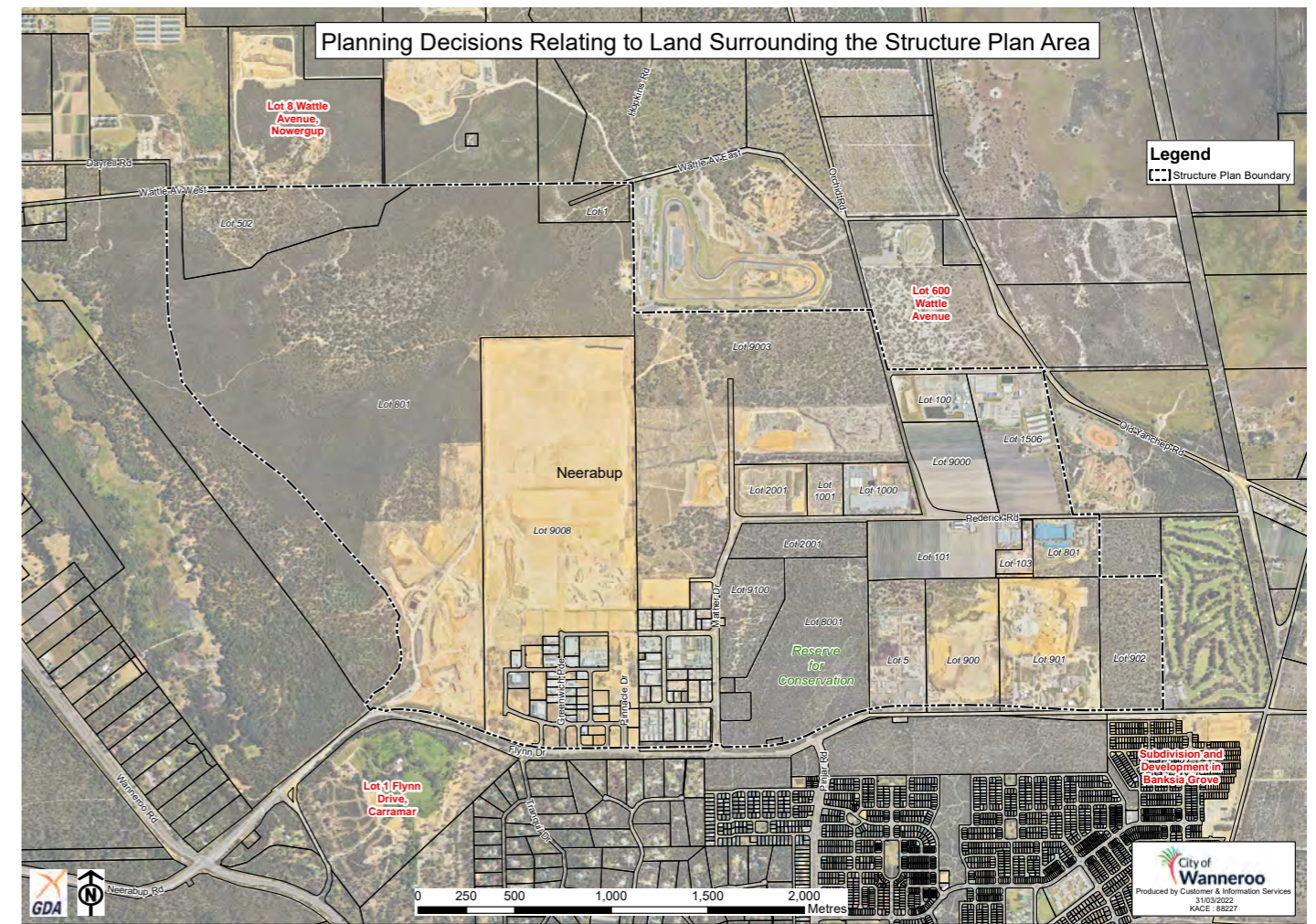


Figure A3: Planning Decisions Relating to Land Surrounding the Structure Plan Area
(Source: City of Wanneroo)



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